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## **Dairy Supply Chain Margins 2011/12**

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# Executive summary

The Dairy Supply Chain Margins report presents evidence on the gross margins made by farmers, processors and retailers on the sale of liquid milk and mild Cheddar and mature Cheddar. The report aims to answer the question of who benefits from changes in prices along the supply chain. This year's report provides evidence on the average margins made across the whole 2011/12 milk year, which ran from April 2011 to March 2012, as well as some half-year comparisons.

On the back of continued strength in world dairy commodity markets and increased competition for raw milk supplies by domestic processors, UK farmgate prices increased for the second year in a row. The average Defra farmgate price for 2011/12 was 28.1ppl, 11.6% higher than in the previous year. At the processing level, this had an impact on milk procurement costs for all segments of the dairy market.

Historically, increases in processor costs have been matched with rising retail prices. One of the key characteristics of the liquid milk market during 2011/12 has been the absence of such an increase in retail prices. Given the strategic importance that retailers have placed on milk and its use to help bring consumers into stores, retailers have resisted any increases in processor selling prices. Average retail prices dropped to their lowest levels in over seven years, down to 55.5ppl and 4.6% lower than the 2010/11 milk year.

While it was not possible to estimate processor selling prices for liquid milk for the 2011/12 milk year, it seems unlikely that processor gross margins would have increased. This is based on the continued high levels of competition in the retail market, pressure from retailers to keep wholesale prices down and the increase in average farmgate prices.

In the absence of any significant change in the structure of the liquid milk market which would change the balance of power, it would be expected that gross margins at the processor level will remain under pressure.

Retail price movements in both mild and mature Cheddar markets have remained much more in-line with movements in wholesale markets. Higher retail prices for mild and mature Cheddar allowed retailers to maintain gross margins at 47% and 49% respectively. However, with farmgate milk prices rising through the year, processors saw significant cuts in gross margins in the 2011/12 milk year. Processors' gross margins fell from 15% to 10% for mild Cheddar and from 22% to 18% for mature Cheddar during the year.

The practice of selling forward on contract may be partly responsible for the lack of movement in wholesale prices on Cheddar markets. As such, the fall in processor gross margins may be a temporary feature of the market. The future direction of movements in farmgate prices and the relative strength of processors in negotiating future supply contracts will determine if processor gross margins for Cheddar manufacturers will increase.

With processor margins under pressure and retail markets remaining competitive as consumers continue to face recessionary pressures, it is likely that processors' focus for the 2012/13 milk year will be on cost control. Farmgate prices will continue to be fundamentally driven by wholesale markets for dairy products, with demand from the various segments driven by relative profitability of each product.

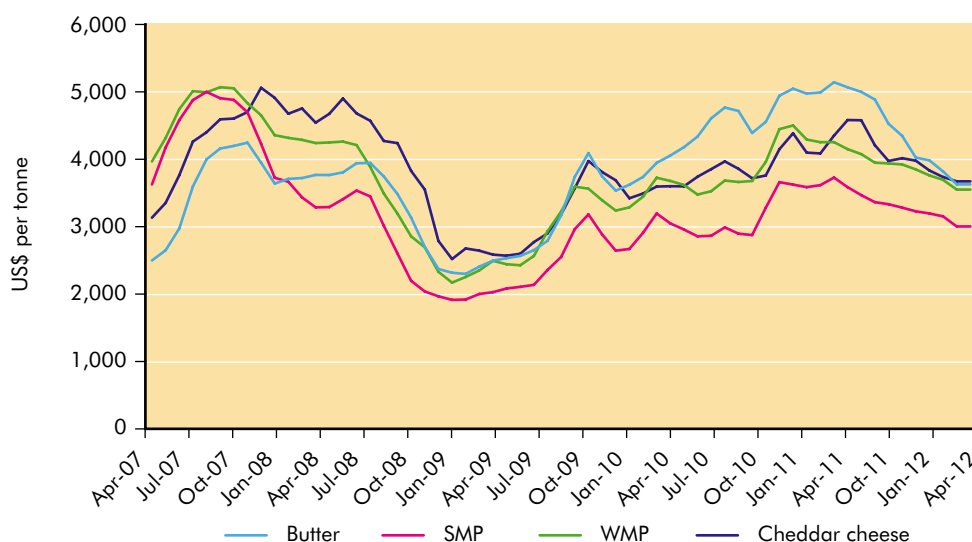
*For the purposes of this report, gross margins are calculated as unit gross margins, measuring the unit selling price less the unit cost price (in pence per litre terms). The margins do not account for other sales or production costs and are therefore not indicative of profit levels. However, the gross margins are representative of the value obtained at that level of the supply chain and analysis of how the margins have changed over time provides important insight into how market events have impacted on the distribution of the value within the supply chain. For detailed analysis on farm financial performance please see the DairyCo Milkbench+ report 2012.*

# Review of dairy markets in 2011/12

Following on from the previous year's strengthening in world dairy commodity markets, prices continued to climb for the first part of the 2011/12 milk year, underpinned by the limited growth in production from the main dairy producing countries and strong demand from Russia, India and China. World wholesale prices for butter hit record highs in June 2011 at US\$5,137 per tonne. World prices for skimmed milk powder (SMP) and Cheddar also peaked in the summer, although not quite matching the highs reached in the price surge of 2007.

Global commodity markets started to fall from July 2011 as available global supplies increased in response to higher prices and growth in world demand began to slow down. Butter prices in particular fell sharply, driven by increased production from New Zealand and the EU. Nevertheless, as of March 2012, international prices for dairy products remained well above historical averages. With stocks of butter and powder in the EU and the US at relatively low levels<sup>1</sup>, markets are more sensitive to changes in the balance between supply and demand.

