

# **Teagasc National Farm Survey 2016 Estimates**

**Emma Dillon, Brian Moran and Trevor Donnellan**

**Agricultural Economics and Farm Surveys Department,**

**Rural Economy Development Programme,**

**Teagasc,**

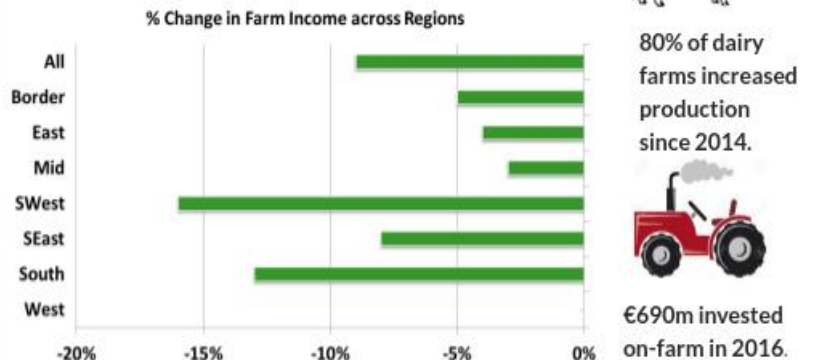
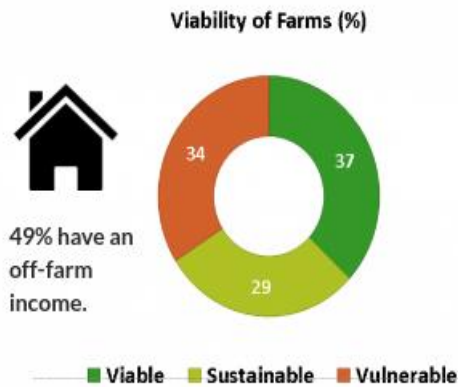
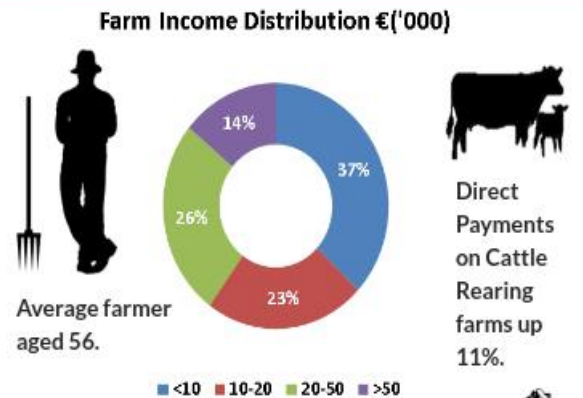
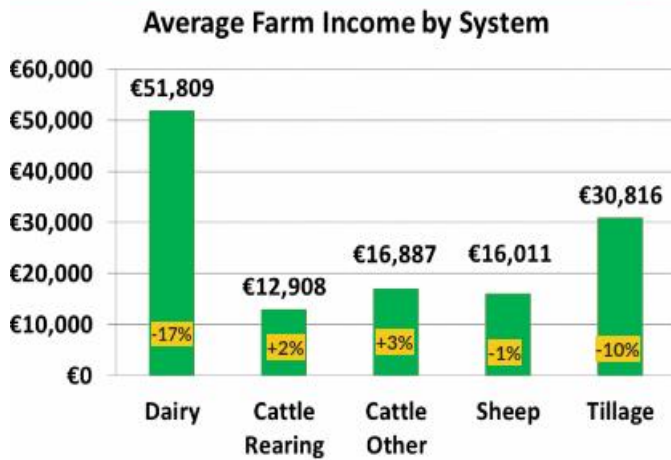
**Athenry, Co Galway, Ireland**



# Teagasc National Farm Survey 2016



## Average Farm Income 2016



The Teagasc National Farm Survey has been in operation since 1972. It is a member of the EU FADN (Farm Accountancy Data Network). The 2016 preliminary results are based on a sample of 805 farms, representing 83,377 farms nationally.

## Family Farm Income

### 2016

Family farm income is the principal measure used in the Teagasc National Farm Survey. The average family farm income across the 83,377 farms represented by the Survey was €24,060 in 2016, a 9% decline on 2015.

***Family Farm Income represents the return from farming for the farm family to their labour, land and capital. It does not include non-farm income.***

The various components of farm income are outlined in Table 1 below.

**Table 1: Average Family Farm Income 2016**

	€	2016/2015 % change
Gross Output	77,897	-3
(of which direct payments)	17,932	+4
Total Costs	53,837	-
(of which direct costs)	28,836	-1
( of which overheads)	25,001	+1
Family Farm Income	24,060	-9

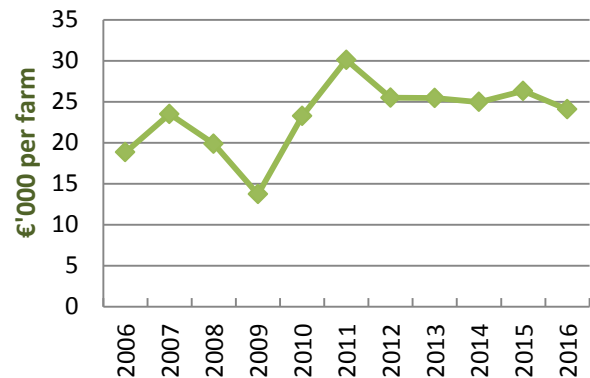
Total farm gross output declined by 3% in 2016. Alongside this direct payments increased by 4%. This resulted in a 5% reduction in market based gross output (gross output less direct payments) to €59,965.

