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Recent Changes in Milk Marketing in the UK: The Farmers' Perspective

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RECENT CHANGES IN MILK MARKETING IN THE UK: THE FARMERS' PERSPECTIVE

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ABSTRACT

In 1994 Milk Marketing Boards in the UK were disbanded, their role as milk purchasers was taken by more than 100 licensed organisations. It is shown that this change resulted in an increase in the variation between producers' milk price. The majority of dairy farmers sold milk through the Milk Marketing Boards designated successor; a farmer owned co-operative called Milk Marque. In doing so they accepted a 1.5 ppl milk price penalty. It is shown farmers who adopted this strategy did so because of the perceived financial security of Milk Marque, goodwill and support for the principle of co-operative marketing and in an attempt to protect the milk price over the longer-term. The marketing environment changed once again in 2000 when Milk Marque was disbanded. Deductions drawn from the analyses of farmers' behaviour following the 1994 deregulation are used to inform consideration of possible developments in the marketing of milk in England and Wales.

(Keywords: co-operative marketing, milk prices, regression analysis, logit analysis).

INTRODUCTION

Between 1933 and 1994 the Milk Marketing Boards of England and Wales (MMBEW) held the statutory rights to purchase and collect all milk sold wholesale from farms in England and Wales. In 1994 all UK Milk Marketing Boards were disbanded and a new era in milk marketing began. For the first time in over 60 years farmers were able to choose their milk buyer. This paper reports these developments in detail, and presents results from a survey undertaken in 1996/97 into the impact of and reasons for milk marketing choices made by 377 dairy farms in England and Wales.

Section 2 introduces the background to the desolution of the Milk Marketing Boards, in particular their milk pricing policy and involvement with milk processing. Section 3 reviews the strategy adopted by Milk Marque, the largest farmer owned co-

operative and the designated successor body to the MMBEW, towards milk pricing and ownership of milk processing capacity. A linear regression analysis to estimated in section 4 to show the financial cost of marketed milk through Milk Marque (because of the lower milk price for delivered milk after standardising for other price governing variables). The reasons farmers gave for accepting this price penalty are investigated in section 5. Section 6 reviews the reasons for the demise of Milk Marque. The results of these analyses inform the discussion in section 7 about the possible future shape of milk marketing in England and Wales following the dismantling of Milk Marque. Section 8 draws together some conclusions.

THE MMBEW PRICING STRATEGY

The MMBEW used its market power to price milk according to end-use. Milk used in the liquid market has a higher value than that used for manufacturing and processing; the MMBEW was able to sell this fraction for a premium over the manufacturing milk price. Farmers were paid a 'pooled' price, after deductions of Board costs: all farmers were charged the same per litre collection and haulage costs. These strategies resulted in a higher basic milk price, but larger producers close to processing factories were subsidising smaller producers, distant from processing factories. Although the pricing system was modified occasionally, for example in 1960 each farmer's milk price was linked to the quality of milk produced, and seasonal pricing incentives were introduced soon after, the fundamentals of pooled pricing and costs remained unchanged.

The MMBEW was responsible for selling all milk produced, but this obligation became increasingly difficult to discharge when milk production expanded following the UK's entry into the European Common Market. A steadily increasing proportion of milk was sold into Intervention storage, but this market is for skimmed milk powder and butter, so the milk has to be processed. Commercial dairy processors were reluctant to invest in additional capacity to produce a product without a secure long-term market. In 1976, the MMBEW agreed to link the processing and manufacturing milk price to the 'market returns for butter and skimmed milk powder, minus processing and other costs, fixing a return to capital' (Colman, 1992: p 131).

In addition, the MMBEW invested in a milk-processing arm, Dairy Crest, which by 1978 gave the Board processing capacity of over 4,000 million litres per annum (Empsom, 1996).