**Figure 1: World dairy commodity prices**



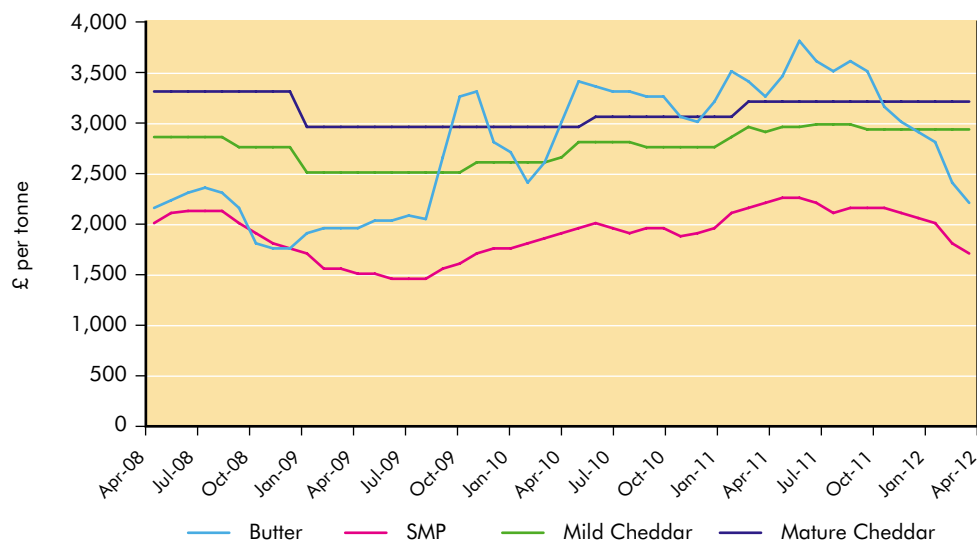
Source AHDB/DairyCo

<sup>1</sup> EU stocks of butter and SMP for the 2011 calendar year were down by 45% and 50% respectively on the previous year. US butter stocks were 10% lower than in the previous year, while stocks of powder were down by 11% over the same period. (Source: CLAL)

UK butter and powder wholesale markets followed similar patterns, although mild and mature Cheddar markets showed more stability than world markets in 2011/12. Butter prices in the UK rose through to September 2011, before falling back in line with global markets. As global exporters switched from the production of whole milk powder (WMP) towards butter, UK butter exports became less competitive and shipments began to fall in the second half of the year. With higher domestic production of butter over the period<sup>2</sup>, the increased availability of butter supplies led to a softening of prices.

UK wholesale mild Cheddar prices rose between January and March 2011 driven by reduced availability as high global commodity prices for butter and powder resulted in a switch in global production away from Cheddar. Since then, however, prices have remained relatively stable throughout the 2011/12 milk year. Wholesale prices for mild Cheddar increased to £2,975 per tonne in July 2011, before stabilising at £2,925 for the last six months of the milk year. Mature Cheddar wholesale prices remained unchanged between March 2011 and April 2012 at £3,200 per tonne.

**Figure 2: UK wholesale prices**

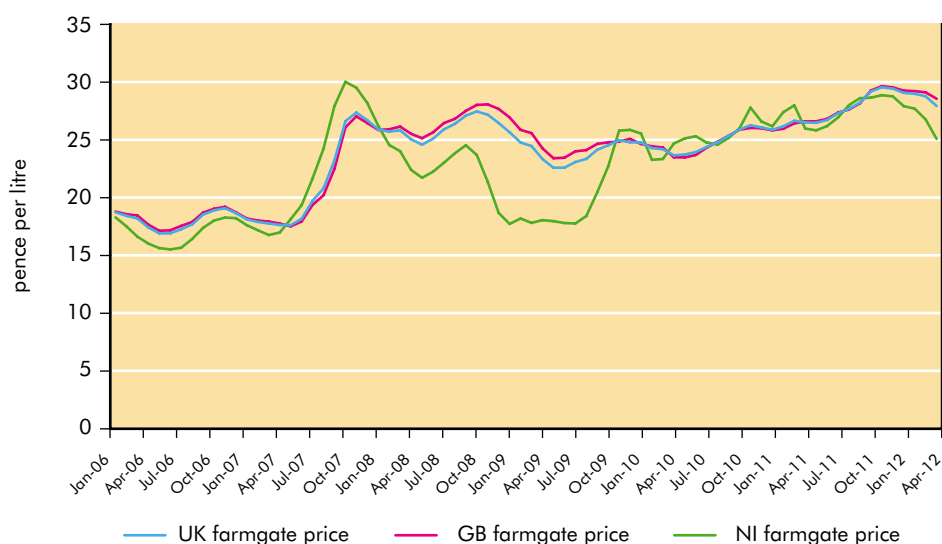


Source AHDB/DairyCo, DIN Consultancy

The average UK farmgate milk price for the 2011/12 milk year increased for the second year in a row, up 11.6% year-on-year, as illustrated in Figure 3 below. Unlike the 2010/11 milk year which saw farmgate prices in Northern Ireland show higher growth compared to GB, the increase in average farmgate milk prices in GB in 2011/12 was relatively larger. Average prices in GB were 12.6% up on 2010/11 and 2.7% higher than average farmgate prices in NI.

