

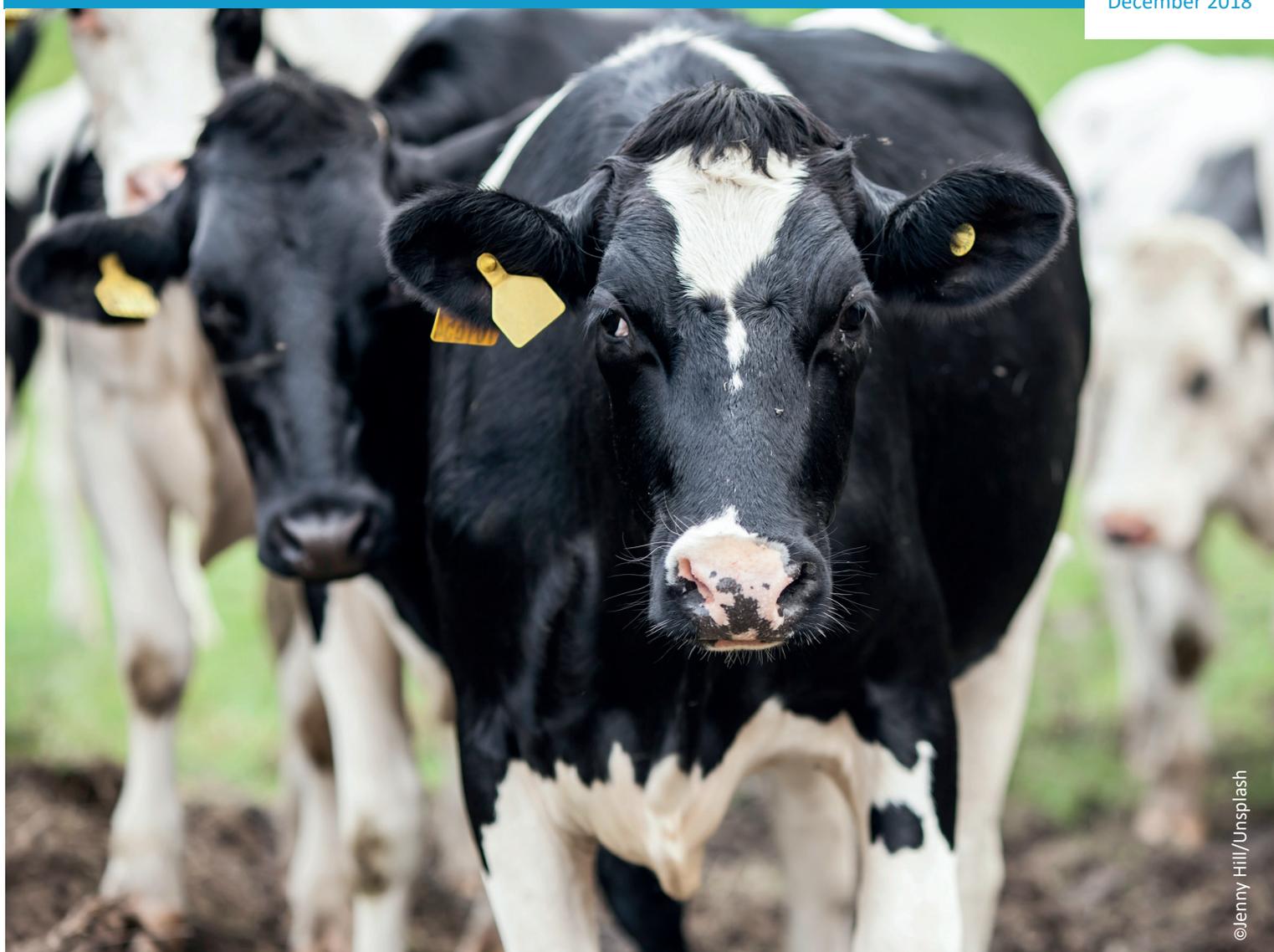


WORK PACKAGE 4
DAIRY SECTOR ANALYSIS

Analysis of the Republic of Ireland region dairy sector: skills and dynamism



December 2018



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PART 1

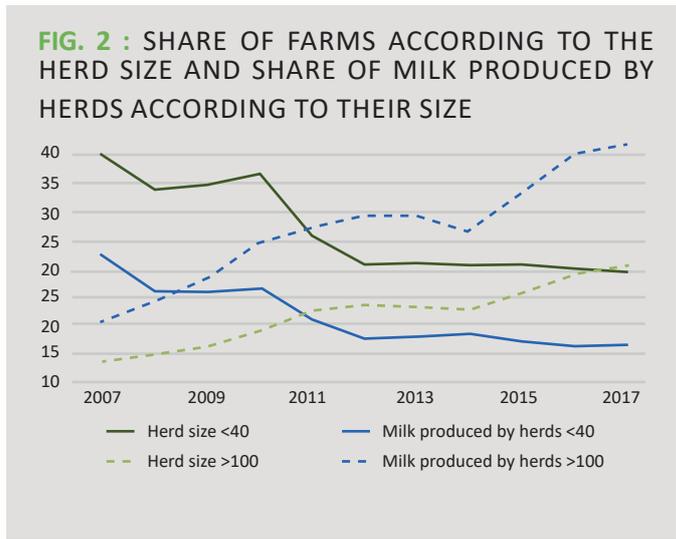
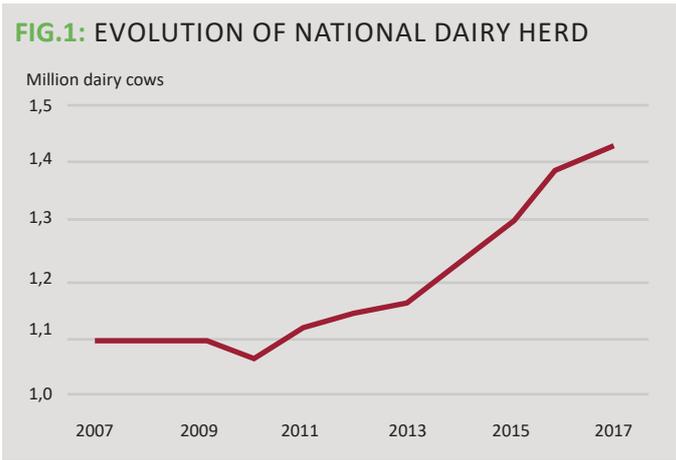
DAIRY PRODUCTION

Post EU Milk Quota Abolition Milk production has expanded rapidly.

Dairy Cow Numbers

The number of dairy cows in the Republic of Ireland (ROI) increased by 31,5% between 2007 to 2017 from 1.09 to 1.48 million (Fig. 1). There has been a 23% increase in numbers between 2013 and 2017. The average herd size in 2017 was 75 dairy cows. This represents a 7% increase since milk quota abolition in 2014 and 47% increase over the past decade.

The share of farms with larger herds has also increased over the period, with 21% of farms reporting a herd size of 100 cows or more in 2017 compared to only 4% in 2007. At the other end of the spectrum, the percentage of herds with less than 40 cows have halved over the same period. The overall contribution of larger farms (>100 cows) to the total milk pool has grown dramatically from 2007 to 2017, rising from 11% to 42% over the period. Data from the ROI FADN (Teagasc National Farm Survey, 2017) indicates that about one-third of dairy herds are comprised of between 60-100 cows and these farms accounted for an equivalent proportion of overall milk production in 2017.



KEY FIGURES – YEAR 2017 – REPUBLIC OF IRELAND

DAIRY PRODUCTION

7.48 million tons of milk delivered (+5.2 million in 10 years)

corresponding to: **€2.59 billion**

31% of the value of primary agricultural output (excluding subsidies)

4 main collectors

1.43 million dairy cows

- > 12% of farms holding more than 100 cows
- > 4% of farms holding less than 20 cows

431 tonnes of milk delivered in average per farm/year

LIVESTOCK AND FARMING

16,700 specialist dairy farms (18,300 have dairy cows)

with **75 cows/farm** in average:

producing: **5 559 kg/cow/year** (+ 7% in 5 years)

1 ton of concentrate per cow/year Animal stocking rate: **2,1 LSU/ha**

€86,069 average family farm income (hit record)

(Source: Teagasc)