The introduction of milk quota in 1984 successfully reduced milk production and resulted in surplus processing capacity. While the MMBEW embarked on an expensive closure scheme, the manufacturing and processing price formula continued to support over-capacity in manufacturing elsewhere. Plant maintenance costs were covered by the price-formula, so there was no incentive to reduce capacity, and this resulted in the lowering of the pooled milk price paid by the MMBEW to farmers. In 1987, in response to challenges by the milk processing industry, the MMBEW was required to operate the remaining Dairy Crest business as a separate business. Empson indicated the importance of this development, 'the Board had in future to operate shorn, as it were, of a vital supporting limb' (1996, p 28).

DEREGULATION AND MILK MARQUE

When the MMBEW was disbanded in 1994 its role as milk purchaser was taken by over one hundred licensed milk purchasers. These purchasers can be classified into three categories: member co-operatives, of which Milk Marque was the largest; farmers who sold directly to milk processors; and those who joined milk groups. In 1994 Milk Marque attracted 65% of farmers (Bates, 1996) and about 60% of milk (MMC, 1999). At the outset it adopted many of the MMBEW's milk price policies, and as it owned no milk processing capacity, it needed to sell every litre of members' milk. It did this through an auction systems, selling milk in contracts differentiated by the nature of the service offered (Fearne and Ray, 1996).

This auction system was revised several times, and was the cause of increasing complaint by milk processors. Concerned over Milk Marque's potential ability to regulate milk prices, many processor and manufacturer offered farmers a higher farm-gate milk price than that paid by Milk Marque. Processors found this strategy possible because they incurred lower handling, haulage and administrative costs, and because they were able to structure contracts to obtain milk of a quality most suitable

for their processing markets. Also, as the directly sourced milk was largely used to secure supplies for the higher priced liquid milk market, they could afford to pass on a proportion of the price premium. Another benefit of sourcing direct was to erode Milk Marque's membership, its marketing economies of scale, and the efficiency of its milk auctions. Direct purchaser contracts involved several innovative departures from the MMBEW, for example many offered farmers the opportunity for their milk to be collected every-other-day to reduce haulage costs, many also introduced volume related payments (VRP) (which ended the practice of larger producers subsidising smaller dairy enterprises) and loyalty payments.

Other farmers sold their milk through loosely structured member co-operatives, or milk groups. Typically milk groups negotiate contracts with one (or more) milk processor on behalf of their members, after which member sign individual contract. Whilst figures at the aggregate level are difficult to obtain it is thought that initially between 12 and 15 percent of dairy farmers marketed milk through this type of arrangement.

THE VARIATION IN NET MILK PRICE

These innovative milk contracts were responsible for the increased variation and changing pattern of farm-gate milk price. The distribution of net milk prices (excluding haulage and collection costs) in the year ending April 1994 shown by the Dairy Enterprise Cost Survey (Franks, 1999) are presented in Figure 1. The standard deviation in these milk prices was 1.44 ppl. The volume related penalty is also clearly shown. Figure 2 shows the distribution of net milk prices from the 1997 milk quota year from 377 farmers surveyed in the Special Study into the Economics of Milk Production (SSEMP) (these milk prices include all end-of-year bonus and loyalty payments). The variance in milk prices has increased to 2.34 ppl, and there is now a clear volume related price premium.

Clearly other factors besides production volumes affect net milk prices. The SSEMP survey recorded these other factors, so the components of milk price determination can be analysed, and is reported in Equation 1. Some of the 377 surveyed farmers

were excluded from the analysis reported in Equation 1 because of the test used to record milk hygiene. The most common milk hygiene test was the Bactoscan test, so farms which used the TBC test were dropped from the analysis; there is not a direct relationship between the TBC and Bactoscan tests (Milk Marque Technical Information Sheet - Bactoscan; 10 July, 1996).

Equation 1. Regression analysis of the determinants of milk price.