Direct payments increased by 4% in 2016, mainly due to additional payments under the Basic Payment Scheme (BPS) which had been withheld in 2015. In addition, an increased

number of payments were made under the Beef Data Genomics Scheme (BDGP) scheme and the Green, Low-Carbon, Agri-Environment Scheme (GLAS) in 2016.

Input expenditure, particularly on fertiliser, fell across all systems except on tillage farms in 2016. This was largely due to lower prices. Relative expenditure on animal feed stuffs varied across systems in 2016, but overall, total direct costs fell by 1% year-on-year. On the whole, a 1% increase in overhead costs resulted in total costs being unchanged on average across farm systems in 2016. Costs consumed 69% of output on the average farm in 2016, an increase of 2 percentage points compared to 2015.

**Fig. 1: Average Family Farm Income 2006-2016**



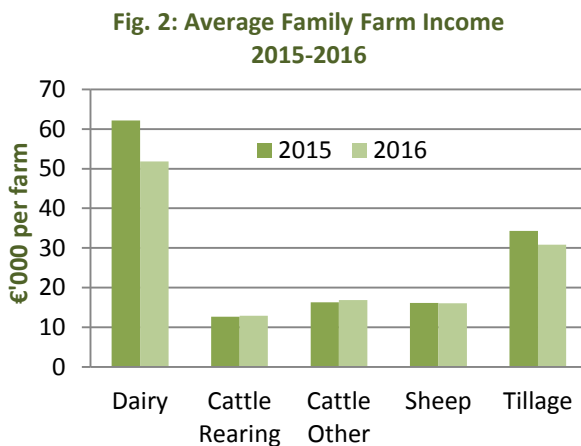
Family farm income has recovered from the low point of 2009. Year-on-year volatility in input and output prices remains a concern, but income has been relatively more stable since 2012. Average farm income decreased by 9% in 2016, following a 6% increase in 2015. Given the more positive market conditions for certain sectors at present the outlook for 2017 looks more promising.

## Income by Farm System

### 2016

Family Farm Income varies considerably by farm system, with dairy farms consistently being the most profitable. Although a difficult year, the average dairy farm income in 2016 was €51,809. Cattle Rearing farms reported the lowest average farm income in 2016, at €12,908.

**Although 2016 was a challenging year on farms, dairy farms remained the most profitable with an average income of €51,809.**



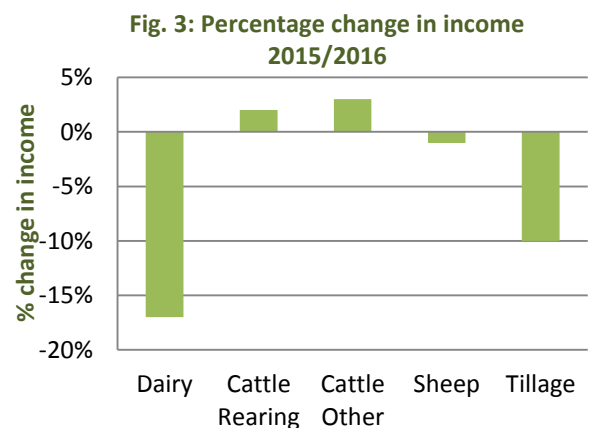
The large variation in average farm income across the farm systems is driven by differences in both farm size and profitability. The average farm size in 2016, across all systems of farming, was 47 hectares and the average income level per hectare was €517. The average sized dairy farm was 56 hectares with an income of €924 per hectare.

The dry-stock sector, Cattle and Sheep farms, is characterised by low profitability and small holdings. In 2016, the average income per hectare was lowest on Sheep farms, at €311.

**Table 2: Average Farm Size & Income per ha 2016**

Farm System	Size (ha)	Income per ha
Dairy	56	924
Cattle Rearing	36	358
Cattle Other	38	443
Sheep	51	311
Tillage	67	459
All	47	517

The year-on-year change in farm income varied by farm system in 2016, as illustrated in figure 3 below. Dairy farms experienced the largest decline, at 17%. This was primarily due to the depressed milk price. Farm income on tillage farms was also negatively impacted in 2016, with a decline of 10%. This was driven in the main by lower cereal yields and prices. Income on Cattle farms increased marginally in 2016 despite a reduction in prices, this can be attributed to an increase in support payments of 11%. In 2016, income on Sheep farms decreased slightly by 1% year-on-year.



