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Research Brief:
The dairy sector

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Research Brief: The dairy sector

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Paper overview:

This Research Briefing provides an overview of the dairy sector in Wales. It sets out the impact of global dairy prices on Welsh and UK farmers, the cost of production, changing supply chain margins, dairy contracts in Wales, Welsh dairy farm performance, and the potential impacts of Brexit.

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Contents

1. Introduction

This research briefing gives an overview of the current state of the UK dairy sector with particular reference to the Welsh dairy industry. Dairy farming is one of the largest agricultural sectors in the UK, accounting for around **13.9% of UK agricultural production** by value in 2016, and **32% in Wales** in 2017. Numbers of dairy farmers in Wales **continue to decrease**, despite a recent improvement in the global supply/demand balance and increasing farmgate prices. Between 2016 and 2017, the value of Welsh milk and milk products **rose by £134 million (35%)**. This offsets a period of **oversupply and sluggish demand,** which previously led to **a 30.6% (£168 million) reduction** in the value of Welsh milk and milk products between 2014 and 2016.

2. UK farmgate prices

Farmgate prices represent the average price paid to milk producers. **The UK average price of milk** in February 2018 was 29.64 pence per litre (ppl). This was 2.17 ppl (8%) higher than in February 2017. Milk prices have been climbing almost steadily since July 2016, with a recent drop after the price peak of 31.94 ppl in November 2017 (Figure 1).

Average yield per cow in February 2018 stood at 27.54 litres/day, a decrease of 0.2% compared with the same month in 2017. According to the **Promar Milk Costings**, combining milk prices with the current milk yield gives a total average monthly milk value of £40,869, which was £3,678 (9.9%) more than the previous year.

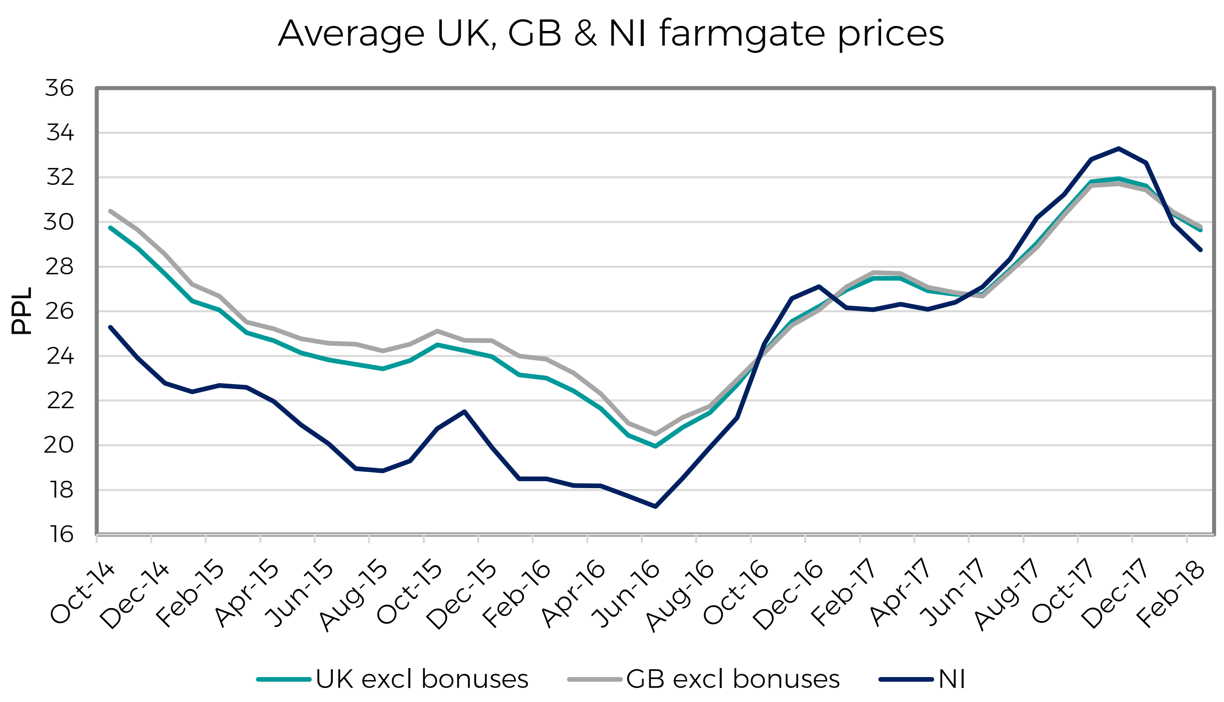

Figure 1: Farmgate milk prices in pence per litre (ppl) for the UK, GB and Northern Ireland (NI). Source: Defra Farmgate via AHDB Dairy

3. Changing global prices

Volatility in the market associated with the Russian import ban resulted in a drop of the global price of milk in 2014. This downturn continued through 2015 into 2016 fuelled further by strong milk production from the largest exporting regions and a reduction in Chinese demand.