Dependent variable = MP

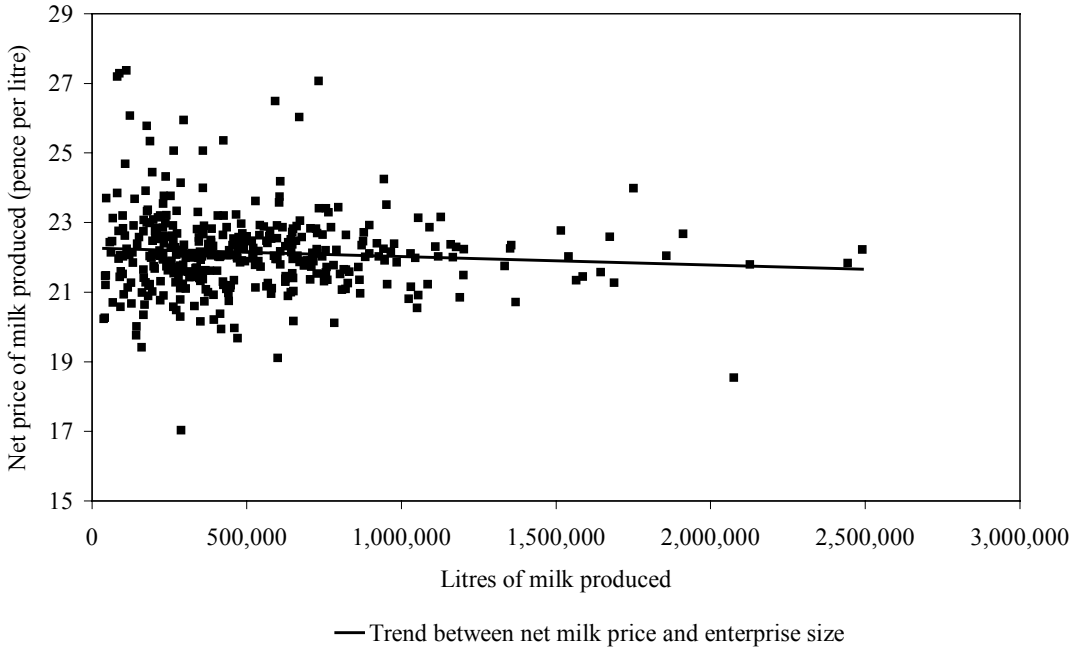
	Variable	Coefficient	t value
Explanatory variables	Constant	+ 3.51	(2.31)
	Avbf	+ 0.32	(12.16)
	Avp	+ 0.23	(5.08)
	Vol	$+ 2.41 * 10^{-6}$	(8.94)
	Vol^2	$- 7.6 * 10^{-13}$	(-5.96)
	Somatic	- 0.0024	(-4.01)
	Bactoband	- 0.98	(-3.09)
	Season	+ 0.031	(3.57)
	CI	+ 0.72	(1.93)
	North	+ 0.47	(3.39)
	MM	- 1.5	(-14.08)

t values in parenthesis (5% significance value is 1.96).
Number of observations = 304; $R^2 = 0.7823$; adjusted $R^2 = 0.7749$: F = 105.63
Durbin Watson = 1.77 ($d_l = 1.65$, $d_u = 1.88$)