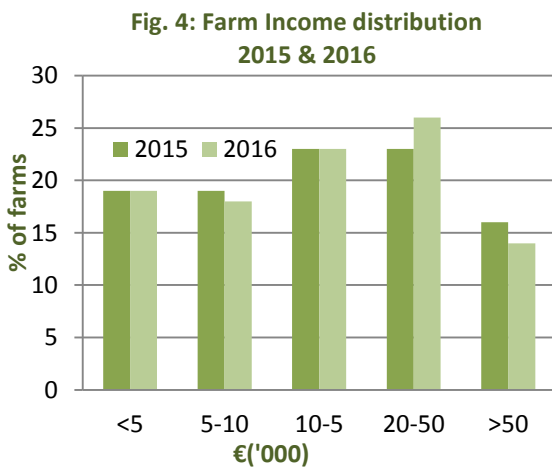
**Income on Cattle farms increased marginally in 2016.**

# Income Distribution

## 2016

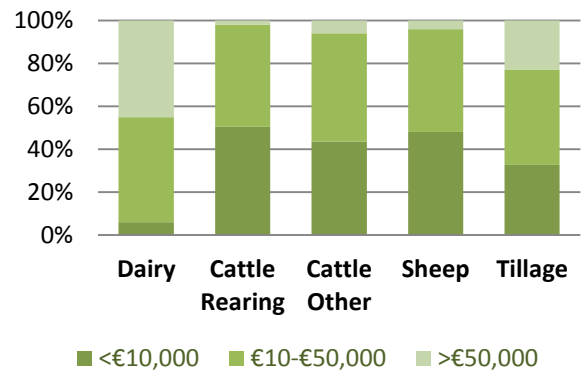
There is a wide variation in farm incomes across the farm population, as illustrated in figure 4. Approximately 19% of farms produced a farm income of less than €5,000 in 2016, while at the opposite end of the spectrum, 14% of farms produced an income of over €50,000 (a 2 percentage point reduction year-on-year). As a consequence, the proportion of farms earning between €20,000 and €50,000 increased by 3% in 2016.

**26% of farms earned between €20,000 and €50,000 in 2016.**



Similarly, a wide distribution in income across and between farm systems is generally found. The majority (51%) of Cattle Rearing farms earned less than €10,000 in 2016. The corresponding figure for Cattle Other and Sheep farms in this income category was 44% and 48% respectively. Across Dairy farms, 45% earned an income of over €50,000 in 2016, with the corresponding figure for Tillage farms standing at 23%.

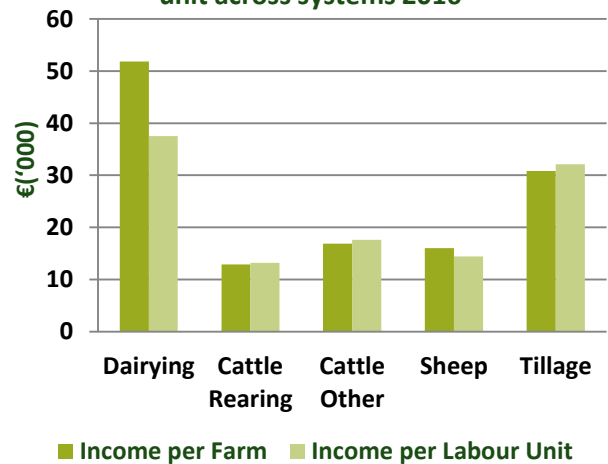
**Fig. 5: Income Distribution by System 2016**



On average there was 1.1 unpaid family labour units employed on each farm. The average amount of unpaid labour supplied was highest on Dairy farms at 1.4 labour units and lowest on Tillage farms and Cattle Other farms at 0.96.

Figure 6 presents the income per labour unit in 2016. The relatively low labour input on Tillage farms is reflected in the higher incomes when expressed on a per labour unit basis.

**Fig. 6: Income per farm and per labour unit across systems 2016**



## Reliance on Direct Payments

2016

Farm income continues to be highly reliant on direct payments. In 2016 the average total payment was €17,932 and this accounted for 75% of income on average. Direct payments increased 4% in 2016. This was mainly due to an increase in monies paid under the BPS and the roll- out of GLAS which was of particular significance for drystock farms. Overall, payments under agri-environment schemes increased by 65% as a result.

*The average direct payment was €17,932 in 2016, accounting for 75% of income.*

Information on direct payments and their contribution to income across farm systems is contained in table 3. Tillage farms are in receipt of the highest direct payments. This is driven largely by their larger farm size. Many tillage farms would also have a large on-farm cattle enterprise.

**Table 3: Value of Direct Payments & contribution to Income 2016**

	Direct Payments	Contribution to Income
	€	%
Dairy	19,397	37
Cattle Rearing	14,590	113
Cattle Other	16,694	99
Sheep	17,726	111
Tillage	26,327	85
All	17,932	75

Figure 7 describes the composition of total direct payments which is composed mainly of the BPS and payments relating to the Disadvantaged Area Scheme (DAS), as well as agri-environment schemes (AEOS/GLAS) and a number of other smaller schemes.