Dairy Farm Structures

The 2016 Farm Structures Survey (FSS) which is a national snapshot from the Central Statistics Office (CSO) indicated there was 16,600 farms designated as specialist dairy, this is down from 19,400 in the 2007 FSS. Specialist dairy is so designated where two-third of the output is derived from milk production. There are an additional 1,700 farms with dairy cows operating mixed system of production in 2016 compared to 1,900 in 2007. Specialist dairy farms had an average livestock unit size of 129,3 in 2016 up from 105.3 in 2007, an increase of 23% over the study period. Farm size also increased over the study period from 48,7 hectares in 2007 to 57,9 hectares in 2016, this represents an increase in average size of 19%. Farm size ranged from 1% under 10 hectares to 6% over 100 hectares in 2016. In all 9,700 specialist dairy farm rented land in 2016 compared to 10,800 in 2007, however the average area rented was nearly 23 hectares in 2016 compared to 18,6 hectares in 2007. Specialist dairy farm had an average annual work unit of 1,63 per farm (1 annual work unit equals 1 800 hours of labour per annum) up from 1,47 in 2007. In terms of age structures the age profile has shifted upward between 2007 and 2016. In 2016, 26% of specialist dairy farms were under the age of 44 years and 16% were over 65 years of age compared to 33% (under 44 years) and 14% (over 65 years) in 2007.

Concentration of Dairy Farms

In 2016, 77% of farms with Dairy cows were located in the Southern and Eastern region (Fig. 3) based on a NUTS level 2 Nomenclature of Territorial Units for Statistics is a geocode standard for referencing the subdivisions of Ireland for statistical purposes NUTS 2. The south-west (35%) and south-east (21%) NUTS 3 regions have the highest number of farms with dairy cows respectively these proportions are broadly similar to that of 2007. Dairy cow population by electoral division in the ROI is presented in the diagram. Electoral Divisions (EDs) are the smallest legally defined administrative areas in the ROI for which Statistics are available. There are 3 440 EDs in the ROI. The concentration of dairy cows in the Republic of Ireland in the south and east of the country, which tends to coincide with better land quality. Dairy cow populations are low along the west coast, and peatland in middle of the country. This is associated with more mountainous areas of areas of poor drainage class. The growth in dairy cow numbers is likely to intensify in the southern and eastern regions.

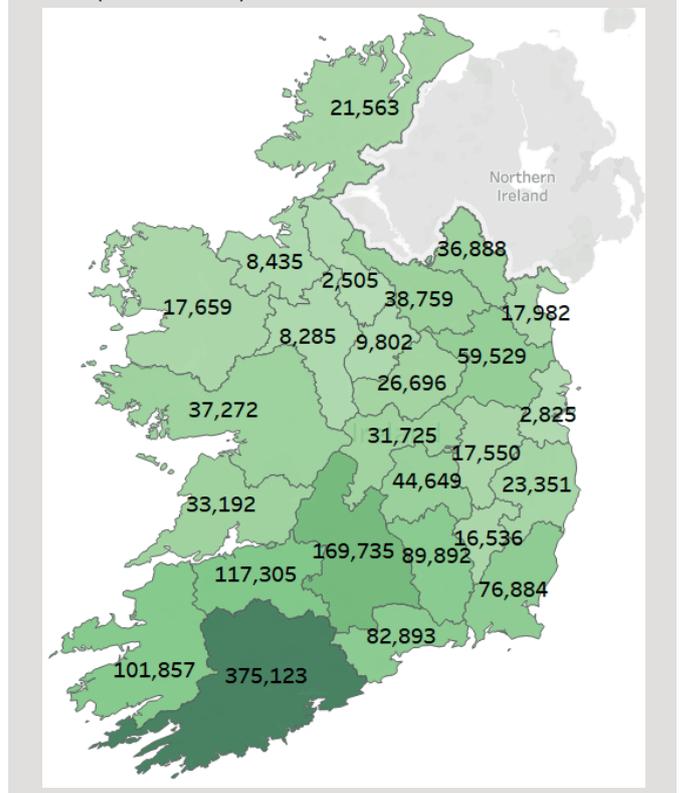
Milk deliveries

According to the CSO, milk deliveries in the ROI have increased by 43% between 2007 and 2017 from 5,2 million tonnes to 7,5 million in 2017 (Fig. 4). This is in line with a national Government strategy “Food Harvest 2020” which targetted a 50% increased in milk volumes. The majority of this increase has happened since 2013 in the lead up to the abolition of the EU milk quota regime. There was a 34% increase in milk production between 2013 and 2017. Dairying in the ROI has been significantly contrainted by the EU milk quota regulations and has been able to expand rapidly due to utilisation of it’s low cost grass based system of production. The dairy industry in the Republic of Ireland represents 1% of the global milk supply but due to it’s quality is responsible for 16% of the global infant milk formula market.