Where

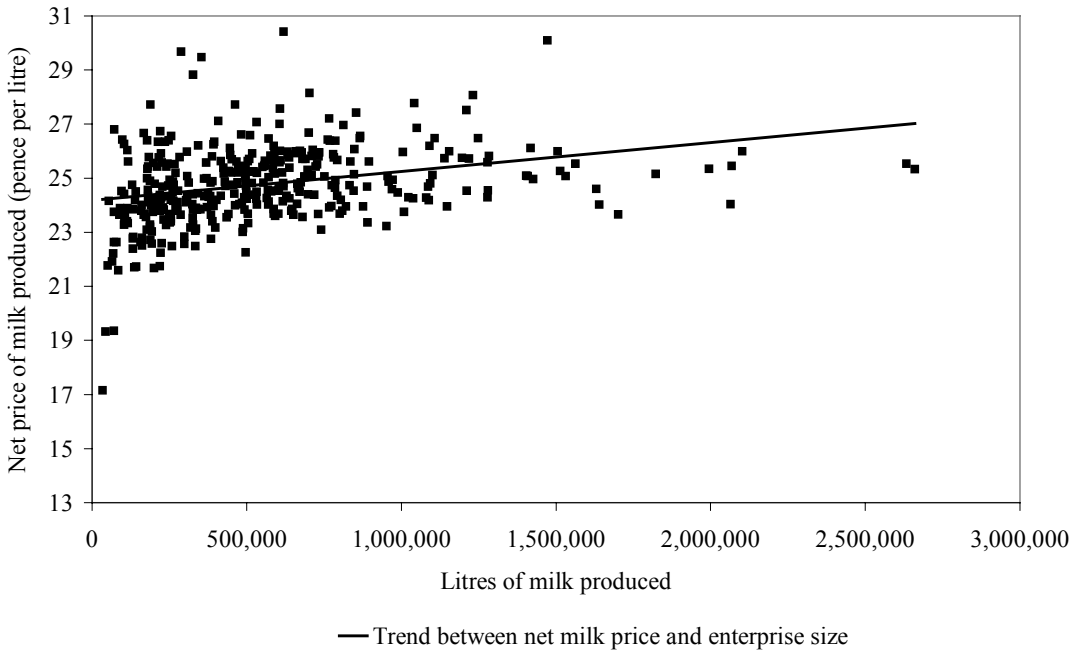
MP	net milk price (including bonus payments), pence per litre.
Avbf	annual average butterfat percentage in milk (0.1 %)
Avp	annual average percentage of protein in milk (0.1%)
Vol	litres of milk sold per farm.
Vol^2	square of the litres of milk sold per farm
Somatic	annual average somatic cell count ('000).
Bactoband	dummy variable, = 1 when bactoscan test is greater than 100,000/ml.
Season	Percentage of milk sold in July, August and September.
CI	dummy variable, = 1 for milk from Channel Island herds.
North	dummy variable, = 1 if farm is in the North of England.
MM	dummy variable, = 1 if farm sold milk to Milk Marque for the full year.

Figure 1: Variation of net milk price with milk production (1993/94)



(Source: DECS, (Franks 1999))

Figure 2: Variation of net milk prices with milk production (1996/97)



(Source: SSEMP 1996/97, (Farrar and Franks 1998))

The R^2 statistic shows that the model explains 78 per cent of the variation in net milk price, which is favourably high for cross-sectional analysis. The estimated coefficients show the effect on net milk price of a unit change in the explanatory

variable. For example, the estimates in Equation 1 suggest that for each 0.1% increase in milk butterfat farmers received an additional 0.32 ppl, and that each 0.1% increase in protein was worth an additional 0.23 ppl.[1] The estimation also shows that Channel Island herds commanded a 0.72 ppl premium, which is a good approximate as Milk Marque offered a 0.6 ppl premium for Channel Island milk up to January 1997, and 0.8 ppl thereafter.

The model confirms the financial incentive to higher volume producers, with an estimated VRP of 0.82 ppl for the 1.5 million litre producers compared to the one million litre producer. There is a price premium for high milk hygiene with each 100,000 increase in cell count reducing net milk prices by 0.24 ppl. Milk with a bactoscan reading above 100,000/ml incurred a price penalty of 0.98 ppl. Farm location also influenced milk price. Farmers in the North of England received a price premium of 0.47 ppl, probably because to the greater choice of milk purchaser leading to greater price competition.

Equation 1 shows that Milk Marque members incurred a price penalty of about 1.5 ppl. This estimate is in line with published and freely available milk price league tables for a standardised litre of milk. For example, the milk price league table for England, Wales and Scotland covering the period from April 1996 to March 1997 showed that Milk Marque paid on average 24.11 ppl for milk with 4.1% butterfat and 3.25% protein, delivering 600,000 litres a year, with a somatic cell count of 200,000/ml and TBC of 10,000. Forty-one milk purchasers paid at least 1.5 ppl more for this standard litre (Dairy Industry Newsletter (DIN), 1997(b): p 45).