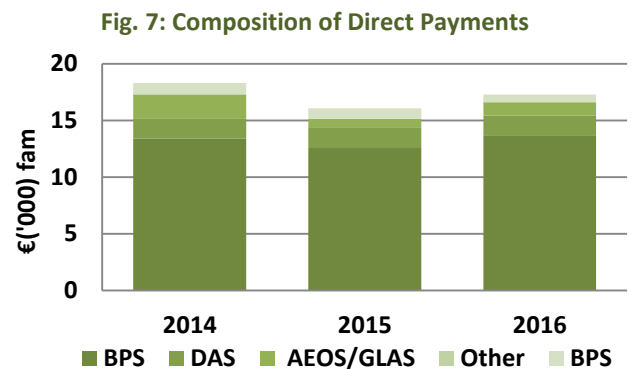
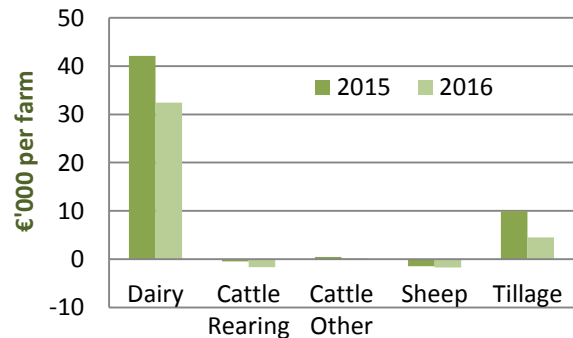


Figure 8 presents market income, i.e., income before direct payments for each farm system. Market income on the drystock farms is less than zero indicating that on average these farms do not make a profit from production. It should be noted that, the increase in support payments in 2016 led to higher incomes on drystock and tillage farms than would otherwise have been the case.

**Fig. 8: Average Market Income by System 2015 & 2016**



## Investment and Borrowings

### 2016

Gross new investment in farming totalled €687 million in 2016, a decline of 13% on the 2015 level. The average gross new investment per farm was €8,205 in 2016. Investment was highest on Dairy farms, at an average of €15,713. Dairy farms accounted for over €245 million of the total on-farm investment in 2016.

**36% of on-farm investment in 2016 took place on dairy farms.**

Overall, a large majority of farms (65%) have no farm business related debt, although this varies considerably across farm systems. Almost 60% of dairy farms had borrowings in 2016 compared to only 23% of Sheep farms. The average debt figure on Dairy farms with borrowings was €99,058. Conversely, on Cattle Rearing farms the figure is €28,360.

**Table 4: Percentage of Farms with borrowings and average debt**

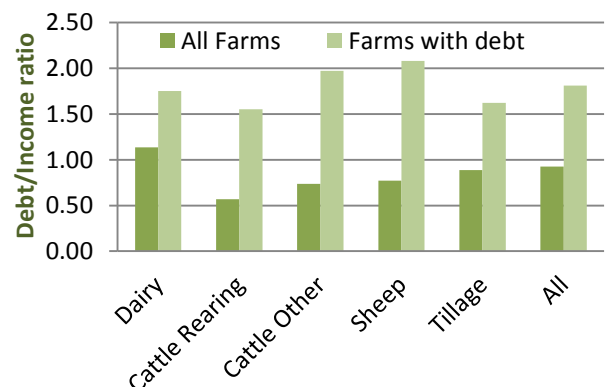
	Farms with borrowings	Average* debt
	%	€
Dairy	0.59	99,058
Cattle Rearing	0.26	28,360
Cattle Other	0.31	39,763
Sheep	0.23	54,517
Tillage	0.34	80,590
All	0.35	63,764

Although a small proportion of Sheep farms had farm borrowings in 2016, the average figure was relatively high at €54,517. The average borrowings on Tillage farms were second highest at €80,590.

**The average level of debt across farms with borrowings was €63,764 in 2016 a 3% increase year-on-year.**

Figure 9 presents the debt to income ratio by farm system for all farms alongside those with debt. Although Dairy farms have the highest level of borrowings, their debt to income ratio is 1.75 compared to 2.08 on Sheep farms and 1.97 on Cattle Other farms. Lower debt to income ratios of 1.55 and 1.62 respectively were reported on Cattle Rearing and Tillage farms in 2016.

**Fig. 9: Debt to Income Ratios for all farms and those with debt**



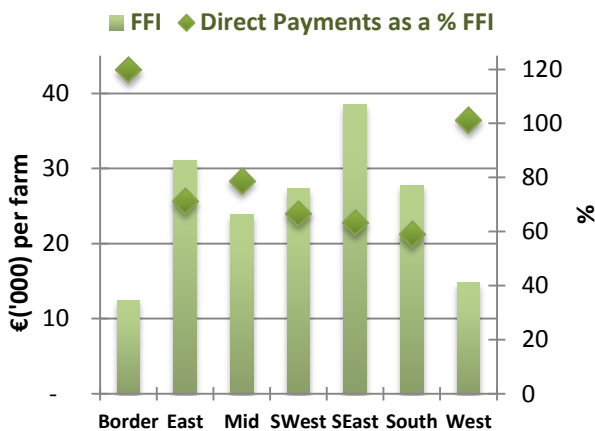
## Regional Overview and Off-farm Employment

2016

Farm income varies widely by region, driven by scale, system, profitability and direct payments. Those regions where dairying is more prevalent are generally more profitable and have a lower reliance on direct payments.

