

Dairy Supply Chain Margins 2009/10

Contents

Executive summary	3
Dairy farm income	4
Liquid milk margins	6
Cheddar markets	9
Mild Cheddar margins	10
Mature Cheddar margins	12
What happened in 2009/10	14
Conclusion	17
Appendix 1	18

Executive summary

The Dairy Supply Chain Margins report presents evidence on the gross margins which are made by farmers, processors and retailers on the sale of liquid milk, mild and mature Cheddar. This year's report provides evidence on the average margins made across the whole 2009/10 milk year, which ran from April 2009 to March 2010. It is important to note that the dairy market experienced a great deal of volatility within this year. It started with commodity prices supported by intervention buying and ended with the highest commodity prices seen since the peaks of 2007.

At the retail level, there were only marginal changes in prices for liquid milk and mild Cheddar between 2008/09 and 2009/10 while mature Cheddar prices fell by 2.9 pence per litre (ppl) to 64.9ppl. Despite this variation, a key finding of the report is that retailers have managed to increase their gross margins for all three products. For instance, retailers had a gross margin of 34% on liquid milk in 2009/10, up from 29% in 2008/09 and from 20% ten years ago.

At the processor level, gross margins fell for both liquid milk and mature Cheddar but remained unchanged for mild Cheddar. In the liquid market, the downturn in the commodity markets, along with competition among processors for retail contracts, will have kept wholesale selling prices down. In the case of mature Cheddar, the decline in gross margin in pence per litre terms was likely to have resulted from the high level of promotional activity in the sector rather than any significant change in wholesale prices.

The price farmers receive for their milk, the farmgate price, fell for the 2009/10 milk year by 2.0ppl compared to the previous year, to 23.8ppl. In comparison, the market indicator AMPE, which measures average returns from commodity markets, was lower over the same period, averaging 21.3ppl. This reflects the situation that the farmgate price in the UK market is supported by the premiums paid in the liquid market and the presence of retailer aligned supply contracts. However, even with the premiums paid for liquid milk, the current farmgate price (as at July 2010) is well below the value of AMPE.

What should now be monitored is the time it takes for the farmgate price to adjust to improving market conditions, and whether it will attain a level which will provide dairy farmers with a sustainable return. This is needed to allow for investment in their businesses to ensure they can continue to supply milk in an efficient and profitable manner.

The 2010 DairyCo Farmer Intentions Survey saw increased confidence among farmers – the survey will be completed again in early 2011 and if confidence levels remain high, this will be a good indicator of whether farmers consider milk prices to be at a sustainable level or not.

Dairy farm income

Dairy farm incomes fell in the 2009/10 milk year, according to Defra's provisional figures. Following a decline in farmgate prices resulting from the global downturn in commodity prices which occurred in the second half of the 2008/09 milk year, prices began to recover in July 2009, although they did not fully regain the declines which occurred from November 2008 through to June 2009. For the 2009/10 milk year, the average farmgate price was 7.6% down on the previous year (Figure 1).

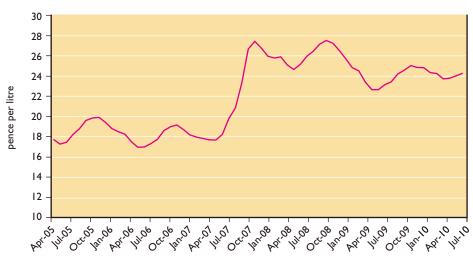


Fig 1 Average farmgate milk price

Source Defra

The Defra measure of Farm Business Income for the average dairy farm shows an 11% decline in income between 2008/09 and 2009/10 for both England and Wales². The provisional figures were based on the assumption of lower production, decreasing farmgate milk prices, and higher prices for replacement heifers. It is likely that the income figure will be revised upwards to take account of the increase in milk production which occurred in 2009/10.

UK milk production for the year was 12,825 million litres, a marginal decrease of 33 million litres from a year earlier. The decrease was due to the 7% fall in production in Northern Ireland – GB production actually increased by 99 million litres, or 1%.