Summary milk league price tables have been published regularly since 1994, and have generally placed Milk Marque's price package at or near the bottom. These tables were and remain freely available, so farmers clearly knew of and accepted their price penalty. This raises important questions as to their behaviour, as they appear not to be

[1] Milk Marque altered its pricing schedule for butterfat and protein twice during the survey period. Initially it offered 0.259 ppl for each additional 0.1% of butterfat. This was reduced to 0.249 ppl in October 1996, and then increased to 0.254 in January 1997. The premium for an additional 0.1% protein was initially 0.436 ppl.

behaving as profit maximisers. The reasons for this behaviour need to be known because they may indicate how farmers will organise following the demise of Milk Marque. Why would so many farmers chose to market milk through Milk Marque when publicly available league tables continued to put Milk Marque's price package at or towards the bottom of the league tables?

DETERMINANTS OF CHOICE OF MILK PURCHASER

Farmers surveyed in the SSEMP were asked to explain their choice of milk purchaser in 1994 and to give reasons for any subsequent change in milk purchaser[2]. Their responses, together with farm and family circumstances, were analysed using a logit analysis, which is reported in Equation 2. Farmers who sold to Milk Marque were assigned a value of 1, those who did not a value of 0. A positive coefficient therefore indicates larger values or positive response increases the probability of joining Milk Marque.[3]

Equation 2. Logistic analysis explaining the decision to sell milk to Milk Marque.

Dependent variable Dummy Milk Marque (=1 if sold milk to Milk Marque)

	Coefficient	Standard error	T value	Significance
Constant	2.0	0.58	3.5	0.001
D.Milk price package	-2.19	0.36	-6.1	0.00
D.Quota value/costs	-0.72	0.42	-1.7	0.089
D.Security of contract	2.02	0.34	5.99	0.00
D.Goodwill	0.88	0.35	2.5	0.012
D.Profit other enterprises	1.65	0.76	2.15	0.03
Herd size in June Census 1994	-0.005	0.002	-2.34	0.02
West	-0.90	0.45	-2.02	0.044
North	-0.79	0.46	-1.71	0.087
East	-1.14	0.47	-2.4	0.016

Log likelihood =-164.49
Number of observation -= 364
Pseudo R^2 = 0.27
Correctly classified = 79.12%

This was lowered to 0.418 ppl and then increased to 0.427 ppl, both changes occurred at the same time as the butterfat premiums changed.

[2] The SSEMP survey revealed that eighteen farms (4.8%) felt they had no effective choice of milk purchaser, 15 of these sold to Milk Marque. A survey by Pattisson (1995) found that 5.7% farmers believed they had no effective choice of milk purchaser. On average each farmer surveyed in the SSEMP reported an average of four potential milk buyers.

[3] For ease of interpretation, Equation 2 shows marginal coefficients rather than the log odds ratios.

The logistic analysis identifies factors that were significant in farmers' selection of milk purchaser. Equation 2 shows important considerations included the milk price package, the value/costs of milk quota, security of contract, goodwill towards the milk purchaser, profitability of alternative enterprises, the size of the herd in 1994 and farm location.

The sign of the milk price package coefficient is negative, which can be interpreted as farmers who expressed concern about milk price were less likely to market through Milk Marque. Similarly, farmers concerned about quota values/costs were also less likely to be members of Milk Marque. Farmers with smaller herds in 1994 were more likely to become members of Milk Marque. This may reflect the benefits to them of Milk Marque's continuation of its common collection and haulage tariff (Milk Marque introduced VRP or every other day deliveries in 1997).