*The southeast remains the most profitable farming region in 2016.*

Fig. 10: Average Family Farm Income & Contribution of Direct Payments by region 2016

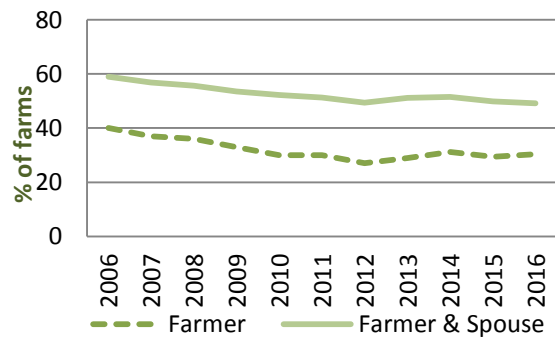


Average farm income is highest in the South East at €38,561, however this is down 6% from €42,141 in 2015. In addition, direct payments as a percentage share of family farm income in the region has increased to 63% in 2016, up 9 percentage points from the previous year. The equivalent figure in the South is 59% where the average income was €27,781 in 2016. The Border is the most disadvantaged region with the lowest farm

income and the highest reliance on direct payments.

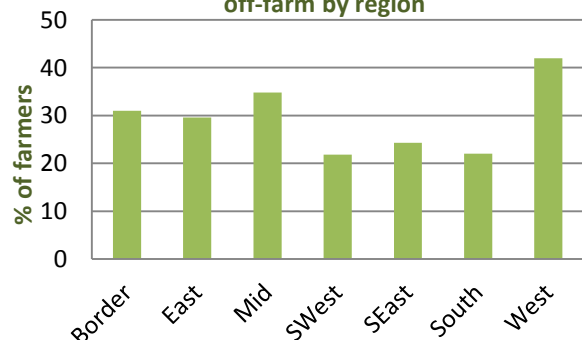
The number of farm households with off-farm employment fell by 1% in 2016 having been in decline since 2006. In 2016, 30% of farm holders held an off-farm job (up 1 percentage point from 2015) whilst the percentage of spouses employed off-farm declined by a similar magnitude standing at 49% in 2016.

Fig. 11: Rate of Off-farm Employment



The incidence of off-farm employment varies regionally, remaining most prevalent in the West in 2016 where 42% of farm holders worked off-farm in 2016. This represented a 2 percentage point reduction from 2015. In contrast, only 22% of farm holders in the South West and South worked off-farm in 2016.

Fig. 12: Proportion of farmers employed off-farm by region





## Dairy Farm System

### 2016

There were approximately 15,639 Dairy farms with an average income of €51,809 in 2016. This represents a 17% decline on 2015.

***Dairy farm incomes decreased by 17% on average in 2016.***

**Table 5: Components of average dairy farm income**

	2016	2016/2015
	€	% change
Gross Output	168,399	-7
(of which direct payments)	19,397	-3
Total Costs	116,590	-1
(of which direct costs)	68,344	-1
(of which overheads)	48,246	-1
Family Farm Income	51,809	-17

The decline in average Dairy farm income in 2016 was as a result of lower gross output, which was down 7% as a result of a reduction in milk price of 9% in 2016. Lower prices for feed and fertiliser were partially offset by higher expenditure for veterinary and hired labour, leaving direct costs on average, down 1%. This, combined with a 1% reduction in overhead costs resulted in a reduction in total costs of 1% on average.

Table 6 presents key indicators for the dairy enterprise. In spite of a 9% reduction in milk price, the value of milk sales was down just 7% due to an increase in milk production of 5%. Despite this, gross output per hectare

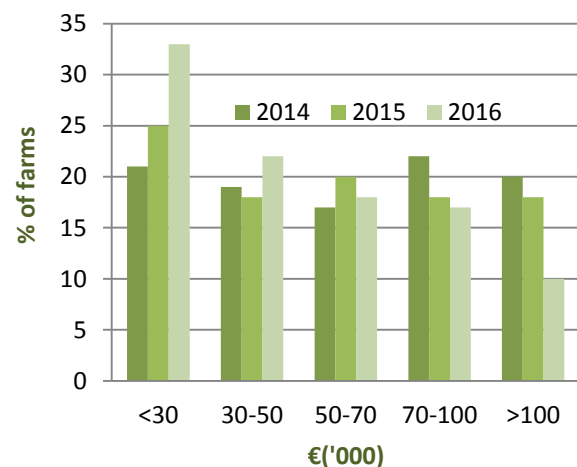
declined by 13%. Efficiency gains across dairy farms continued in 2016 with total direct costs falling by 5% due to the higher volume. In 2016, the average herd size increased from 68 to 72 cows.

**Table 6: Dairy Enterprise Indicators 2016**

	2016	% Change 2016/2015
		%
Production (litres/ha)	11,094	-1%
Milk Price (€/litre)	27.9	-9%
Gross output (€/ha)	3,151	-13%
Direct Costs(€/ha)	1,357	-5%
Gross Margin ( €/ha)	1,794	-12%

Figure 13 presents the distribution of income on Dairy farms. The decline in average income is reflected in a marked increase in the number of farms in the lower income ranges since 2014 and the lower number of farms earning over €100,000 over the period.