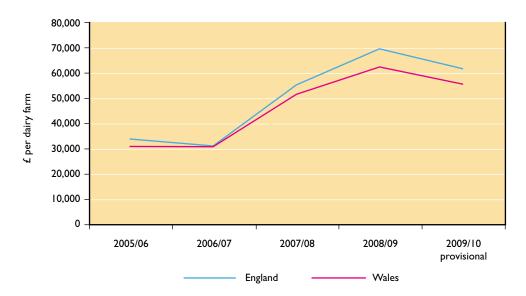
The decline in incomes will have been partially offset by an overall decline of 9%³ in the main input costs for dairy farms. However, costs of replacement heifers increased by 4% over the year.

¹Average UK farmgate milk prices are calculated from monthly surveys of milk purchasers conducted in England and Wales by Defra, in Scotland by RERAD and in Northern Ireland by DARD. The surveys together account for approximately 91% of UK milk bought by milk purchasers.

²Farm Business Incomes are published each year based on the June Agricultural survey and are provisional. Scotland is due to publish information on 2009/10 Farm Business Income at the end of 2010.

³According to Defra's provisional estimates of farm incomes for 2009. The main input costs for dairy farms include energy, fertilisers, feed, rent and interest.

Fig 2 Farm Business Income



Source Defra Farm Business Survey

Table 1: Farm Business Income						
£ per farm	England	Wales	N.Ireland			
2005/06	33,600	30,600	28,700			
2006/07	30,800	30,500	27,300			
2007/08	55,100	51,300	58,700			
2008/09	69,400	62,200*	3 <i>7</i> ,500			
2009/10	61,500*	55,400†	26,500*			

Source: Defra Farm Business Survey

*Provisional †Estimate

The Defra calculation of Farm Business Income includes income from single farm payment⁴ as well as income from any diversified activities. It does not include the cost of family and spouse labour, imputed rent for owner occupiers, or any reinvestment.

⁴As Single Farm Payment is decoupled from agricultural production ie, you do not have to produce an agricultural product to receive the payment, it can be argued that it should not be included in the income calculation of a dairy enterprise.

Liquid milk margins



The average retail price for liquid milk in multiple retailers remained stable in the 2009/10 year at 65.1ppl compared to the average of 64.9ppl in 2008/09. In general, retail prices have shown an upward trend for the past ten years, as multiple retailers have gained market share at the expense of doorstep sales, reducing price competition. In the 2004/05 milk year, retail sales⁵ accounted for 86.7% of all milk sold for home consumption, with 13.5% sold via the milkman. By 2009/10, the split had changed to 94.5% sold in retail outlets, with only 5.5% sold on the doorstep.

Parmgate Milk Price Liquid Milk Processor Margin* Liquid Milk Retailer Margin*

Fig 3 Prices and margins for liquid milk

Source DairyCo

 $^{{}^{\}star}\text{The gross margin equals the difference between the selling price and buying price for milk$

⁵Figures refer to retail sales of milk for in-home consumption from all sources of trade, excluding doorstep. Source: Kantar Worldpanel

There was a substantial increase in the retail price in 2005/06, when retailers responded to pressure from producers and processors to increase returns in order to cover increased costs. Two further significant increases in retail prices occurred in 2007/08 (14%) and 2008/09 (12%) which can be attributed to increased processing costs in 2007/08 and to surges in prices for dairy commodity products on world markets in both cases.

In the 2009/10 milk year, retailers were challenged with the task of maintaining market share in the face of increasingly price-conscious shoppers, and milk prices remained stable. There were some short-lived price promotions with retailers reducing prices on some of their milk in order to offer a 'discount' option to their customers. Tesco initially used "fresh 'n low" as its discounted product, but then switched in October to its own tertiary brand⁶ "Creamfields". Sainsbury's has been using its own-label 1% milk, periodically priced at £1.00 for a 4 pint poly-bottle, as its discount offer. Asda meanwhile cut prices on its range of 4 pint polybottles of own-label milk in January 2010 by £0.30, although this gradually increased back to the average price. In July 2010, it then made a further price cut on its own-label milk to £1.25 for a 4 pint polybottle, and this cut was subsequently followed by other retailers.

Wholesale prices for liquid milk in 2008/09 increased in response to the recovery in world dairy prices during 2007/08. However, following the collapse of the world commodity markets in 2008/09, there was a 7% year-on-year decline in the average wholesale price for liquid milk from 46.1ppl to 42.7ppl in 2009/10. Along with the 0.2ppl year-on-year increase in the retail price, this resulted in an increase in the retail gross margin of 3.6ppl. In contrast, the processors' gross margin fell to 18.9ppl in 2009/10 from 20.4ppl in the previous year while the average farmgate milk price fell by 2.0ppl over the year.