Dairy system of production & productivity

Milk production in the ROI is pre-donimately a spring calving, grass based system of production. On average, spring calving herds spend between 230-250 days at grass between 2008 and 2016 (FADN, ROI). Average turnout date is early March and average full time winter housing is mid-November.

FIG.3: DAIRY COW POPULATION BY COUNTY IN 2018 (Source: ICBF)



Depending on the weather between 70-80% of the dairy cow diet (dry matter basis) is derived from grass or grass silage, with 14-21% derived from concentrates (Shalloo et al., 2018). Grazed pasture was the main component of the diet on a dry matter basis accounted for between 57-62% of the average dairy cow diet between 2013 and 2017 (Shalloo et al., 2018). Total kilograms of milk produced per cow has increased by 7,4% from 5,180 to 5,565 between 2007 and 2017 (FADN, Teagasc). However, milk solids (protein & butterfat) per cow have increased by 25% over the same period from an average of 320 kg in 2007 to 400 kg in 2017 (Fig. 5). Total average milk deliveries per farm increased by nearly 58% between 2007 and 2017 from 262,851 kg to 414,597 kg per farm. The majority of this expansion has taken place between 2013 and 2017, where average kg per farm increased by 20%. The quantity of milk solids sold per farm increased by 87% between 2007 and 2017 from 17,763 to 32,591 kg per farm. Again 20% of this increased has taken place between 2014 and 2017.

Dairy farm economics

Dairying is by far the most profit agricultural enterprise in the Republic of Ireland as illustrated by the Fig. 6. Specialist dairying returned a record income in 2017 at €86,069. This was twice that returned by tillage farms and between 6-7 times higher than average family farm income on cattle and sheep farms. The gap between dairy farm income at that of all other systems has tended to widen between 2010 & 2017. On average specialist dairy farms derived over 78% of income in 2017 from the market (22% from direct payments), although 2017 was an exceptional year. This contrast with other livestock (100%+) and arable systems (60-80%) where nearly all income is attributable to direct payments.

Gross margins per cow and per hectare have been volatile over the 2007 and 2017 period (Fig. 7). Troughs are associated with poor weather or weak milk prices. As stocking rates have tended to increase over the period from 1.85 LU ha⁻¹ in 2007 to 2.08 LU ha⁻¹ in 2017 gross margin per hectare will be the focus in a post milk quota environment. Record gross margin per hectare for dairying was evidenced in 2017.

FIG. 4: EVOLUTION OF MILK DELIVERIES (MILLION TONNES)