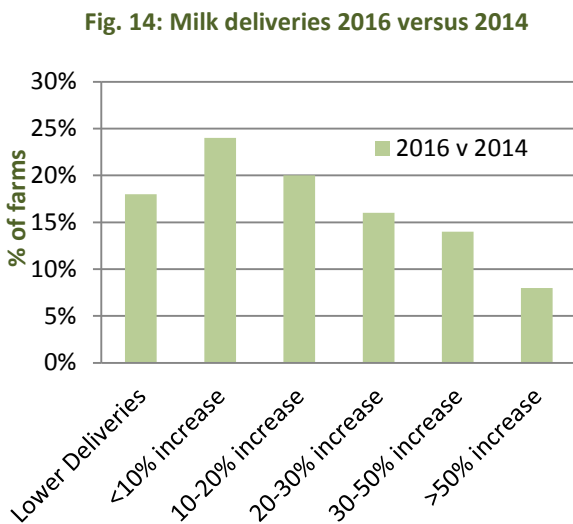
**Fig. 13: Distribution of Dairy Income 2014-2016**



## Dairy Farm System

### The picture on expanding farms

Despite the more difficult market conditions in 2016, milk production has continued to rise since the abolition of quota in 2015. As a result milk output has increased on 82% of dairy farms since 2014. Figure 14 indicates that production increases on individual farms were more modest in 2016 than in 2014 with 24% increasing milk deliveries by less than 10%.



A further 20% increased production between 10-20%, a decline of 11 percentage points compared to 2014. Despite this, there was a significant increase at the higher end with 22% of farms increasing milk production by 30% or more.

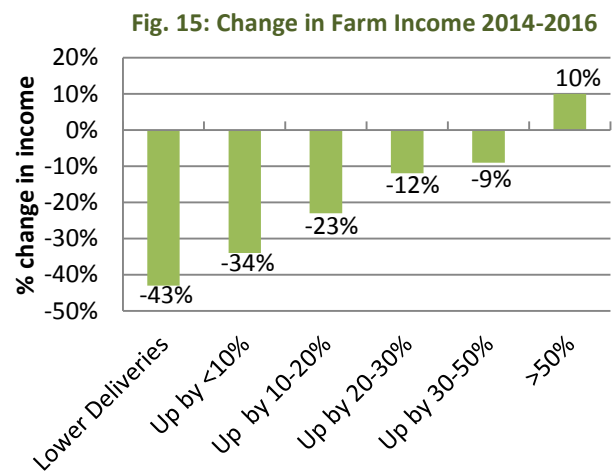
Expansion was achieved through a combination of more cows, greater productivity per cow, a reduction in other livestock on the farm and a marginal increase in land area. The degree to which these parameters changed varied according to the degree to which milk production increased.

Average cow numbers on farms who increased milk production by at least 50% from 2014 to 2016 stood at 112 in 2016. Interestingly, only 3% of farms had a herd size greater than 100 cows in 2006. In 2016 the proportion of farms was 19%.

**Table 7: Percentage changes in key parameters on dairy farms 2014-2016**

Change in Deliveries	Herd Size	Yield/cow	Land Area	Cow No.
Lower deliveries	-2%	-6%	-3%	48
<10% increase	+6%	-1%	+2%	57
10-20% increase	+10%	+4%	+1%	72
20-30% increase	+13%	+7%	+4%	77
20-50% increase	+26%	+8%	+5%	95
>50% increase	+51%	+15%	+8%	112

Figure 15 illustrates the change in dairy farm income since 2014. It is noteworthy that farms had to increase production by at least 50% to maintain a positive income in 2016. The negative impact on income in 2016 was primarily felt by those farms that had either reduced deliveries or expanded relatively less.



## Cattle Rearing Farm System

### 2016

There were approximately 19,185 Cattle Rearing farms with an average income of €12,908 in 2016. Suckler cow production is the dominant enterprise on these farms.

***Income on Cattle rearing farms increased by 2% in 2016.***

**Table 8: Components of average cattle rearing farm income 2016**

	2016	2016/2015 change
	€	%
Gross Output	40,088	-
(of which direct payments)	14,590	+11
Total Costs	27,180	-
(of which direct costs)	12,866	+3
( of which overheads)	14,314	-3
Family Farm Income	12,908	+2

Prices for calves and young cattle declined in the region of 10 % in 2016, resulting in cattle output value net of coupled subsidies down 5% despite a 3 % increase in cattle numbers.

Direct costs increased by 3% on the average farm, due to a combination of factors, including increased expenditure on feed. The increase in direct costs was however offset by lower overhead costs, leaving total farm costs unchanged in 2016. Overall, average income increased by 2% to €12,660, following a substantial 31% increase in 2015. While profit margins were down slightly, the increase in cattle rearing income in 2016 can be

attributed to an increase in support payments of 11%. This largely relates to payments received under the GLAS and BDGP schemes. Overall, increases in subsidy payments on Cattle Rearing farms in 2016 led to higher income figures than would otherwise have been the case.

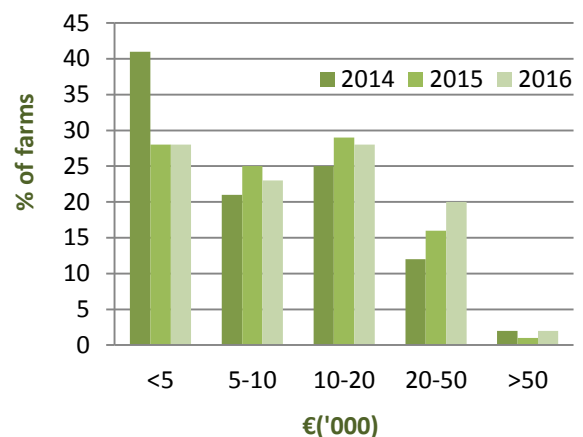
The average gross margin per hectare on Cattle Rearing farms was €754 in 2016. This included a Basic Payment of €258 per hectare.