Table 2: Comparisons of liquid milk margins 1999/2000, 2008/09, 2009/10						
	1999/2000		2008/09		2009/10	
	ppl	margin	ppl	margin	ppl	margin
Farmgate milk price ⁷	1 <i>7</i> .8		25.8		23.8	
Processor gross margin ⁸	14.9	46%	20.4	44%	18.9	44%
Processor selling price	32.7		46.1		42.7	
Retail gross margin ⁸	7.9	20%	18.8	29%	22.4	34%
Retail price	40.6		64.9		65.1	

Source: DairyCo

In percentage terms there was no change in processors' gross margin between 2008/09 and 2009/10, remaining at 44% while the retail margin increased to 34%. The processor gross margin may be slightly overstated as milk prices paid on liquid contracts are generally at a premium to those paid on cheese or balancing contracts in order to ensure adequate supplies. As the published farmgate price is an average of prices paid for all milk delivered to dairies, it will be less than the average price paid on liquid contracts, and higher than that paid on cheese contracts¹⁰.

⁶A brand that receives no consumer advertising support and may be used by retailers to demonstrate good value or simply used as a price fighting device.

⁷Please note that farmgate price figures may differ from annual average figures published by Defra for the year in question. This is because Defra's annual average figures are weighted by monthly production whereas the figure used above is a straight average of the monthly average price paid in the year.

⁸Gross margin does not equal profit as it only takes into account the cost of purchasing the milk. Other operating costs and overhead costs are not included.

⁹According to the Competition Commission in their report "The Supply of Groceries in the UK market" (April 2008), the minimum gross margin derived for own-label non-organic whole liquid milk was 27%, with higher gross margins for semi-skimmed and skimmed milk.

¹⁰Refer to the Appendix for comparisons of liquid and cheese contract prices and the Defra farmgate price.

The absence of any decline in retail prices in a period of falling commodity and farmgate prices highlights that retailers were able to increase their margins while processors and milk producers absorbed the full impact of the decline in dairy commodity prices. It is important to note that over this period, processors and retailers are likely to have experienced increases in operating costs, and therefore increases in gross margin do not necessarily imply a similar increase in profitability. For processors, the largest cost of sales after the cost of buying in milk will be the costs of plastics and fuel, which increased in the latter part of the 2009/10 financial year. Meanwhile, competition among processors for retail contracts will have kept wholesale selling prices down, further cutting into their margins although these will have been offset by the gains from enhanced cream income in the latter half of the year.

Comparing 2009/10 with 1999/2000 shows the retail price has increased by 24.5ppl (60%) to 65.1ppl compared to a general increase in food prices of 36% between 2000 and 2010¹¹. During this period, the average farmgate price has increased by 6.0ppl (34%) and the wholesale selling price has increased 10.0ppl (31%). This indicates that approximately 24% of the extra price paid by the consumer has been passed back to dairy farmers, and just over 40% of the additional price has been passed back to processors. This leads to an estimated 35% of the increased retail price being retained by retailers. How much profitability will have changed at the different levels of the supply chain will, however, be dependent on how costs have increased.

¹¹ Based on the annual change in the RPI for all food products.

Cheddar markets

During 2009/10, world wholesale prices for Cheddar recovered from the decline which occurred during the 2008/09 year, but remained below UK wholesale prices. UK prices for mild and mature Cheddar showed a small decrease during the downturn in 2008/09 as they faced increased import pressure from lower cost producers. With world Cheddar prices increasing in the early part of 2010, UK prices also moved upwards.

During 2009, intervention buying in the EU will have indirectly sheltered UK Cheddar prices from the downturn by offering a guaranteed return for milk put into SMP and butter. This will have diverted milk to these products and away from Cheddar, and with the resulting reduction in the Cheddar make, helped to maintain the wholesale price. The UK price for mild Cheddar remained firm at £2,500/tonne during the majority of 2009/10, only seeing one price increase in November 2009 of £100/tonne. Figure 4 shows the movement in world and UK Cheddar prices since 2005.