In the first half of 2016, the industry was subject to the additional challenge of reduced demand from oil-exporting countries due to the falling oil price. Coupled with the strengthening of the US dollar and the removal of EU production quotas, prices in July 2016 fell to 60% of their 2013 levels.

However, a decrease in production alongside stable demand contributed to an increase in dairy prices in the second half of 2016. Latterly, this production gap is largely being filled in the EU by increased outputs in Italy, Poland, France and the UK, which is expected to slow down the price increase.

The price of butter has been particularly strong in the first half of 2017, which has been partially responsible for the global increase in the value of dairy. Butter prices peaked in August and September 2017. At the same time, Skim Milk Powder (SMP) prices fell throughout most of 2017 due to ever-increasing EU intervention stocks. Due to existing stocks, there will be **no intervention buying of SMP by the European Commission**. SMP prices may therefore continue to fall, diverting milk solids to other product streams.

Farmgate milk prices have steadily increased from January to October 2017. Later in 2017, many prices were frozen and suppliers announced price cuts for 2018. According to **Rabobank's latest quarterly report**, milk prices have come under increasing pressure in early 2018 due to growing exportable surpluses. A steady Chinese import programme, as well as adverse weather conditions in New Zealand, Europe, and Australia have provided some unexpected relief. For the second quarter of 2018, peak production in the Northern Hemisphere still threatens global markets, but is not expected to completely overwhelm the global market.

Most purchasers have **continued to drop their prices** since the beginning of 2018. First Milk, which purchases milk from a third of Welsh dairy farms, reduced **prices to 26 ppl in April 2018**, and Muller has announced a **price drop of 0.5 ppl for May 2018**. At the same time, Arla increased its **April 2018 milk price by 0.32 ppl** as a result of its currency smoothing mechanism.

Dairy farmers in Wales are partially protected from the extremities of global volatility by EU initiatives such as **Private Storage Aid** under the Common Market Organisation. Despite this, the Welsh dairy industry is still exposed to global market trends as UK and EU intervention, **according to the Farmers Union of Wales (FUW)**, is not sufficient to absorb all volatility. Combined with an expected rise in feed prices, the continuing weakening of farmgate prices could have a **significant impact on dairy farm margins**.

Cost of Production

Overall feed costs have decreased since 2014, with the average feed price in 2014 at 8.34 ppl compared to 7.24 ppl for 2017 (13.2% decrease). Margin over purchased feed (MOPF) also decreased by 8.8% over the same period. There has been a short-term increase in MOPF from 15.47 ppl in July 2016 to 23.25 ppl in November 2017 (50%), followed by a decline back to 21.06 ppl by February 2018 (Figure 2).

This MOPF calculation reflects changes in feed price, which is the single biggest cost in milk production. It does not take into account all factors and there are several other elements that affect the margin per cow.