**Table 9: Farm Indicators 2016**

	2016
Farm Size (hectares)	36
Livestock Units	40
Livestock units per ha	1.10
SFP (€/ha)	258
Gross Margin (€/ha)	754

Figure 16 presents the distribution of income on Cattle Rearing farms from 2014-2016. In general, the number of farms in the higher income ranges has increased over the period.

**Fig. 16: Distribution of Cattle Rearing Income 2014-2016**



## Cattle Other Farm System

### 2016

There were approximately 26,433 Cattle Other farms, with an average income of €16,887 in 2016, a 3% increase on 2015 when incomes increased by almost one-third. Cattle fattening is the dominant enterprise on these farms.

### *Income on cattle other farms increased by 3% in 2016.*

Prices for older cattle were down approximately 6% in 2016 and as a result, despite a 3% increase in cattle numbers, output value net of coupled subsidies was down 1%. Direct production costs were unchanged in 2016 on the average farm with decreases in feed and fertiliser expenditure offset by increases in other direct cost categories. Overhead costs increased by 4%, resulting in an overall increase in total costs for the average farm of 2%.

**Table 10: Components of cattle other average farm income 2016**

	2016	2016/2015 % change
	€	%
Gross Output	52,030	+3
(of which direct payments)	16,694	+5
Total Costs	35,143	+2
(of which direct costs)	17,539	-
( of which overheads)	17,604	+4
Family Farm Income	16,887	+3

While profit margins were down slightly, the increase in Cattle Other income in 2016 of 3%

(from €16,319 to €16,887) can therefore be attributed to an increase in support payments (primarily BPS and GLAS) of 5%.

The average gross margin per hectare on Cattle Other farms was €905 in 2016. This included a Basic Payment of €328 per hectare.

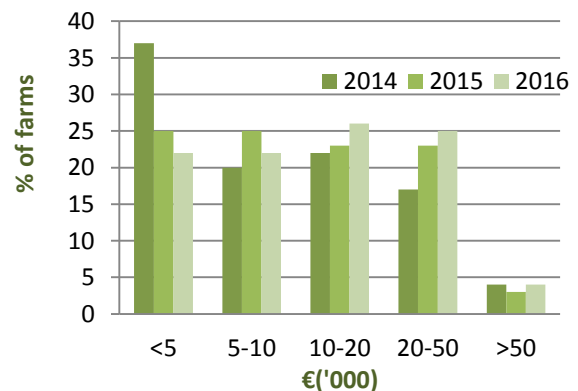
**Table 11: Cattle Other farm Indicators 2016**

Farm Size (hectares)	38
Livestock Units	50
Livestock units per hectare	1.31
Basic Payment(€/ha)	328
Gross Margin (€/ha)	905

### *The impact of reduced cattle prices in 2016 was offset by increases in subsidy payments.*

Figure 17 presents the distribution of income on Cattle Other farms from 2014-2016. A reduction in the proportion of farms in the lower income categories is evident.

**Fig. 17: Distribution of Cattle Other Income 2014-2016**



## Sheep Farm System

### 2016

There were approximately 12,758 Sheep farms with an average income of €16,011 in 2016, a 1 % decrease on 2015.

***Sheep farm incomes decreased by 1% in 2016.***

Total farm gross output declined by 2 % on Sheep farms in 2016. Lamb prices declined by 2% on the previous year, whilst direct payments increased marginally by 1 %. Direct production costs increased by 5 % on the average sheep farm, with increases in feed and veterinary costs being offset by a reduction in fertiliser expenditure. Overhead costs decreased by 9 % which resulted in an overall decline in total costs for the average farm of 2 % on the 2015 level.

**Table 12: Components of sheep farm income**

	2016	2016/2015 % change
	€	%
Gross Output	49,541	-2
(of which direct payments)	17,726	+1
Total Costs	33,530	-2
(of which direct costs)	17,613	+5
( of which overheads)	15,917	-9
Family Farm Income	16,011	-1

**Table 13: Sheep farm Indicators 2016**

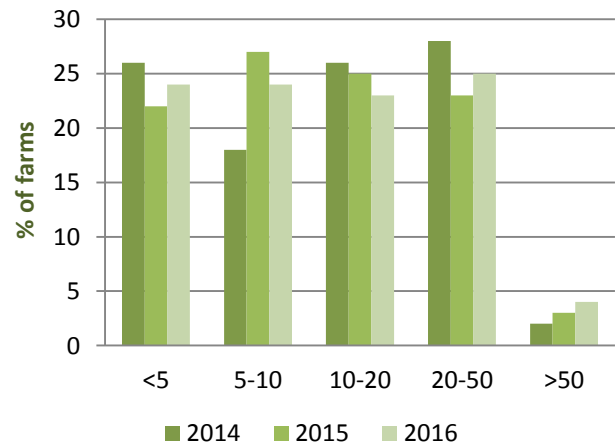
	2016
Farm Size (hectares)	51
Number of ewes	133
Livestock units per hectare	1.07
Basic Payment(€/ha)	242
Gross Margin (€/ha)	621

The average gross margin per hectare on Sheep farms was €621 in 2016. This included a Basic Payment of €242 per hectare.