<sup>2</sup> Butter production for the 12-month period ending September 2011 was up by 4% over the same period one year earlier. (Source: Defra)

**Figure 3: Average farmgate milk price**



**Source** Defra<sup>3</sup>, DARDNI

The reason for the differences in how farmgate prices evolve in GB and NI is due to the different product mix and selling arrangements in each country. Dairy farmers in GB tend to be more insulated from movements in the commodity markets than NI farmers. A higher proportion of GB milk is directed to domestic markets in the form of liquid milk and Cheddar cheese and sold under supply contracts, whereas milk production in NI is primarily directed to export markets in the form of powders, butter and commodity cheese. As such, movements in the commodity markets tend to impact NI farmgate prices quicker and more directly than in GB, where there is a lag before changes in these markets are reflected in farmgate prices. The relatively larger increase in GB farmgate prices in 2011/12 is evidence of the lag in response in GB farmgate prices caused by the different market mix and contract arrangements.

Prices in GB averaged only slightly higher than those in NI for the majority of the year, though the gap started to increase in the last quarter of the milk year as commodity markets started to fall.

<sup>3</sup> Average 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.

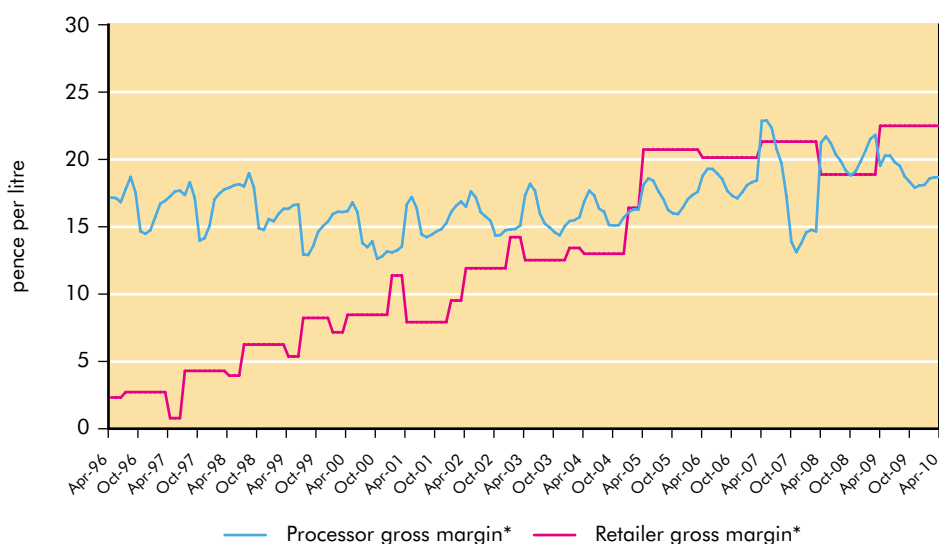
# Liquid milk margins

In previous years, analysis of gross margins along the supply chain in the liquid milk market has been performed to answer the question “which segment of the chain has gained (or lost) from developments within the market environment”.

However, consolidation within the liquid milk processing sector over the past year has meant that public access to accurate and reliable information on this segment of the market is less available, which prevents the calculation of gross margins figures. Despite this handicap, it is still possible to shed some light on the likely beneficiaries of recent market developments based on the underlying structure of the supply chain and the relationships therein.

Examination of trends in gross margins in the retail and processing sectors of the chain over the past 10-15 years provides an indication of the possible impacts of recent market developments. Figure 4 shows that retailers have steadily increased their gross margins over time while processors’ gross margins have declined. While there have been some periods when processors were able to realise improvements in their gross margins, these were derived from short-term gains in competitive advantage and, due to the structure of the market, have not been sustained over time.

**Figure 4 Gross margins\* for liquid milk for processors and retailers**



**Source** AHDB/DairyCo

\*The gross margin equals the difference between the selling price and buying price for milk (gross margins cannot be calculated for the full 2011/12 milk year due to lack of data on processor selling prices)

The linkage between increasing retail gross margins and declining processor gross margins can be attributed to how pricing decisions are made at each stage, which in turn is a function of the unique structure of the supply chain for liquid milk. The main factors impacting on prices at each stage of the supply chain are summarised in Table 1.

**Table 1: Pricing relationships along liquid milk supply chain**

Retail		Processor	Farmer
Selling price/Retail price	Buying price/Selling price of liquid milk	Buying price/Selling price of raw milk	
Consumer budgets	Costs of production for liquid milk processor	Wholesale markets for dairy products	
Consumer demand for grocery 'bundle'	Number of alternative suppliers	Demand for milk for alternative uses (ie cheese)	
Relative prices to competitors	Excess capacity		
Market shares	Bargaining power		

Retailers' pricing decisions for liquid milk are primarily a function of consumer demand for a bundle of goods and competition between retailers for market share<sup>4</sup>. Consumers' demand for milk is relatively stable and insensitive to price changes, given its nature as a regular purchase with a well-defined purpose. Because of this, consumers essentially make their milk buying decision based on the store that offers the most competitive price for their basket of goods. Given that consumers will switch retailer if the price differential for liquid milk between stores is large enough, the degree of competition among retailers for market share will have an impact on the retail price.

Decisions on selling prices at the processor level are determined through negotiations with retailers. The increasing prevalence of long-term supply arrangements with retailers and competition among processors to secure large volumes means that the basis for establishing selling prices is production cost<sup>5</sup>, which is heavily influenced by the price paid for raw milk. The price paid to farmers for raw milk supplies, however, is linked to wholesale dairy product markets and with raw milk representing a significant portion of liquid milk processors' operating costs, the negotiated selling prices will move in line with movements in wholesale market prices<sup>6</sup>.