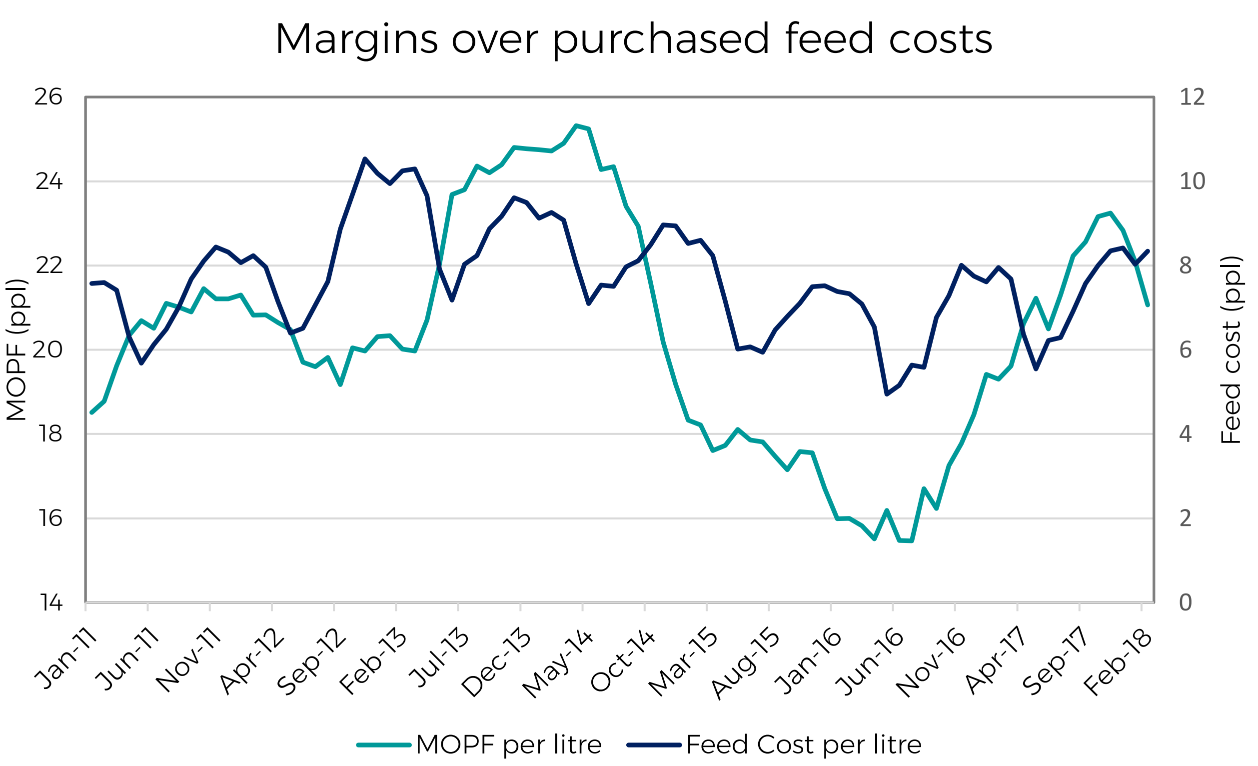

*Figure 2: MOPF (margin over purchased feed) and feed costs from 2011 to present. Source: **Promar Milkminder Dairy Costings** via dairy.ahdb.org.uk*

4. Dairy supply chain margins

Agriculture and Horticulture Development Board (AHDB) data show that in the past it has been possible to estimate profit margins for processors and retailers of liquid milk, mature Cheddar and mild Cheddar. However, reliable information for processor selling prices for liquid milk and mature Cheddar is no longer available due to consolidation within the liquid milk and mature Cheddar processing sector. The last figures available on the gross supply chain margins for liquid milk are for 2010/11 and 2013/14 for mature Cheddar (Table 1, Figure 3).

Supply Chain	Pence per litre (PPL)	
	Liquid Milk (2010/11)	Mature Cheddar (2013/14)
Retail Selling Price	58.14	28.18
Processor Selling Price	38.76	37.16
Farmgate Price	25.57	31.98

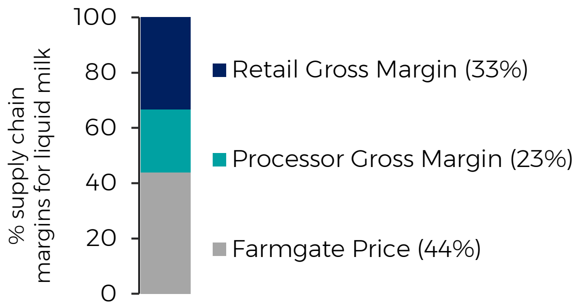

Table 1: UK liquid milk and mature Cheddar supply chain margins for 2010/11. Figure 3: Percentage of total retail price assigned to each margin for liquid milk for 2010/11. Source: AHDB Dairy

However, figures for the mild Cheddar supply chain for 2014-15 were produced. For mild Cheddar the **AHDB statistics** found that the 2014/15 slump in dairy prices had severe impacts on farmers and manufacturers, while retailers saw a rise in margins. The farmgate milk price dropped from 31.2 ppl in the first half of 2013/14 to 27.4 ppl in the second half of 2014/15 while gross retail margins rose from 41% to 58% in the same period (Figure 4).