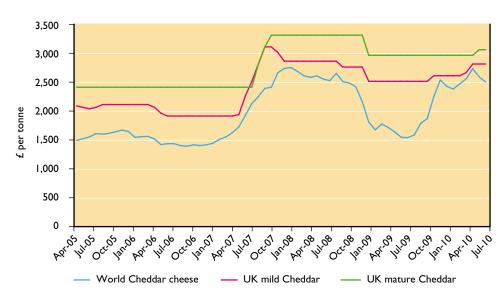


Fig 4 UK and World Cheddar prices

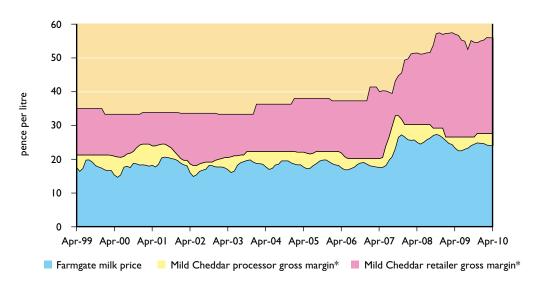
Source DairyCo, DIN

Mild Cheddar margins



The average retail price of mild Cheddar in pence per litre terms increased in 2009/10 by the equivalent of 0.7ppl (1%) compared to the previous year. Wholesale prices declined by 2.0ppl (7%), which increased retail gross margins by 11% over the period.

Fig 5 Prices and margins for mild Cheddar



Source DairyCo

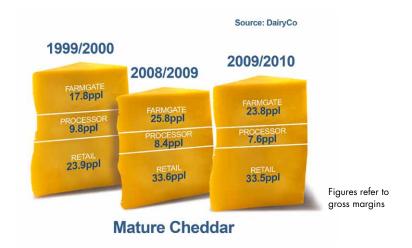
^{*}The gross margin equals the difference between the selling price and buying price for milk

Table 3: Comparisons of mild Cheddar margins						
	1999/2000		2008/2009		2009/2010	
	ppl	margin	ppl	margin	ppl	margin
Farmgate price	1 <i>7</i> .8		25.8		23.8	
Processor gross margin	3.5	17%	3.2	11%	3.2	12%
Processor selling price	21.3		29.0		27.0	
Retail gross margin	13.4	39%	25.7	47%	28.4	51%
Retail price	34.7		54.7		55.4	

The processor gross margin on mild Cheddar did not change between 2008/09 and 2009/10, averaging 3.2ppl in each year. It should, however, be noted that the processor gross margin may be slightly understated as milk prices paid on cheese contracts are generally lower than those paid on liquid contracts. UK mild Cheddar processors operate with tight gross margins as retailers are able to source comparable products from both mild Cheddar manufacturers within the UK and other countries such as Ireland.

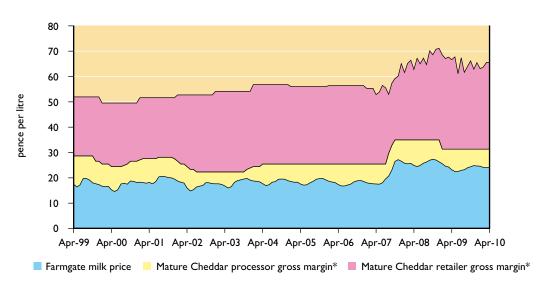
In percentage terms, the 2.0ppl decline in the farmgate price meant that processors' gross margins increased from 11% to 12% between 2008/09 and 2009/10. As with liquid milk, retailers were able to maintain consumer prices while retaining the margin gained from falling commodity prices. This has resulted in retailers' gross margins increasing from 47% to 51% in 2009/10.

Mature Cheddar margins



The average retail price of mature Cheddar in pence per litre terms fell from 2008/09 by the equivalent of 2.9ppl (4%) to 64.9ppl. This fall in price is likely to be primarily due to the widespread price promotions and deep discounting which occurred in the mature Cheddar market in the past year – particularly on branded mature Cheddar as processors worked towards gaining market share and establishing brands. At times during the year, branded mature Cheddar was selling for less than own-label Cheddar in the major multiples.

Fig 6 Prices and margins for mature Cheddar



Source DairyCo

 $^{{}^{\}star}$ The gross margin equals the difference between the selling price and buying price for milk

The wholesale price for mature Cheddar fell by 2.8ppl (8%) in 2009/10, while farmgate prices fell by 2.0ppl from the previous year's value. With the relatively larger decrease in the wholesale price for mature Cheddar, processors' gross margins declined in percentage terms from 25% to 24% in 2009/10. These figures may underestimate the processors' gross margins, due to the farmgate price slightly overstating the average price paid on Cheddar contracts. On the other hand, many processors will have experienced higher promotional costs as the industry competed for market share in a highly competitive market, which would have eroded the margin. As price promotions are usually funded by the processors rather than the retailers, cheese profitability will have been lower in 2009/10 than in previous years, as was reported in the annual accounts of both Dairy Crest and Milk Link¹².