The differences in pricing mechanisms mean that increases in retail prices for liquid milk do not necessarily imply increased margins for processors or farmers. If the retail price increase is due to increased costs at the processor level, it would be expected processors would realise a higher selling price, although not necessarily a higher profit margin. However, an increase in retail prices may be the result of a retailer's ability to extract higher prices due to changes in consumer demand characteristics. While this would increase retailers' gross margins, it would not necessarily flow back to processors or farmers as it does not impact on the retailer's purchase price negotiations.

A summary of the key events impacting the market for liquid milk during the 2011/12 milk year is provided in Table 2. The main features of the year were the continued downward movements in retail prices and the upward movements in farmgate prices.

<sup>4</sup> The Milk Supply Chain Project, University of Oxford, 2008.

<sup>5</sup> This relationship was also identified in the University of Oxford study (2008).

<sup>6</sup> Asymmetric Price Transmission in Dairy Supply Chains. DairyCo, 2011.



Table 2: Key movements and drivers in liquid milk markets 2011/12		
Key drivers	Impact on price	Segment
Consumer budgets constrained	▼	Retail
Competition for customers/market share among retailers	▼	Retail
Overcapacity in processing capacity driving competition for large contracts	▼	Processor
Inability to pass on increased costs to retailers	▼	Processor
Increased production costs of liquid milk processors (raw milk, plastics, fuel)	▲	Processor
Increased competition for raw milk supplies arising from investment in processing capacity	▲	Farmer
Strong wholesale dairy markets	▲	Farmer

Over the past three years, the average retail price for liquid milk in multiple retailers has fallen sharply and marks a change in the trend of the previous ten-year period. The rise in retail prices for milk in the large multiples over the period from 1998-2008 and the resulting increase in gross margins, allowed competitors such as the discount and independent retailers to undercut the milk price and gain market share.

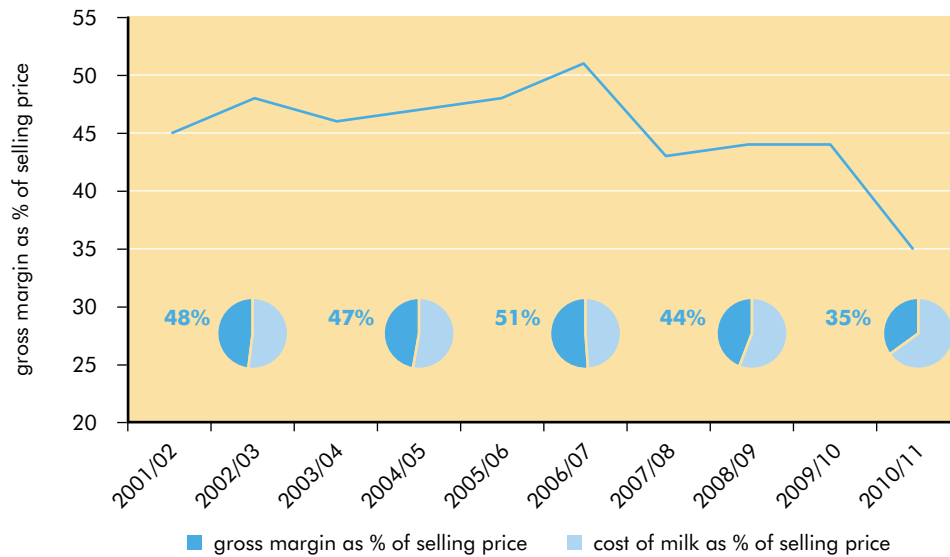
The fight to regain this market share, combined with recessionary pressures on consumer budgets, led to multiple retailers using price promotions on liquid milk to encourage consumers into their stores. In 2011/12, the average retail price for liquid milk was 2.6ppl (4.6%) lower than the year before, at 55.5ppl and 9.0ppl (13.9%) lower than the 2009/10 milk year. The dramatic fall in prices has meant that the average retail price for liquid milk in 2011/12 was the lowest recorded in over seven years.

At the same time, farmgate prices for milk have been increasing on the back of strong wholesale markets. Under normal circumstances, it would be expected that processors selling prices would increase as their costs rose, as witnessed between 2007 and 2009 when wholesale commodity markets rose rapidly. However, in the current retail environment, strong competition for market share among retailers has kept retail prices low and has meant liquid milk processors' ability to fully pass on higher milk costs<sup>7</sup> was reduced.

Although data limitations prevent a breakdown of the liquid milk gross margins between the processor and retailer for the latest milk year, the long-run trend points to falling processor margins (Figure 5). Over the ten-year period from 2001/02 to 2010/11, processor gross margins, as a percentage of selling prices, averaged 45% and have been steadily declining. While there were improvements shown in the 2006/07 and 2008/09 milk years, due to falling farmgate prices in the first case and rising selling prices in latter, the general direction has been a decline. The 2010/11 milk year saw the largest relative drop, with gross margins falling to 35% as a combined result of increasing farmgate prices and a drop in wholesale prices. Wholesale prices for liquid milk were put under increasing pressure in 2010/11 as the majority of large multiple's supply contracts were re-tendered during the year with strong competition between the liquid milk processors to secure these contracts.

<sup>7</sup> This is not relevant to cost-based supply contracts such as that offered by Tesco.

**Figure 5: Processor liquid milk gross margins from 2001/02 to 2010/11**



Source AHDB/DairyCo







For the 2011/12 milk year, it seems unlikely that processor liquid milk gross margins would have increased, based on continued high levels of competition in the retail market, pressure from retailers to keep wholesale prices down and the increase in average farmgate prices. In the best case scenario, processor gross margins would have remained steady. In the worst case, they would have continued to fall depending on processors' ability to pass on increased input costs, in the form of higher farmgate prices, to the retailers.