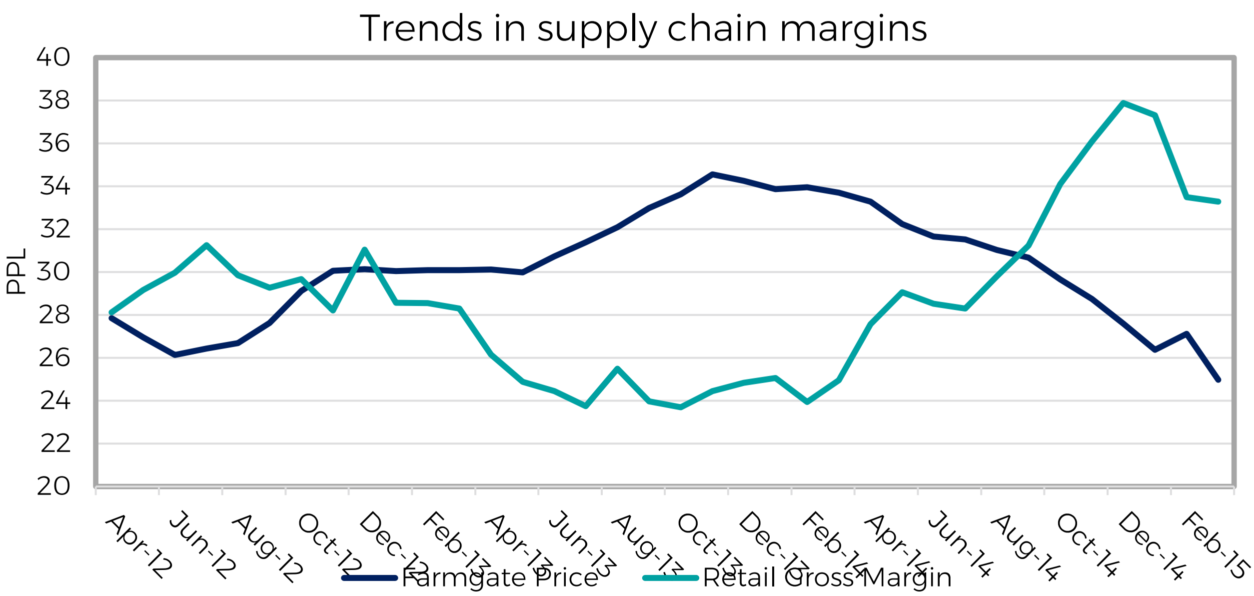

Figure 4: Trends in farmgate price and retail gross margin for 2012-2014. Source: AHDB dairy

5. Milk supply

The annual estimate of **total UK wholesale milk** deliveries to dairies was 14,717 million litres in 2017/18 (with provisional data for February and March 2018). This is an increase of 466 million litres or 3.3% compared to the 14,251 million litres in 2016/17, and somewhat offsets the 3.9% dip recorded in the previous year. **Provisional monthly wholesale milk** delivery figures for March 2018 indicate that deliveries amount to 1,268 million litres. This is a decrease on the same month last year of 16 million litres or 1.2%.

Welsh milk production is estimated to be the highest it has ever reached, totalling around 1,900 million litres in 2017. At the same time, production in England and Scotland came close to peak levels from 2015, at about 9,000 million and 1,500 million litres respectively. The AHDB suggests that the recent production increase reflects growing milk yields across the UK. The milk production increase has been somewhat impaired by **marginal dairy herd constrictions** in England and Scotland, but not Wales. The **AHDB GB milk production forecast** for 2018/19 is 12,330 million litres, which is slightly lower than the previous year.

Between 1984 and 2015, EU milk production quotas controlled milk supply. The system was introduced to address oversupply and charged a levy for producers and purchasers who exceeded a set quota. The European Commission ended the quotas in March 2015 with the aim of boosting EU exports.

6. Welsh milk producers

In April 2018, there were **9,326 dairy producers** (cattle, sheep and goats) across England and Wales. Compared to the same month in the previous year, producer numbers are down by 120 (1.3%). There were **1,723 dairy producers** in Wales, which compares to 1,732 in April 2017 (0.5% reduction) (Figure 5). Carmarthenshire has the highest number of producers with 475 dairy farms, while north west Wales has the lowest with 123.

According to **Welsh Government data**, between June 2016 and 2017 the number of dairy cows in Wales aged 2 years or more rose by 1.1% to 301,400. This offsets a 0.8% decrease in numbers between June 2015 and June 2016. Over the last 10 years, numbers have risen by 4.2%. Note that these numbers differ slightly from **those used by AHDB**, which only counts cows aged 2 years or over with offspring. Based on these calculations, dairy cow numbers in Wales rose 0.9% between June 2015 and 2016, and 5% between June 2006 and 2016.