Table 4: Comparisons of mature Cheddar margins						
	1999/2000		2008/2009		2009/2010	
	ppl	margin	ppl	margin	ppl	margin
Farmgate price	1 <i>7</i> .8		25.8		23.8	
Processor gross margin	9.8	36%	8.4	25%	7.6	24%
Processor selling price	27.6		34.2		31.4	
Retail gross margin	23.9	46%	33.6	50%	33.5	52%
Retail price	51.9		67.8		64.9	

 $^{^{12}}$ Dairy Crest Group plc Annual Report 2010. Milk Link Annual Report & Accounts 2010.

What happened in 2009/10

The predominant feature of the 2009/10 milk year was the volatility of markets. There were large swings in wholesale prices, with markets supported by intervention at the beginning of the year followed by strong recovery in world commodity markets in the latter part of the year.

Following the collapse of world dairy commodity markets in 2008/09, intervention in the EU was opened on 1 March 2009 to support market prices and remained in place throughout the summer. World prices began to recover in the second half of the year, and rose rapidly on the back of expectations of supply shortages. Reductions in supply were forecast for the US due to low prices in 2009 leading to reduced cow numbers, while drought conditions in New Zealand and Australia led many to expect production levels in Oceania to be much lower than predicted. The concern over tight supply, coupled with economic recovery in Asia, led to an escalation in commodity prices similar to that seen in 2007.

Commodity prices on the world market started to stabilise in the last three months of 2009/10, albeit at high levels. With increasing global supply, concerns in the market about short-term product availability have eased and wholesale prices have subsequently declined.

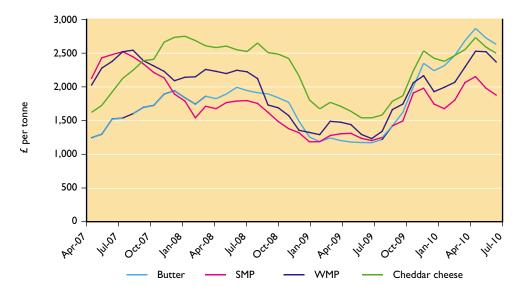


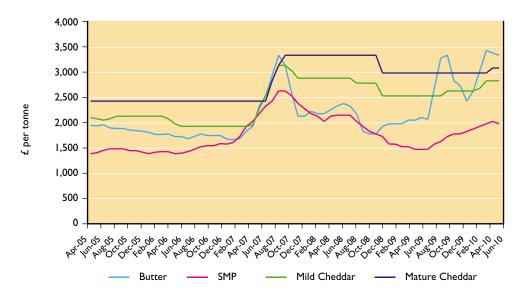
Fig 7 World commodity prices

Source DairyCo

Prices on UK markets did not show the same rapid increases experienced on world markets in the second half of the milk year, with the exception of butter, but neither did they fall as rapidly or to the same extent in the previous year. With UK wholesale Cheddar prices remaining above world prices, there was no change in mature Cheddar wholesale prices and only one increase for mild Cheddar during the year, although these have moved up slightly in recent months. SMP prices recovered during the year, although with intervention stocks overhanging the market, the rate of increase has not matched that which occurred on world markets.

UK butter markets were very volatile during the year, with wholesale prices rising rapidly in October and November as supplies became tight and excess fats were diverted to more profitable cream markets, and due to competition for short supplies in the run up to Christmas. This was followed by a dip in prices, only for them to rise again rapidly in April and May of this year, as a result of on-going supply shortages.

Fig 8 UK wholesale prices



Source DIN Consultancy

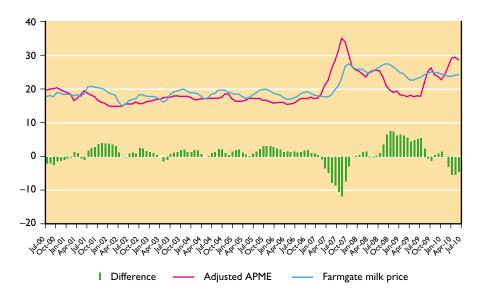
As a result of increasing dairy commodity prices, market indicators such as AMPE (Actual Milk Price Equivalent) rose during 2009/10.