In the absence of any significant change in the structure of the liquid milk market which would change the balance of power, it would be expected that gross margins at the processor level will remain under pressure. The combination of a few players with large investments in processing capacity and the need to operate near full capacity to ensure efficiency means that competition to secure large retail contracts will continue to put downward pressure on processor gross margins.

# Mild Cheddar margins

In contrast to most dairy commodity markets, UK mild Cheddar markets have been characterised by relative stability over the past two years. The combination of reduced imports, favourable exchange rates for exports and stable production have kept the UK mild Cheddar market well-balanced, meaning there have been few price movements.

A summary of the key events impacting the market for mild Cheddar during the 2011/12 milk year is provided in Table 3.

Table 3: Key movements and drivers in mild Cheddar markets 2011/12			
Key drivers	Impact		Segment
Reduction in price promotions in retailers		price	Retail
Reduced availability arising from a reduction in imports and rise in exports		cost	Retail
		price	Processor
Increased competition for raw milk supplies arising from investment in processing capacity		cost	Processor
		price	Farmer
Buoyant wholesale markets for dairy commodities		price	Farmer

The increase in prices for both butter and powders on world commodity markets which occurred from September 2010 through to mid-2011 impacted on the quantity of imports of mild Cheddar. Processors in the main exporting countries switched from the production of cheese to relatively more profitable products. Between September 2010 and March 2011, world wholesale butter prices increased by 9.6% and milk powder (both SMP and WMP) rose by over 26%. The increased competition for raw milk bolstered world prices for Cheddar, which increased by 14% over the same period.

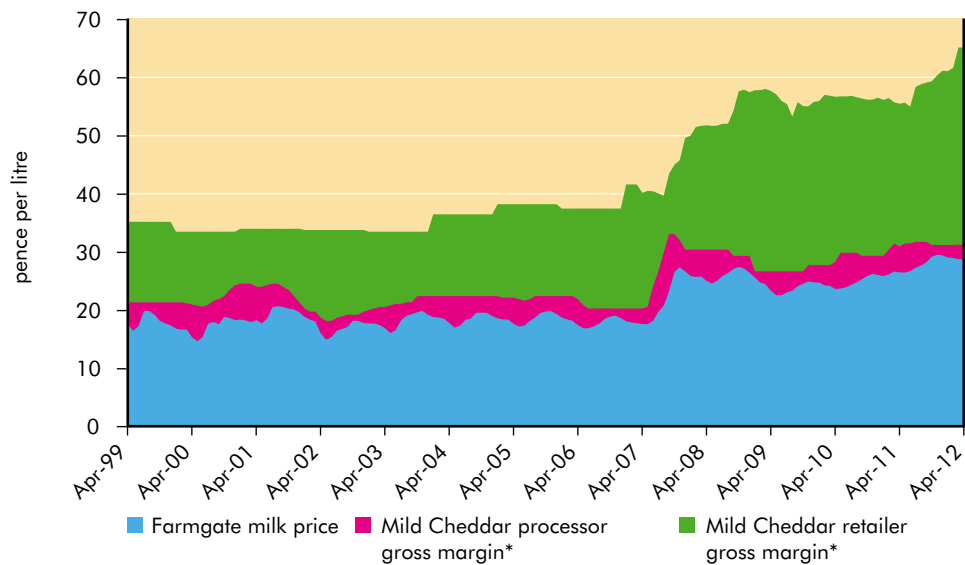
UK Cheddar exports<sup>8</sup>, at just under 41,000 tonnes in the 2011/12 milk year, were over 8% higher than shipments made in the previous year, while imports were down 20% at 103,000 tonnes. The result was an improvement in the UK's overall trade position by approximately 30,000 tonnes. With UK production of Cheddar cheese in 2011 virtually unchanged from 2010 levels, available supplies of Cheddar will have dropped. In line with the trend in world commodity prices and supported by this reduced availability of mild Cheddar, UK wholesale prices rose steadily from January through to September 2011.

At the retail level, prices for mild Cheddar rose during the 2011/12 milk year, in contrast to movements recorded in the previous year, which saw prices vary by less than a penny either side of 56.0ppl. By March 2012, the average retail price for mild Cheddar had hit its highest levels in the last decade at 65.0ppl<sup>9</sup>, having climbed 17% (9.6ppl) during the course of the 2011/12 milk year. The steady increase in prices was likely driven by the fall in number of price promotions offered by the major retailers.

<sup>8</sup> This will include both mild and mature Cheddar cheese.

<sup>9</sup> Refer to the Appendix for details on how retail prices are converted to a pence per litre basis.

**Figure 6: Prices and gross margins\* for mild Cheddar**



Source AHDB/DairyCo

\*The gross margin equals the difference between the selling price and buying price

The impact of market developments on prices and gross margins along the supply chain are summarised in Table 4 below. Measured in pence per litre, the average retail price of mild Cheddar was 59.1ppl in 2011/12, 2.8ppl (5.0%) higher than in the previous year. Farmgate prices rose by 3.0ppl (11.6%) over the same period to 28.1ppl, while wholesale prices for mild Cheddar rose by 1.7ppl (5.6%) to 31.3ppl.

The smaller increase in wholesale prices compared to the increase in farmgate prices resulted in a fall in processor margins from 15% (4.5ppl) in 2010/11 to 10% (3.2ppl) in 2011/12. The relative stability of wholesale prices for mild Cheddar over the year is likely to be a reflection of demand and supply remaining well balanced as there was little external supplies from imports impacting the market.