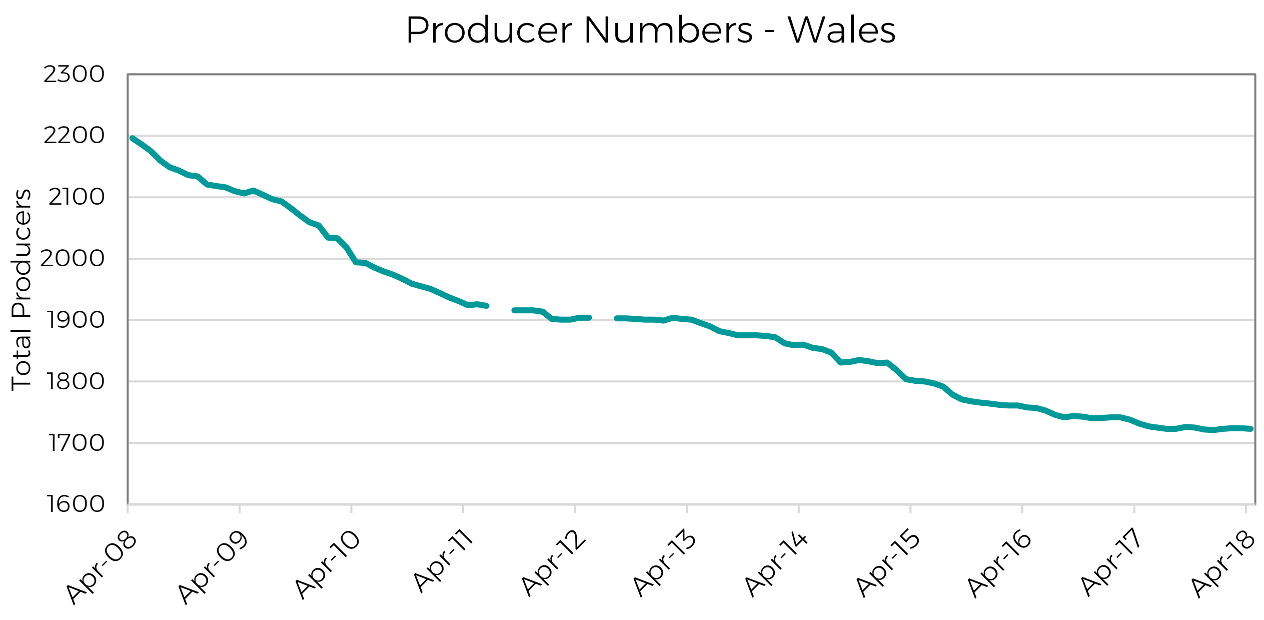

*Figure 5: Number of Welsh dairy producers 2008-18. Source: **AHDB Dairy***

7. Dairy products manufactured in Wales

The most recent statistics on dairy products manufactured in Wales were produced for a **Welsh Government report** on the Welsh dairy processing sector in 2014. They reveal around 55% of milk produced in Wales was processed in Wales, while the remaining 45% was processed in England. The Welsh dairy processing sector is dominated by cheese processing, which accounts for almost 90% of the dairy processing in Wales (Figure 6). Twenty-two of the 45 recognised cow milk processing establishments specialise in cheese processing. **Cheese contracts** are traditionally lower priced than liquid milk. Cheddar and Mozzarella cheese are two of the main cheese products produced, with Cheddar and other hard-pressed cheese amounting to 60% of Welsh cheese production.

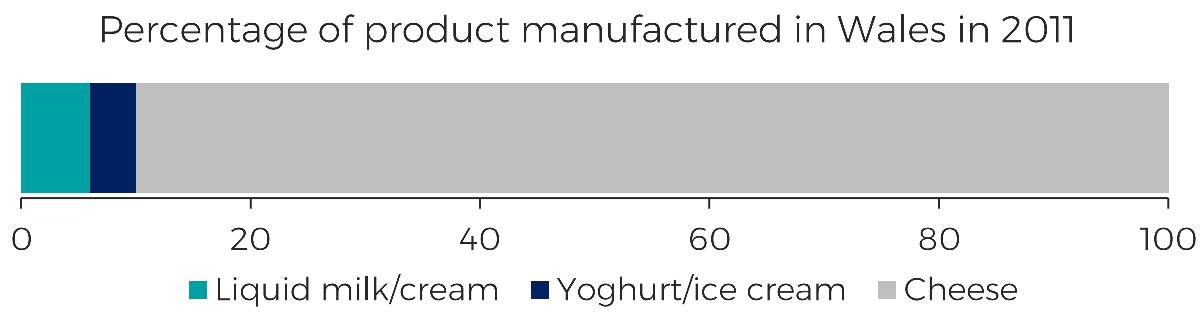

Figure 6: Proportion of dairy processed in Wales. Source AHDB Dairy

The relatively small local population and the distances from dairy farms to large consumer centres such as London or Birmingham have been identified as reasons for the prevalence of cheese processors. **According to Dairy Co**, as of 2011 there is also no 'large scale' liquid milk processor in Wales capable of supplying the major supermarkets.