What is AMPE?

AMPE or Actual Milk Price Equivalent gives a market value (in pence per litre) for raw milk which is manufactured into butter and SMP. It is a factory gate price and therefore, in order to compare it with a farmgate price, an assumed amount for delivery to the dairy must be deducted. The AMPE figure published by DairyCo is based on the wholesale prices published monthly on DairyCo Datum's website.

Figure 9 shows the historical relationship between an adjusted AMPE figure (adjusted for delivery costs) and the average farmgate price. Up until 2007, the farmgate price has tracked AMPE, although with time lags between changes in wholesale prices and when these changes were reflected in farmgate prices.

Fig 9 Farmgate milk price vs. adjusted AMPE



Source DairyCo, Defra

The structure of the UK dairy market means that AMPE should, on average, represent the bottom of the market. With over half of the milk produced in the country directed towards satisfying the liquid market, and a further quarter directed towards cheese production, processors need to offer a premium over commodity market returns in order to secure supplies. This means that over time the average farmgate price would be expected to be above the average value of AMPE.

During periods of imbalances in supply and demand on the world commodity markets, it may be the case that AMPE rises above the farmgate price although, following a period of adjustment when milk processors compete for milk supplies, the liquid and cheese premiums should be re-established. With the increasing use of dedicated supply contracts, it may be that the adjustment time will increase slightly as processors will need more time to renegotiate their contracts and pass on price changes to the farmgate.

It can be seen in Figure 9 that prior to 2007, the farmgate price was, on average, above AMPE, and displayed a seasonal pattern of highs and lows. The sharp increase in AMPE in early 2007, combined with concerns over declining milk production in the UK, created pressure on processors and retailers to increase the milk price, and the farmgate price moved up in response.

Since 2007, the world commodity market has been more volatile. The farmgate price has continued to exhibit the same seasonal pattern as previously, although at the higher level, while AMPE has shown large fluctuations in values, following the large swings in world dairy commodity prices which have occurred over the past three years. The main reason why AMPE is considerably more volatile is that, unlike in the period prior to 2007, it has been well above the EU intervention price (IMPE), and is therefore more subject to price movements on world markets. On the other hand, farmgate prices have become less influenced by variations in commodity markets, partly due to the introduction of dedicated supply chains for liquid milk.

In the current market, the farmgate price is below AMPE which may simply be due to the lag effect. With world commodity markets firming, it would be expected that farmgate prices will rise in response. The fact that the prices farmers receive are lower than average market returns (as measured by AMPE) has caused great debate in the industry. However, what is important is not how often a gap exists between AMPE and the farmgate price, but whether prices adjust at an even speed in a rising and a declining market. If this were the case, farmers would not lose out in the long term.

Further research is to be undertaken by DairyCo towards the end of 2010/11 to examine the price transmission in the dairy markets, and whether upward price adjustments take longer than downward price adjustments, thereby costing the farmer potential revenues.

Conclusion

The UK dairy industry saw a great deal of volatility during the 2009/10 milk year, starting the year with commodity prices supported by intervention buying and ending the year with some of the highest commodity prices seen since the historic peak of 2007.

Against this backdrop of price volatility, prices remained relatively stable at the retail level for liquid milk and mild Cheddar cheese, while mature Cheddar prices fell due to a high level of promotional activity to support brand growth. In general, retailers were able to increase their margins on dairy products while the processors appear to have retained their gross margins in percentage terms. Farmers saw a decrease in the average milk price.

The farmgate price is predominantly set by events in the commodity markets, albeit with a lag between the two. The presence of supply contracts and the dominance of the liquid sector in the UK market have dampened the effects of the volatile commodity market. In recent months, world commodity markets have started to ease back, which has been reflected in AMPE. With the farmgate price still showing gradual upward movements, the gap between AMPE and farmgate prices seen earlier in the year is starting to close.

The present situation of milk price cuts at retail level has raised questions on the impact this will have on producer prices. It is likely that retailers are currently funding the price cuts out of previously increased margins, although they are unlikely to do this indefinitely. Whether it leads to a reduction in producer prices will depend on whether retailers choose to increase the price to consumers again or push for wholesale price reductions from their suppliers, which may in turn be passed onto dairy farmers.