While it appears that processors' gross margins have been dramatically reduced in the past year, it may be that these have been balanced against gains in other areas of the business. Wholesale markets for whey and butter remained strong during 2011/12 and, for those processors involved in these markets, returns from these products may have subsidised the reduced gross margins from mild Cheddar production. In addition, those processors who have invested recently in new technology and equipment may have realised production efficiencies, providing support against any reductions to net profit margins.

It should also be considered that the fall in processor gross margins will have been influenced by the time lag between milk purchases and cheese sales. The farmgate price processors paid for milk will have been lower at the time of purchase, reducing their costs and impacting on selling prices. The low level of processors' gross margins might turn out to be temporary if they are able to negotiate higher sales prices to compensate for the higher cost of milk. Their ability to do this will partly be dependent on their relative market strength and negotiating power, which will in turn be dependent on the availability of world supplies and imports.

Expressed in pence per litre, the retail average gross margin in 2011/12 was 1.1ppl higher than the previous year's value of 26.7ppl. Despite paying higher wholesale prices, the retail gross margin remained stable in relative terms at 47%, as they were able to pass along the increase in the wholesale cost of mild Cheddar to the consumer.

**Table 4: Comparisons of mild Cheddar gross margins**

	2001/02		2009/10		2010/11		2011/12	
	ppl	margin	ppl	margin	ppl	margin	ppl	margin
Farmgate milk price (Defra)	19.2		23.8		25.1		28.1	
Processor gross margin	3.4	15%	3.2	12%	4.5	15%	3.2	10%
Processor selling price	22.6		27.0		29.6		31.3	
Retail gross margin	11.2	33%	28.8	52%	26.7	47%	27.8	47%
Retail price	33.8		55.8		56.3		59.1	

Note: Retail prices may differ from previous reports due to reweighting of retail prices from Kantar Worldpanel.

It is important to note that costs are not included in this analysis and that a change in gross margin or the share of retail price, does not necessarily equate to a change in profit levels. Differences exist between businesses both along and at the same stages of the supply chain in areas such as cost structure and level of production efficiency, which will determine the relative profitability of a business.

To provide a more detailed breakdown of movements in prices and gross margins, six-monthly calculations are presented in Table 5 below. The most significant changes in gross margins can be seen to occur in the second half of the 2011/12 year (Oct-11 to Mar-12), with processor margins falling from 14% to 7%.

**Table 5: Comparisons of mild Cheddar gross margins**

	H1 2010/11		H2 2010/11		H1 2011/12		H2 2011/12	
	ppl	margin	ppl	margin	ppl	margin	ppl	margin
Farmgate milk price (Defra)	24.2		26.1		27.1		29.1	
Processor gross margin	5.2	18%	3.7	12%	4.4	14%	2.1	7%
Processor selling price	29.4		29.8		31.4		31.1	
Retail gross margin	27.1	48%	26.3	47%	25.5	45%	30.2	49%
Retail price	56.5		56.1		56.9		61.3	

Note: Retail prices may differ from previous reports due to reweighting of retail prices from Kantar Worldpanel.

As can be seen from the data, farmgate prices increased steadily over the two year period, averaging 29.1ppl in the second half of 2011/12, an increase of more than 20% compared with the first six months of 2010/11. Average retail prices remained relatively stable during 2010/11 and the first half of 2011/12, before increasing 7.5% in the second half of the year. In comparison, wholesale prices showed less variation than either farmgate or retail prices as markets remained well balanced. Wholesale prices even recorded a marginal drop in the second six-month period of 2011/12, in complete contradiction to movements in farmgate and retail prices.

Farmgate prices specific to milk for cheese production were also estimated using the average monthly price paid on cheese supply contracts based on the DairyCo standard litre. This compensates for the distortionary effect that higher liquid milk prices have on the average Defra farmgate price and the resulting understated processor gross margins for cheese (mild and mature).

Table 6 summarises mild Cheddar margins for the last two years using the farmgate price<sup>10</sup> paid on cheese contracts. The average price paid for milk on cheese contracts is around 1ppl lower than the Defra average farmgate prices, increasing estimated processor gross margins in pence per litre terms. The gross margins calculated using this methodology allow for more accurate estimates although the direction and degree of change remain in line with those calculated using the Defra average farmgate prices.

<b>Table 6: Comparisons of mild Cheddar gross margins</b>						
	<b>2009/10</b>		<b>2010/11</b>		<b>2011/12</b>	
	<b>ppl</b>	<b>margin</b>	<b>ppl</b>	<b>margin</b>	<b>ppl</b>	<b>margin</b>
Farmgate milk price (cheese contract prices)	22.8		24.1		27.4	
Processor gross margin	4.2	16%	5.5	19%	3.9	12%
Processor selling price	27.0		29.6		31.3	
Retail gross margin	28.8	52%	26.7	47%	27.8	47%
Retail price	55.8		56.3		59.1	

Note: Retail prices may differ from previous reports due to reweighting of retail prices from Kantar Worldpanel.








Measured in pence per litre, the use of contract prices increases processor margins to 19% as compared to gross margin calculations when using average Defra prices. However, the change in methodology increases the relative fall in gross margins in the 2011/12 milk year. Processor gross margins are shown to fall from 19% to 12% over the last year, emphasising the dual impact of higher farmgate prices paid on cheese contracts and limited increases in wholesale selling prices.

<sup>10</sup> Standard litre data was not available by contract type until 2005. As such, there is no comparable data for the 2001/02 milk year.