Following an **independent review of the dairy sector** in 2015, the Welsh Government commissioned a **feasibility study (PDF 403.83 KB)** to explore the viability of expanding the dairy processing sector in south west Wales. The study highlighted the potential of south west Wales for hosting a large processing plant due to its favourable conditions for dairy farming. However, the report indicated a more cost-effective option would be to **increase the production of existing plants**. Plans to build a new plant have therefore not been taken on.

8. Milk contract availability in Wales

The availability of milk contracts to suppliers **varies across Wales**, with producers in the east having typically more contract opportunities than their counterparts in the west. Wales is not unique in this situation, **producers closer to large consumer populations generally have greater access** to contracts than those located further away.

In March 2016, Freshways dropped contracts with seven dairy farms in west Wales, a move which was attributed to the rise in the spot milk price and the westerly location of the dairy farms.

As a consequence of the high percentage of milk processed outside Wales, Welsh producers are particularly exposed to changes in supplier contracts. **Dairy Producer Organisations (DPOs)** offer the potential for farmers to strengthen their position in negotiations with suppliers to ensure better supply chain collaboration. The first DPO, **Dairy Crest Direct**, comprised 1,050 producers across England and Wales and the milk produced is processed by Müller. While the Welsh Government supports the formation of DPOs, it has been acknowledged that many **Welsh farmers are unable benefit** as a consequence of being members of co-operatives, which prevents DPO membership.

Companies	Annual Price (ppl)
Aligned Liquid Milk	
Arla Foods - Sainsburys	27.63
Müller Milk & Ingredients Booths	32.43
Müller Milk & Ingredients Co-op Dairy Group	28.81
Müller Milk & Ingredients M&S	30.39
Müller Milk & Ingredients Sainsbury's	28.04
Müller Milk & Ingredients TSDG (Tesco)	29.38
Standard Liquid Milk	
First Milk - Midlands & East Wales	28.07
Müller Milk & Ingredients Non-Aligned	28.95
Standard Manufacturing	
Arla Direct Manufacturing	26.66
First Milk - Haverfordwest 2	28.20
Glanbia - Llangefni	28.32
South Caernarfon Creameries	29.12
UK Arla Farmers Manufacturing 1	27.00
A&B	
Freshways	29.22
Meadow Foods (A&B)	28.92

*Table 2: Wales League table for February 2018- prices paid to producers. Source: **AHDB Dairy***

9. Welsh dairy farm performance

In 2017, the Welsh Government provided Welsh dairy farmers with **a total of £3.2 million under the Welsh EU Conditional Aid Scheme**. As part of this scheme, 62% of Welsh dairy farmers completed a detailed questionnaire on business benchmarking and herd milk recording. The **results of this survey (PDF 2.82MB)** suggest that the Welsh dairy sector has a wider range of profitability as well as lower average profitability than the overall GB industry. This discrepancy could partly result from different methodologies for data collection and Wales' exposure to low manufacturing milk prices during the period of the survey, and may therefore require further investigation.

According to the survey, only the top performing quartile of dairy farms made a net profit before subsidies in 2015-16 and 2016-17, while organic dairy farms made a net profit in 2015-16 but not 2016-17. The average profitability difference between top quartile and bottom quartile farms was 20 ppl in 2015-16, and 17 ppl in 2016-17. Top performing farms demonstrate that profitable farming is possible and excellent returns are feasible even under challenging trading conditions. At the same time, farms with low profitability and production costs that exceed historic milk prices are a cause for concern. In cases where the costs are higher than 30 ppl, these problems are not expected to be solved by technical advancements but will require strategic change that increases efficiency and reduces costs of production. The report suggests that potential measures could include constant monitoring of financial performance, efficient grass utilisation, adopting production systems that are tailored to farm type and customer needs, and reducing the financial impact of disease by maintaining high standards of animal health and welfare.

The Welsh Government is **currently tailoring its support** to help re-evaluate and, where possible, improve the business structure in low-performing farms.

10. Codes of practice between dairy producers and processors

In recent years, management of contractual relationships between dairy producers and processors in Wales have undergone a number of changes. As of May 2018, the existing code of practice is again under review by the Welsh Government.

Voluntary code of practice

In September 2012, after a series of price cuts by milk processors, a **voluntary code of practice (PDF 1.3MB)** for contractual relationships between dairy processors and producers was introduced. The code applies to Wales, England and Scotland. It is designed to allow individual farmers to negotiate contracts and to give them the ability to leave contracts more easily if price changes occur. As of March 2013, **an estimated 85% of British milk (PDF 1.3MB)** was bound by the principles of the voluntary code.