Of particular importance, however, is not the price charged by retailers or wholesalers, or their gross margins, but rather whether the price paid to dairy farmers provides them with a sustainable return to allow for investment in their business to ensure that they can continue to supply milk in an efficient and profitable manner. The next DairyCo Farmer Intentions Survey in early 2011 will see whether the increased confidence seen in early 2010 is repeated or not, which will be a good indicator of whether farmers consider prices to be at a sustainable level or not.

Appendix 1

Data Sources

Following is a list of the data used in this report, the source of data and its characteristics.

Farmgate milk prices

Farmgate milk prices are provided by Defra on a monthly basis and represent average prices received by producers, net of delivery charges and excluding any retrospective bonuses. The prices are obtained by Defra from a monthly survey of registered milk purchasers in England and Wales, which records volume, value and protein content of milk purchased from farms in England and Wales. All major milk purchasers (those purchasing over 2 million litres of milk per year) take part in the survey and approximately 91% of milk purchased from UK farms is accounted for.

The Defra published prices are weighted according to the volume of milk purchased and averages are therefore influenced by the larger milk purchasers.

For the supply chain analysis, annual average farmgate prices are not weighted but are simple averages of the twelve months of data.

Liquid milk contract prices

For comparison purposes, an average price paid for liquid milk was calculated using the DairyCo standard litre milk prices for a basket of liquid milk contracts. These included Dairy Crest liquid and aligned contracts, Robert Wiseman Dairies Partnership and aligned contracts, and Arla's aligned and non-aligned contracts.

Milk for cheese contract prices

For comparison purposes, an average price paid for milk for cheese was calculated using the DairyCo standard litre milk prices for a basket of cheese contracts. These included the Dairy Crest Davidstow contract, First Milk's compositional and Highlands & Islands contract, Milk Link's manufacturing contract, Joseph Heler and Wyke Farms.

Wholesale prices

UK wholesale prices are collected on a monthly basis, and for the supply chain analysis, annual averages are a simple average.

UK wholesale prices are not published, but data is collected by obtaining quotations from traders and milk processors during the month.

For mild and mature Cheddar, prices collected are based on spot prices and relate to larger quantities of a container or more on a delivered price basis per tonne. These figures are then converted to a ppl equivalent using milk equivalent conversion factors.

Due to the commercial sensitivity of this information, there are no published sources of wholesale prices for liquid milk, and they are therefore estimated. This is done by deducting the value of the excess cream obtained during the separation stage of processing milk for consumption from the total value of the milk. The value of the excess cream is based on the annual average of monthly quotations of the ex-dairy spot price for cream at 40% butterfat, for export.

Once wholesale prices are estimated for the previous year, the data is validated through discussions with the industry to ensure that they are within reasonable bounds. In addition, information obtained from company accounts of processors helps to validate the figures.

Retail prices

Retail prices for liquid milk and Cheddar cheese are obtained from the Kantar Worldpanel which collects survey data from consumers on the volume and value of purchases. For liquid milk, annual average milk prices were calculated from 4-weekly data on total expenditure and volumes of sales in multiple retailers for pasteurised milk.

For Cheddar cheese, annual average prices for both mild and mature Cheddar were calculated using 52-week data on expenditure and volume of retail sales. As sales volumes are recorded in kilograms, they were then converted to a ppl basis using a 9.4litres/1kg cheese conversion factor.

While AHDB, [operating through its DairyCo division] seeks to ensure that the information contained within this document is accurate at the time of printing no warranty is given in respect thereof and, to the maximum extent permitted by law the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.

Copyright, Agriculture and Horticulture Development Board 2010. All rights reserved. No part of this publication may be reproduced in any material form (including by photocopy or storage in any medium by electronic means) or any copy or adaptation stored, published or distributed (by physical, electronic or other means) without the prior permission in writing of the Agriculture and Horticulture Development Board, other than by reproduction in an unmodified form for the sole purpose of use as an information resource when DairyCo [OR the Agriculture and Horticulture Development Board] is clearly acknowledged as the source, or in accordance with the provisions of the Copyright, Designs and Patents Act 1988. All rights reserved.



Agriculture and Horticulture Development Board Stoneleigh Park Kenilworth Warwickshire CV8 2TL

T: +44 24 7669 2051

E: publications@dairyco.org.uk

W: www.ahdb.org.uk

DairyCo is a division of the Agriculture and Horticulture Development Board