A surprisingly large proportion of farmers did not express concern about the milk price; these farmers tended to join Milk Marque. Farmers who expressed concerns about the security of their milk payments they were also more likely to join Milk Marque. Security of payments may have been a particular concern in 1994, because it was thought that the demise of the MMBs may herald substantial rationalisations of UK milk processing - through closures, mergers and take-overs, and perhaps company failures (DIN, 1997(b): p 77). As the successor body to the MMBEW, Milk Marque's perceived financial security gave it an initial advantage over other milk purchasers. Also, farmers who expressed goodwill towards their milk purchaser were more likely to join Milk Marque, indicating their support for the principle of co-operatively marketing milk.[4] Farmers in Wales were more likely to market through Milk Marque and, on average, had less choice of milk purchasers.

DEMISE OF MILK MARQUE

Evidence from the SSEMP suggests that in 1994 many farmers factored in non-pecuniary criteria in their decision to join Milk Marque. But the SSEMP survey

picked up producers' growing discontent with Milk Marque's relatively poor milk price: between 1994 and April 1996 20% of SSEMP surveyed farmers who were members of Milk Marque members expressed dissatisfaction with the milk price package. As the new marketing environment took shape farmers' security fears over milk payments reduced and their goodwill towards Milk Marque and support for the co-operative principle faded. Eleven SSEMP farmers left Milk Marque in the eighteen months between November 1994 and April 1996, each gave dissatisfaction with the milk price as the primary reason. Nevertheless, about half of all milk producers remained members when Milk Marque was disbanded despite continued low ranking in milk price league tables.

Milk Marque's response to loss of membership was to modernise its payment system (as described above). It also declared an objective of owning 1 billion litres of milk processing capacity by 2000, seeing this as a strategy to increase members' milk prices. Removing the need to sell every litre of milk produced reduced its dependency on milk processing companies and, by reducing supplies of milk to these companies, it could reasonably expect to increase milk prices as a higher proportion of its milk sales would be used in the higher valued liquid milk market. Higher milk prices would also be achieved by its impact of the Intervention Milk Price Equivalent (IMPE): the base milk price. The IMPE is a derived milk price, and the milk price it delivers is dependent on a number of variables, including product yields, butter and SMP manufacturing costs, and manufacturing profits (MDC, 2000). Therefore, it is calculated after allowing for processing and manufacturing costs and these have been a source of dispute between Milk Marque and milk processors (MDC, 2000: p 14). By investing in efficient modern processing plant it could identify best practice manufacturing and processing costs, and thereby raise the IMPE.

Milk Marque Developments (an arm of Milk Marque) acquired processing capacity at Aeron Valley and North Brandon Farms, giving an estimated capacity for manufacturing 15,000 tonnes of cheese. Milk Marque also exported liquid milk for processing in other European Union Member States. These strategies raised concerns

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[4] In a survey reported in Bates and Pattisson (1997) 96 out of 250 farmers (38%) emphasised the importance of milk producers adopting a long-term position in

among milk processors - principally on the grounds that Milk Marque would be able to exert too much influence on the price of milk. As a result the marketing of raw cows' milk in the UK was referred to the Monopolies and Mergers Commission (MMC).

The MMC (1999) investigation found *inter alia* that 'Milk Marque was a scale monopolist by virtue of its 49.6 % share of supply of milk in Great Britain in 1997/98. Milk Marque had been able to exploit its monopoly position by using its selling system to price discriminate and to control the supply of milk made available to the market' (MMC 1999: p 4). The report also found that the 'planned enlargement of its vertically integrated processing capacity would give Milk Marque the ability to exploit still further the scale monopoly situation in its favour and it may therefore be expected to operate against the public interest' (p 4). It recommended Milk Marque be divided into a number of independent quota-holding bodies. Importantly, each of these new bodies would be allowed to own processing capacity.

Although these recommendations were rejected by the Industry Minister Stephen Byers it was insisted that Milk Marque construct a new 'transparent' milk selling system, acceptable to customers and approved by the Office of Fair Trading by the end of 1999. Milk Marque was not permitted to expand its milk processing activities. After intense debate, Milk Marque accepted a voluntary break-up because it believed these new rules attached to its continuing existence would undermine its milk auctions system, and in April 2000 Milk Marque divided into three, regionally based member co-operative (Axis (midlands), Milk Link (south) and Zenith (north).