Subsequent to its implementation, the code has undergone several reviews commissioned by the Welsh Government. **The first review** in October 2014 revealed that the code had led to positive change where implemented but needed to be adopted sector-wide. Following this, in 2014 the Welsh Government commissioned an **independent review of the dairy industry in Wales (PDF** 627KB) involving more than 100 stakeholder interviews. The report set out a variety of recommendations, including the recommendation to review the code annually to ensure it is 'fit for purpose'.

In March 2015, the then-Deputy Minister for Farming and Food Rebecca Evans **accepted 19 of the 26 recommendations,** including the recommendation for an annual review. She subsequently set up the independent **Welsh Dairy Leadership Board** (WDLB) comprising industry representatives to deliver on the recommendations. The Welsh Government informed the Research Service that the WDLB met for the last time in March 2017. Although it did not carry out a formal review, the WDLB considers the voluntary code preferable to legislation and believes it should be given further time to become effective.

Compulsory written contracts

In October 2016, the UK Government carried out a consultation on extending the Groceries Code Adjudicator's (GCA) remit in the UK groceries supply chain. The GCA monitors and enforces the Groceries Supply Code of Practice, which regulates contracts between the ten largest UK grocery retailers and their direct suppliers. Since dairy farmers rarely directly supply major retailers, most dairy farmers are not protected under the existing remit.

The UK Government consultation received evidence from stakeholders that exposed a significant pattern of unfair or unclear terms and conditions in contracts between dairy producers and processors. Highlighted challenges include variations to specifications or contract terms, especially if imposed at short notice, as well as difficulties in trying to terminate contracts when significant changes to prices or the contract terms are proposed.

Although support for extending the GCA's remit was found insufficient, the UK Government responded to the consultation by setting out a plan to introduce compulsory written contracts in the dairy sector in England. This would implement Article 148 of the Common Market Organisation Regulation (EU) No 1308/2013. The contracts aim to give dairy producers more transparency and certainty on the terms of their agreement and the price they will be paid.

At their quarterly meeting in April 2018, NFU Scotland, NFU England and Wales, Ulster Farmers Union and NFU Cymru welcomed compulsory written contracts, but cautioned that the EU regulation had to be adapted to the diverse UK dairy industry.

The Welsh Government informed the Research Service that the evidence gathered by the UK Government suggests that the voluntary code is failing to achieve its objective. Following discussions with NFU Cymru, FUW and the chair of the WDLB, the Welsh Government is currently reviewing its position.

11. The dairy industry and Brexit

The UK's departure from the EU is likely to impact on the UK dairy sector. According to a Rabobank report, **the UK dairy industry is 77% self-sufficient**. The sector is reliant on a balance of imports and exports that vary with product (Figure 7) although it is still a net dairy importer.