***The average annual lamb price declined by 2% in 2016***

Figure 18 presents the distribution of income on Sheep farms over the period 2014-2016 and illustrates the decline in the proportion of farms in the middle income categories.

**Fig. 18: Distribution of Sheep Incomes 2014-2016**



## Tillage Farm System

### 2016

There were approximately 7,387 Tillage farms with an average income of €30,816 in 2016, a 9 % decrease on 2015.

***Tillage farm incomes increased decreased by 9% in 2016.***

**Table 14: Components of tillage farm income**

	2016	2016/2015 % change
	€	%
Gross Output	112,435	-
(of which direct payments)	26,327	+8
Total Costs	81,619	+4
(of which direct costs)	41,351	+4
( of which overheads)	40,268	+4
Family Farm Income	30,816	-9

Gross output value on Tillage farms was unchanged from 2015 to 2016, while direct payments increased by 8% due to increased BPS and GLAS payments. Cereal prices and yields both declined year-on-year, by 2% and 10% on average. The average tillage farm also has a significant cattle enterprise and was thus also affected by lower cattle prices.

Direct production costs increased by 4% in 2016 on average. Notably, fertiliser expenditure increased in contrast with the other farm systems where fertiliser expenditure fell. This is due to the timing of purchases on these farms. Overhead costs also increased by 4% driven by an increase in conacre rental and land improvement. This

resulted in an overall increase in total costs of the same magnitude.

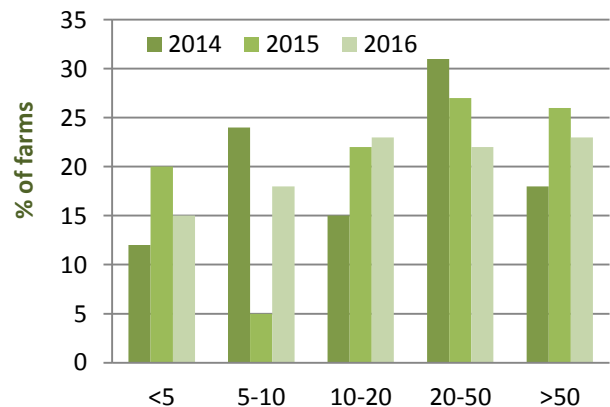
**Table 15: Farm Indicators 2016**

	2016
Farm Size (hectares)	67
Hectares of Cereals	38
Cereal output (€/ha)	1,415
Basic Payment(€/ha)	348
Farm Gross Margin (€/ha)	1,058

The average gross margin per hectare on Tillage farms was €1,058 in 2016. This included a Basic Payment of €348 per hectare.

Figure 19 presents the distribution of income on tillage farms from 2014-2016. Of most significance is the increase in the proportion of farms between €5,000 and €10,000 in 2016 and the decline in the number of farms in the higher income categories.

**Fig. 19: Distribution of Tillage Incomes 2014-2016**



## Background Notes

The National Farm Survey (NFS) has been conducted by Teagasc on an annual basis since 1972. The survey is operated as part of the Farm Accountancy Data Network of the EU and fulfils Ireland's statutory obligation to provide data on farm output, costs and income to the European Commission. A random, nationally representative sample is selected annually in conjunction with the Central Statistics Office (CSO). Each farm is assigned a weighting factor so that the results of the survey are representative of the national population of farms. These preliminary estimates are based on a sub sample of 805 farms which represents 83,377 farms nationally.

Farms are assigned to six farm systems on the basis of farm gross output, as calculated on a standard output basis. Standard output measures are applied to each animal and crop output on the farm and only farms with a standard output of €8,000 or more, the equivalent of 6 dairy cows, 6 hectares of wheat or 14 suckler cows, are included in the sample. Farms are then classified as one of the six farm systems on the basis of the main outputs of the farm. Farms falling into the Pigs and Poultry System are not included in the survey, due to the inability to obtain a representative sample of these systems. Due to the small number of farms falling into the Mixed Livestock system these farms are not reported here.

### Methodological Note: Population Update

The CSO conducts a Census of Agriculture every 10 years to record the population of farms and the structure of farming in Ireland. Farm Structure Surveys (FSS) are conducted, in the intervening periods, to produce estimates of the farm population. The 2013 FSS estimated the farming population falling within the sampling frame of the NFS to be 84,259. The 2015 estimates reported here are based on this updated population figure. In order to be consistent in the year on year comparisons presented in this report, the 2014 results were revised to reflect the new population and therefore the 2014 figures presented in this report do not correspond to the figures published in the "National Farm Survey 2014" report. A further methodological update was conducted on the classification of farm systems which resulted in farms with a reasonable sized dairy enterprise that were previously categorised as Mixed Livestock being re-categorised as Dairy. Again these changes were made to both 2014 and 2015 data to ensure consistency in year on year comparisons.