FUTURE MARKETING STRUCTURES IN ENGLAND AND WALES

This account of the development of the UK milk market emphases two important and ongoing concerns: the determination of the farm-gate milk price and the barriers imposed on UK dairy farmers in their attempts to vertically integrate milk production with processing and marketing arising from the dominant position of the MMBs and

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securing a strong position in the milk market.

Milk Marque. The analyses presented here show that a large proportion of milk producers were prepared to accept lower prices in exchange for the benefits of selling milk collectively through Milk Marque. Partly this was because of the upheaval in the marketing arrangements, which caused farmers to adopt risk averse options, but this choice also reflected their goodwill towards Milk Marque. Farmers were clearly willing to extend Milk Marque every opportunity to become a successful organisation in the anticipation that this would provide long-term security in an industry still characterised by many small producers and few, large processors.

But the financial cost of adopting this strategy was high. It has been shown here to be about 1.5 ppl in the 1997 milk quota year alone. This placed Milk Marque members in a dilemma; by supporting Milk Marque non-members benefited from higher milk prices (they secured a free-rider benefit) but as more withdrew from Milk Marque the price premium they sought would most likely disappear. This follows because there would be less incentive to pass on to farmers a share of the liquid milk price premium, and also because many direct purchasers had ensured supplies by offering 'Milk Marque price plus' contracts, which would end if Milk Marque failed. There is evidence from time series analysis of milk prices and IMPE that since Milk Marque was disbanded the milk price-IMPE spread has narrowed (NFU, 2000).

With growing discontent membership of Milk Marque fell. Despite revising its price package, the proportion of milk it handled fell from a peak of about 64% in 1994 to 49.6% in 1999 (MMC, 1999). The farmers who left tended to be the larger farmers who would benefit most from the VRP, so membership started to become largely composed of smaller, typically higher cost milk producers (Franks et al 2001). Nevertheless, the initial willingness to support co-operative marketing indicated a strong support for the joint marketing of milk.

The second issue of one of vertical integration. Because the MMBs were committed to purchase every litre of milk produced they had little choice but to intervene in the processing sector. Milk Marque chose to intervene, primarily to protect and increase members' milk price. The industry has now moved into a new marketing environment in which farmers are able to decide individually whether to invest in processing

capacity, set-up some form of profit sharing partnership, or simply concentrate on milk production based on contracts related to the IMPE or the world price for butter and skimmed milk powder.

Undoubtedly, there are economic benefits to farmers who negotiate sales contracts within a marketing group. Groups can offer larger volumes, and ensure year-round supplies, both aspects that add value to milk. This gives larger milk groups market power, which can be used as a negotiating lever. The National Farmers Union supports the development in the UK of an European shaped co-operative milk marketing structure. This is typified by Eire, Finland and Sweden which are virtually 100% co-operatively organised, Denmark, the Netherlands and Belgium each have over 80% of their supplies in the co-operative sector. The proportion in German is 75%, France 50% and Italy 40%. When taking the EU as a whole - excluding the UK - 75% of milk is handled by co-operatives (Empsom, 1996: p 31). The structure of milk marketing organisation in America illustrates the potential for co-operative marketing of milk (Dairy Industry Newsletter, December 1, 1998). A single organisation, Dairy Farmers of America, controls 14,000 million litres i.e. approximately equal to the total UK production (but representing only 23% of total US milk). It has 18,860 members with an average farm size of 750,000 litres, similar to the average herd size of UK dairy enterprises supplying member co-operatives other than Milk Marque.