# Mature Cheddar margins

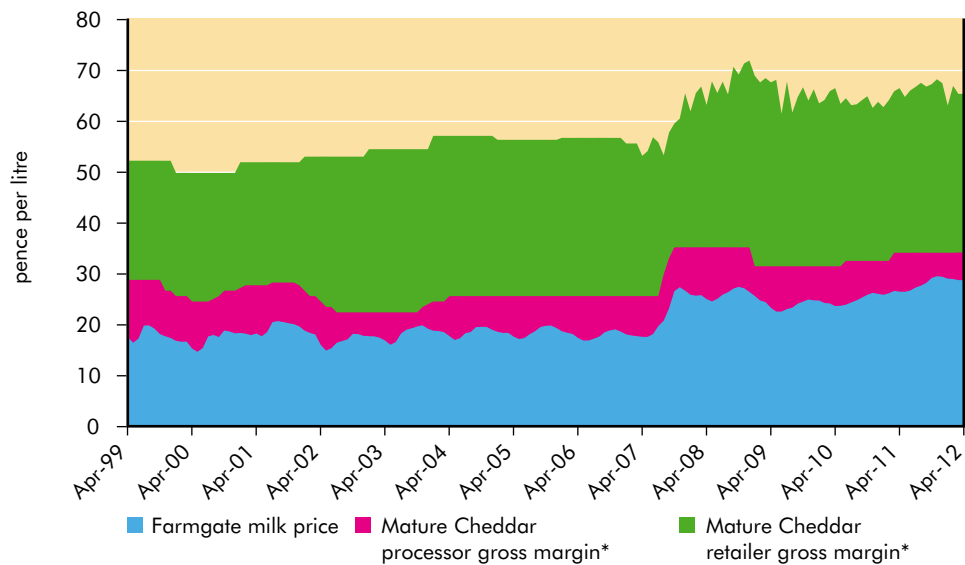
Wholesale markets for mature Cheddar in the UK witnessed a year of static prices in 2011/12. As with mild Cheddar markets, the lack of any significant growth in production or trade meant the market remained well-balanced and no adjustments were needed to prices. The annual average wholesale price recorded a small year-on-year increase in 2011/12 of 1.6ppl (4.9%) on 2010/11 price levels, rising to 34.0ppl.

A summary of the key events impacting the market for mature Cheddar during the 2011/12 milk year is provided in Table 7.

Table 7: Key movements and drivers in mature Cheddar markets 2011/12		
Key drivers	Impact	Segment
Reduction in price promotions in retailers	 price	Retail
Shift in consumer preferences towards branded and mature Cheddar	 price	Retail
Reduced availability arising from a reduction in imports and rise in exports	 cost	Retail
	 price	Processor
Increased competition for raw milk supplies arising from investment in processing capacity	 cost	Processor
	 price	Farmer
Buoyant wholesale markets for dairy commodities	 price	Farmer

Prices for mature Cheddar at the retail level were 2.3ppl (3.6%) higher in 2011/12 compared to the previous year, averaging 66.2ppl. The price increase reflects a reduction in the prevalence of price promotions as well as the increased wholesale price. The mature Cheddar market has also been characterised by a higher level of sales of branded products, with approximately 58% of the mature Cheddar market in the 2011/12 milk year sold as branded. Retail prices for branded mature Cheddar averaged 69.5ppl over the same period, which represents an increase of 4.8ppl (7.5%) compared to the previous year.

**Figure 7: Prices and gross margins\* for mature Cheddar**



The impact of market developments on prices and gross margins along the supply chain are summarised in Table 8 below. Measured in pence per litre, farmgate prices rose to 28.1ppl in the 2011/12 milk year, an increase of 3.0ppl (11.6%) compared with the previous year. In comparison, average wholesale prices rose by just 1.6ppl (4.9%) to 34.0ppl.

The smaller increase in wholesale prices compared to the increase in farmgate prices resulted in a fall in processor margins from 22% (7.3ppl) to 17% (5.9ppl). With farmgate milk prices increasing over the 2011/12 milk year period, processors would have purchased the raw milk for production of the cheese during a period of lower milk prices and wholesale selling prices will not yet reflect these higher costs. With the longer production period for mature Cheddar, the lag between rising costs and rising wholesale prices is potentially longer than for mild Cheddar.

The increase in average retail prices for mature Cheddar during the 2010/11 milk year allowed retailers to maintain gross margins at the same level as the previous year. The ability to raise retail prices at a time when consumers were facing pressure on their budgets will have been partly due to a shift in consumer preferences towards stronger Cheddars along with the ability of branded products to command higher prices through differentiation.



**Table 8: Comparisons of mature Cheddar gross margins**

	2001/02		2009/10		2010/11		2011/12	
	ppl	margin	ppl	margin	ppl	margin	ppl	margin
Farmgate milk price (Defra)	19.2		23.8		25.1		28.1	
Processor gross margin	8.2	30%	7.6	24%	7.3	22%	5.9	17%
Processor selling price	27.4		31.4		32.4		34.0	
Retail gross margin	24.7	47%	33.6	52%	31.5	49%	32.2	49%
Retail price	52.1		65.0		63.9		66.2	

Note: Retail prices may differ from previous reports due to reweighting of retail prices from Kantar Worldpanel.