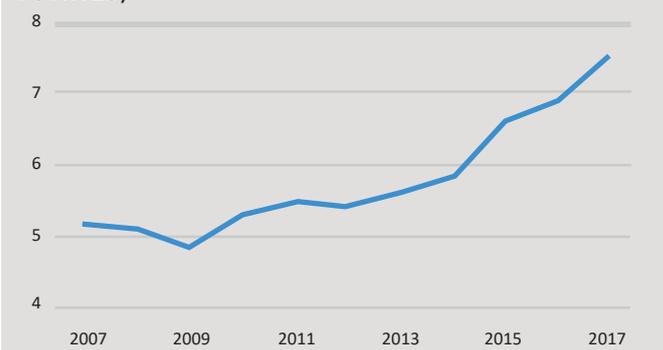


FIG. 5: EVOLUTION OF QUANTITY OF MILK SOLIDS PER COW

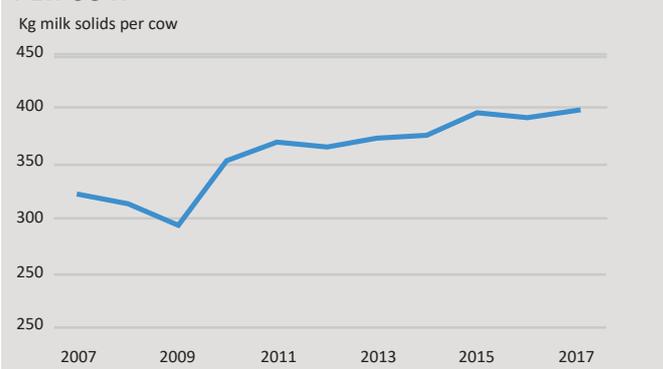


FIG. 6: EVOLUTION OF FAMILY FARM INCOME (€ PER FARM) 2007-2017

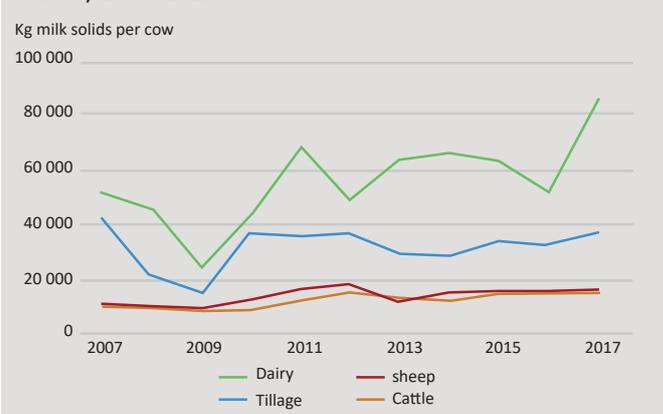
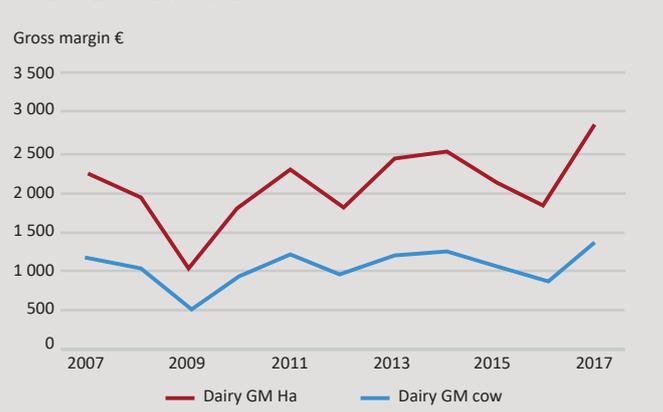


FIG. 7: EVOLUTION OF GROSS MARGIN PER COW AND PER HECTARE



Production costs for specialist dairy farm in 2016 & 2017 are illustrated in the Table 1 (FADN, Teagasc NFS). They are two very contrasting years and illustrate the volatility that is now prevalent in the Irish dairy sector. Due to its pre-dominant export orientation the sector is highly exposed to milk price fluctuation on international markets as seen by the nearly 10 cent per litre change in milk price between 2016 and 2017. This led to a more than doubling of net margin per litre of milk in a single year. Cost remained relatively stable year on year. The largest direct costs are associated with concentrates and pasture/forage costs (fertilisers and silage making).

On a per hectare basis, in 2017, Family Farm income in the Eastern/Midland region and the South were similar at €1,647 and €1,624, with the comparative figure in the Northern/Western region substantially lower at €1,236 (FADN, Teagasc NFS (Tab. 2). There is a large differential in terms of costs, with direct costs per cow higher in the Northern/ Western region compared to the other two regions. For example, concentrate costs per cow alone were 1,4 time higher than in the other two regions. Fertiliser costs were generally comparable across regions. On a per cow basis, farm incomes in the South and Eastern/Midland regions were 1,2 time higher than in the North/West in 2017.

TAB. 1: PRODUCTION COSTS FOR SPECIALIST DAIRY FARM IN 2016 AND 2017

	2016	2017
Milk Price	27.86	36.86
Total Gross Output	28.47	37.65
Concentrate Costs	4.65	4.98
Pasture and Forage Costs	4.15	4.20
Other Direct Costs	3.65	3.62
Total Direct Costs	12.45	12.80
Gross Margin	16.02	24.86
Energy and Fuel	1.96	2.11
Hired Labour	0.43	0.51
Other Fixed Costs	6.91	7.36
Total Fixed Costs	9.30	9.98
Total Costs	21.75	22.78
Net Margin	6.72	14.87