Another model for milk marketing would be for farmers to invest in milk processing businesses, so that they could take value from milk either by a higher farm gate price or through processing and manufacturing profits. This pattern has been followed by the producer co-operative United Milk plc. Formed by the merger of 5 smaller co-operatives (Camelot, Stourvale, United Milk Producers, Wessex Milk Group, and Somerset) (Farming News, March 5, 1999) to consist of about 800 farmers who control about 850 million litres of milk. This group plans to raise £43 million to invest in a new farmer-owned milk processing and manufacturing factory (at Westbury, Wiltshire). Potential investors were offered a milk price at least 1.3 ppl above the IMPE for 44 litres of milk each year for each £1.10 invested (plus prospects of dividends and long-term growth).

UK dairy farmers are being urged by The Federation of Milk Groups, which represents several quota-holding co-operative marketing groups (include Milk Marque's three successors, Scottish Milk, Southern Milk, the Milk Group and United Dairy Farms), to amalgamate into larger milk groups with greater market power. The analyses presented here shows that dairy farmers are strongly supportive of the principles of co-operative marketing, and it is likely that milk groups will increase membership and be responsible for negotiating milk contracts for an increasingly large number of farmers. Another organisation, the Federation of Milk Producers headed by John Loftus, sees the future as one of milk producers co-operatively marketing milk but also co-operatively owning processing capacity. But to be successful Loftus estimates that 85% of farmers must be prepared to invest in processing capacity (Loftus 2000).

SUMMARY AND DISCUSSION

The reasons for setting up the Milk Marketing Boards in the 1930s were based on the difficulties of marketing milk: it is a heavy liquid, and it is perishable, it also provides a first class medium for bacterial growth. Traditionally milk was produced by family farming units with few large buyers. But all these characteristics remain true today: if they provided incentives to market co-operatively in 1934 then they still do. The deregulation of milk marketing in 1994 changed the practices of over 60 years of milk marketing; but farmers' responses to the new market environment clearly demonstrate support for co-operative milk marketing.

This paper has estimated the financial costs associated with this strategy for one milk quota year as 1.5 ppl. Once goodwill and perceptions of financial security faded, membership declined principally because of poor relative milk prices, and declining membership reduced Milk Marque's market power. Milk Marque's response to its growing market weakness was to invest in modern milk processing capacity and it was this action that led to it ceasing trading.

The nature of milk and milk production, and the fundamental principles upon which collective marketing of milk was initially based in 1933, remain unchanged: so the underlying incentives for inter farmer co-operation remain unchanged. These analyses show that many farmers were prepared to forgo short-term profit in exchange for long-term security for their dairy enterprise. There has been extensive rationalisation of milk processing capacity since 1994, and this has resulted in milk processing becoming concentrated into fewer companies. This factor suggests farmer co-operation has become even more essential. Following the demise of Milk Marque, the possibility of free-rider behaviour has reduced, which also makes co-operative marketing more likely. The high rate of attrition among dairy farmers is resulting in larger dairy herds, which also makes co-operative behaviour easier to organise and therefore more likely. The concentration of co-operative marketing shown elsewhere in Europe is likely to be reflected in the UK quite soon as UK dairy farmers form larger co-operative organisation.

From this re-organisation, some farmers will seek to purchase processing capacity. But other options are possible, such as 'milk cost plus return of profit' contracts, or profit sharing arrangements.

The market environment changed in 1994, but the changes in 2000 will arguably be more important. Disbanding the MMBs and Milk Marque has released UK dairy farmers to invest through joint ventures in milk processing. It has also removed free-rider behaviour, forcing more farmers to recognise their joint interests lay in joint action. The majority of dairy farmers will unite to negotiate milk contracts as members of milk groups and collectives, because the price premium commanded by liquid milk remains. But this market accounts for only 50% of milk in the UK. To capture a share of this higher value product farmers need market power, otherwise the milk price they receive will reflect the use which has the least value, i.e. processing milk. Depending on the success of joint negotiating in capturing a proportion of the liquid price premium, farmers may recognise the best way of securing a long term future as milk producers is to invest in processing capacity, which will allow them to take profits either through higher farm gate prices or through the profits of the processing companies.

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