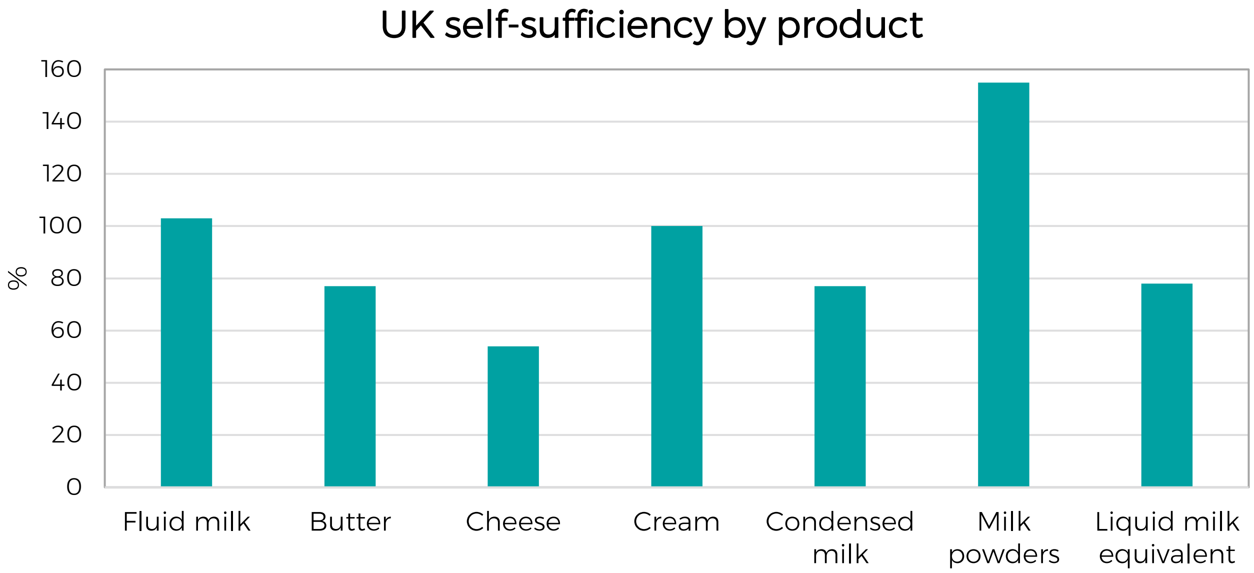

Figure 7: UK self-sufficiency by product. Source: Rabobank

The UK dairy sector is subject to EU intervention in the form of a range of **policy measures**, which include access to funding, subsidies and quotas. The future of the UK's involvement in these initiatives is unclear and will be dependent on the outcome of Brexit negotiations. Compared to other agricultural industries in Wales, the dairy sector is expected to **face fewer challenges**. The dairy market is less dependent on subsidies and export markets than the beef and sheep industry, and is more dependent on the milk price and local demand. However, changes to the status quo could have a number of implications for the UK dairy sector, which is currently highly integrated with EU policy.

For instance, imports from other dairy-producing countries such as New Zealand are currently limited under **EU quotas**. If the quotas are lifted and New Zealand's market share increases, this could put pressure on local producers.

The UK currently benefits from tariff-free dairy imports and exports in the EU. **According to Rabobank**, should the UK negotiate a tariff-free trade deal with the EU then the likelihood is business as usual for the industry. However, if this is lost, **UK dairy producers could be faced with tariffs of 35.4%** for exports into the EU. It is estimated that it would have **cost the industry in the region of £1.5-2 billion** if these tariffs had been applied in 2016.

Loss of tariff-free trading with Ireland would have a particularly significant impact. Ireland exported 65,000 tonnes of butter and dairy, and 139,000 tonnes of cheese **into the UK in 2015 (PDF 717KB)**, including **85% of Cheddar imports**. Meanwhile, Ireland accounts for **67% of the UK's dairy exports (PDF 717KB).** While it is expected that **Ireland will try to maintain access** to the UK market, an interruption could allow UK-based producers to increase their domestic market share. Should tariff-free trading be lost, any UK-imposed import tariffs could allow certain imports to be substituted with UK milk. Combined with supply chain investment, this could present an **opportunity for the industry**.

Coupled with a growing global population and demand from increasingly affluent emerging markets, it is possible the UK sector could grow. Targeting certain countries and markets looking for value-added products could allow greater returns. A **2016 report by AHDB (PDF 718KB)** identified Russia as the biggest opportunity for growth, although the market is currently closed due to international sanctions. Alternatively, Middle Eastern, Asian and North African markets also present options, as they are likely to be the focus of most of the global growth in dairy imports.

In addition to these economic impacts, Brexit could lead to changes in environmental regulations for the dairy industry. In response to **Defra's consultation into post-Brexit agricultural policy**, the **Environment Agency (EA)** proposed that the dairy sector should be covered by the **Environmental Permitting Regulations** (EPR). The EPR applies to intensive agricultural sectors such as pigs and poultry. The EA criticises that the dairy industry is currently exempt from the EPR, despite being responsible for the majority of significant farm pollution incidents and being a major emitter of ammonia and methane. Although the consultation is predominantly England-only, Defra's future policies may apply in Wales through UK common frameworks.

A further way Brexit could affect the Welsh dairy sector is via its impact on the veterinary workforce. According to a **Summary Paper** from the Energy, Planning and Rural Affairs' Evidence and Scenarios Roundtable Sub-Working Group, the veterinary sector is heavily reliant on non-UK EU graduates. This dependence is especially prominent in the meat hygiene service, where an estimated 95% graduated overseas, mostly in EU countries. At the same time, exit from the EU could significantly increase the volume of products requiring veterinary export health certification. Citing the UK Chief Veterinary Officer Nigel Gibbens, the Summary Paper states that the increase could amount to as much as 325%.

For more information on Brexit and the dairy industry, see a recent **report by the Public Policy Institute for Wales (PDF 1.44MB)** and the **2016 AHDB Horizon report (PDF 718KB).**

12. Key sources

- **AHDB Dairy**
- **Rabobank**
- **Farmers Union of Wales**
- **NFU Wales**
- **Farmers Weekly**
- **Defra Dairy Farming guidance**
- **Welsh Government pages on 'The Dairy Industry'**
- **Public Policy Institute for Wales report (PDF 1.44MB)**
- **AHDB Horizon report (PDF 718KB)**
- **AHDB Welsh EU Conditional Aid Scheme report (PDF 2.85MB)**
- **Up-to-date farmgate prices**