As with mild Cheddar, six-monthly prices and gross margins were calculated. Again, a key feature was the sharp fall in processor gross margins in the second half of 2011/12 (Oct-11 to Mar-12) driven by the increase in farmgate prices combined with unchanged wholesale selling prices. Wholesale selling prices increased by 1.3ppl in the first half of the 2011/12 milk year but remained stable in the last six-month period. This may have been due to the use of supply contracts with retailers. The result has subsequently been a reduction in processor gross margins, as upward movements in farmgate milk prices were not passed on to the retailer. This impact may turn out to be temporary, as processors will negotiate the next contract at a higher price to recover higher input costs. The higher prevalence of branded Cheddar sold may increase their negotiating position and ability to pass on cost increases.

**Table 9: Comparisons of mature Cheddar gross margins**

	H1 2010/11		H2 2010/11		H1 2011/12		H2 2011/12	
	ppl	margin	ppl	margin	ppl	margin	ppl	margin
Farmgate milk price (Defra)	24.2		26.1		27.1		29.1	
Processor gross margin	7.9	25%	6.6	20%	6.9	20%	4.9	14%
Processor selling price	32.1		32.7		34.0		34.0	
Retail gross margin	31.9	50%	31.2	49%	32.2	49%	32.2	49%
Retail price	64.0		63.9		66.2		66.2	

Note: Retail prices may differ from previous reports due to reweighting of retail prices from Kantar Worldpanel.

Using the average farmgate price paid for milk on cheese contracts, Table 10 below illustrates the effect of lower average price paid on increasing estimated processor gross margins<sup>11</sup>. Compared to processor gross margins calculated using Defra prices, margins calculated using prices paid for milk on cheese contracts are slightly higher at 19%. The use of the standard litre contract prices allows for a more accurate gross margin figure but does not change the nature or degree of changes to margins.

<sup>11</sup> Standard litre data was not available by contract type until 2005. As such, there is no comparable data for the 2001/02 milk year.

**Table 10: Comparisons of mature Cheddar gross margins**

	2009/10		2010/11		2011/12	
	ppl	margin	ppl	margin	ppl	margin
Farmgate milk price (cheese contract prices)	22.8		24.1		27.4	
Processor gross margin	8.6	27%	8.3	26%	6.6	19%
Processor selling price	31.4		32.4		34.0	
Retail gross margin	33.6	52%	31.5	49%	32.2	49%
Retail price	65.0		63.9		66.2	

Note: Retail prices may differ from previous reports due to reweighting of retail prices from Kantar Worldpanel.

The fall in processor margins is more pronounced when considering prices paid on cheese contract, falling from 25% in 2010/11 to 19% in 2011/12. Again, it was driven by increased competition for raw milk, with farmgate prices paid on cheese contracts increasing 3.3ppl (13.7%) over the period and limited upward movement in wholesale prices. With strong returns from whey and butter, processors may have been able to subsidise higher milk prices and the falling returns to Cheddar production. Some of the larger UK processors have also recently invested in new technology and equipment, which may have increased efficiencies and helped to reduce costs.

# Conclusion

Farmgate prices increased on the previous year, driven by increased competition for raw milk supplies and the influence of strong world markets for dairy commodities on UK dairy markets. This had the impact of increasing milk procurement costs for all segments of the dairy market.

Historically, increases in processor costs have been matched with rising retail prices. One of the key characteristics of the liquid milk market during 2011/12 has been the absence of such an increase in retail prices. Given the strategic importance that retailers have placed on milk and its use to help bring consumers into stores, retailers have resisted any increases in processor selling prices. Average retail prices dropped to their lowest levels in over seven years, down to 55.5ppl and 4.6% lower than the 2010/11 milk year.

While it was not possible to estimate processor selling prices for the 2011/12 milk year, it seems unlikely that processor liquid milk gross margins would have increased. This is based on the continued high levels of competition in the retail market, pressure from retailers to keep wholesale prices down and the increase in average farmgate prices.

In the absence of any significant change in the structure of the liquid milk market which would change the balance of power, it would be expected that gross margins at the processor level will remain under pressure.

In comparison, retail price movements in both mild and mature Cheddar markets have remained much more in-line with movements in wholesale markets. Retail prices in the Cheddar markets increased on the previous year, assisted by a lower number of price promotions. Supporting this has been the shift in consumer preferences towards, with stronger Cheddars in the mature Cheddar market and higher sales of branded products, both making consumer demand less responsive to price changes.

The higher retail prices for Cheddar have allowed retailers to maintain gross margins in these markets, while farmers were able to benefit from higher farmgate prices for raw milk. However, this situation meant that processors saw significant cuts in processor gross margins in both mild and mature Cheddar markets in the 2011/12 milk year.

It may be that the practice of selling forward on contract was in part responsible for the lack of movement in wholesale prices. As such, processors would have been less able to pass on the higher cost of raw milk to the retailer, resulting in a fall in gross margins. This impact may, however, turn out to be temporary, depending on future movements in farmgate prices and the relative strength of processors in negotiating future supply contracts. Processors' negotiating strength will, in turn, depend on their relative market power in the supply chain, although other factors such as the availability of imports in the mild Cheddar market will also play a role.

With processor margins under pressure and retail markets remaining competitive as consumers continue to face recessionary pressures, it is likely that processors' focus for the 2012/13 milk year will be on cost control. Farmgate prices will continue to be fundamentally driven by wholesale markets for dairy products, with demand from the various segments driven by relative profitability of each product.

# Appendix

## Data Sources

The following is a list of the data used in this report, the source of the 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, a simple 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. The average standard litre price for each liquid milk contract is a weighted average, using an average yearly distribution of milk deliveries.

### Milk for cheese contract prices

For comparison purposes, a simple 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 for cheese, butter, powders and cream are collected monthly by DairyCo by obtaining quotations from traders and milk processors and indicative prices are published on its website.

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.

## 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.

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