TAB. 2: DIRECT COSTS, GROSS MARGIN AND FARM INCOME FOR THE 3 REGIONS OF IRELAND

	East & Mid	North & West	South
Direct costs/cow	€937	€1,100	€3,428
Concentrates/cow	€365	€519	€362
Fertiliser/ha	€229	€202	€198
Gross Margin/ha	€2,632	€2,100	€2,508
Farm Income/ha	€1,647	€1,236	€1,624
Farm Income/cow	€1,195	€971	€1,179



PART 2

DAIRY PROCESSING

Value of dairy exports & product mix

Milk output from primary production has increased in value from €1.67 billion in 2007 to €2.59 billion in 2017. This represents 31% of overall farm gate level agricultural output in 2017 up from 28% in 2007. Over 85% of dairy products produced in the Republic of Ireland are exported, this is worth €4 billion to the wider economy in 2017 (1,4% of the national economy), up 19% on the previous year. In 2017, 24% of dairy product export was into the United Kingdom, 31% to Europe and the remained to international markets. Historically, Ireland’s dairy product mix centered on commodities such as butter and milk powders. There has been a concerted effort in the last in the last 10 years to be less reliant on these lower margin commodities and divert product into more value added products. Since 2007 there has been a reduction in the production of butter and an increase in cheese and powder orientated production (Tab. 3). For example Ireland is responsible for 16% of the global infant milk formula market.

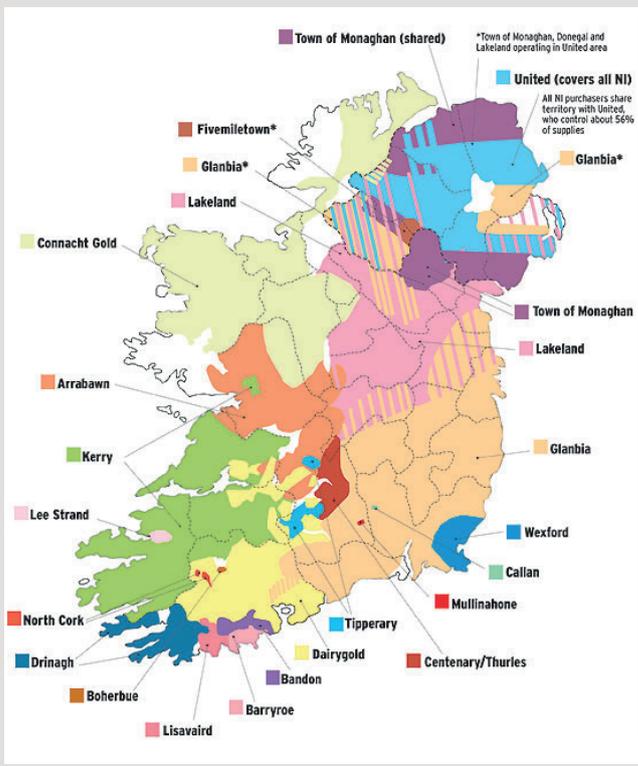
Milk processing

The main actors involved in processing of milk in the ROI are milk processing companies/co-ops. The majority of which have maintained the farmer owned co-operative structure (Fig. 8). Stemming back as far as the 19th century dairy co-operatives were formed to allow farmers to pool milk supplies and gain access to the market. At this time there were over 800 in existence. However, there has been much consolidation within the dairy processing sector, which now focuses mainly on international and global markets. There have also been changes in co-operative structure with some opting for the Private Limited Company (PLC) route (Kerry Group, Glanbia). The diagram illustrates the number of processors in ROI in 2009; there has been some consolidation since. However, 4 processors are responsible for the majority of milk processing at circa Glanbia (31%), Dairygold (18%), Kerry Group (17%), Lakelands (14%).

TAB. 3: TOTAL IRISH PRODUCT OUTPUT IN 2016 (TONNES)

Products	2016
Butter	198,700
Cheese	205,000*
WAP	43,500
Skimmed Milk Powder	117,700

FIG. 8: MANUFACTURING MILK SUPPLY MAP OF IRELAND
(Source: Irish Farmers Journal)



PART 3

SWOT ANALYSIS OF REPUBLIC OF IRELAND DAIRY SECTOR





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REPORT WRITING

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