The New Zealand Dairy Cooperatives' Adaptation to Changing Market Conditions[1]

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Abstract

This article examines the market conditions, the strategies, and the organizational structures of agricultural cooperatives. Based on the growing literature on cooperative organizational models, it is expected that the new organizational patterns in the New Zealand dairy cooperatives in the early 2000s are a consequence of market changes. Case studies of the three cooperatives are conducted, focusing on the organizational structures in terms of collective versus individualized attributes. The dissolution of the New Zealand Dairy Board created new market opportunities for the cooperatives. Hence, the co-operatives had reason to develop new market strategies, and in order to pursue these well, they changed their organizational structures. The observations indicate that more liberalized and open markets require cooperative organizational models with more individualized traits.

Key words: Cooperative, Dairy, New Zealand, Fonterra, Market strategy, Organizational model

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Introduction

In New Zealand, the dairy sector has recently changed from being regulated to being deregulated. At the same time the structure of the dairy cooperatives has undergone considerable changes.

Organizational theorists have found that an organization's structure is linked to its strategy (Chandler, 1962; Miles and Snow, 1978; Hall and Siais, 1980). Many writers on cooperative organizations (e.g., van Bekkum and van Dijk, 1997; Kyriakopoulos, 2000; Nilsson, 2001; van Bekkum, 2001) claim that cooperatives tend to follow different organizational principles depending on their market conditions, because different markets call for different strategies, each requiring its own set of organizational resources. This article sets out to investigate whether this reasoning holds true in the case of the New Zealand dairy industry. Hence, the aim of the study is *to investigate whether the New Zealand dairy cooperatives altered their organization structures as a result of market changes brought about by the deregulation of the dairy sector.*

The New Zealand dairy industry at large is presented in the next section. This is followed by an account of relationships between markets, strategies and organizational structures. After a short presentation of how data were collected, the three dairy cooperatives are introduced. Then, these data are analyzed so that conclusions can be drawn in the last section.

The New Zealand dairy industry

Dairy production in New Zealand is extensive. New Zealand has about 13,700 dairy herds that supplied a total of 13,000 million liters of milk in 2001/2002 (LIC, 2003; van Bekkum, 2001). About 95 percent of the dairy produce is exported. New Zealand accounts for 30 percent of the world's trade in dairy products (www.MarketNewZealand.com, 2003).

The New Zealand dairy industry has undergone a wave of mergers. In 1935 there were over 400 cooperatives; in 1960/61, only 180 (Dobson, 1990; Frampton, 1992). In 2001, two large and two small cooperatives remained. The large ones, The New Zealand Dairy Group (NZDG) and Kiwi, merged in 2001 to form Fonterra, while Tatua and Westland remained independent (MAF, 2000; van Bekkum, 2001).

The New Zealand Dairy Board, NZDB, was a legislated monopoly that had the exclusive right to market all export dairy products. While the cooperatives were in charge of the collection and processing of member milk, the NZDB organized shipping, packaging, transport, quality control, market promotion and other services. With sales representatives around the world, the New Zealand Dairy Board (NZDB) conveyed market signals to the dairy cooperatives to ensure that their manufacturing program would meet the demands of the world market. The dairy cooperatives were responsible for marketing their products domestically (MAF, 2000; Dobson, 1990).

In 1998, the government announced that all producer boards, including the NZDB, were to be deregulated. The dairy industry's response was to propose the so-called mega-merger (MAF, 2001). That would involve not only the two largest cooperatives, but also the NZDB would be integrated into the new firm (van Bekkum, 2001). In 2001 the merger proposal was approved by the government and by the shareholders of the two cooperatives (www.fonterra.com).

After the merger the industry consisted of only three cooperatives. Some facts about these are listed in Table 1.

Table 1: Characteristics of New Zealand dairy cooperatives

	Fonterra	**Westland**	**Tatua**
Number of suppliers, shareholders	More than 13,000 shareholders	335 suppliers, 370 farms	132 suppliers
Volume of processed milk (milksolids)	1,080,000,000 kg	29,547,000 kg	9,303,000 kg
Main products	Milk powder, cheese,butter, casein	Milk powder, butter, casein	Fresh curd caseinates, whey protein concentrates, conversion caseinates
Main export markets	USA: Japan; Philippines; Mexico;South East Asia	Australia; Asia	Australia; North, Central and South America; South East Asia; South Africa
Turnover (NZ$)	13,924,000,000	178,529,000	111,241,000

Source: *Annual Reports 2002*

Fonterra dominates the industry, processing 95 percent of all milk nationwide. The cooperative produces mainly commodities, such as milk powder, cheese, and butter. Products are exported to 140 countries. Fonterra alone generates 20 percent of New Zealand's export receipts, corresponding to seven percent of the Gross Domestic Product (www.fonterra.com).

Westland's main product is whole milk powder which is partly sold and marketed through Fonterra's global network. Westland is building up its own marketing and sales organization and will increasingly market its own products.

Tatua has invested heavily in R&D, processing plants and the development of value-added products. Two-thirds of Tatua's revenues come from value-added niche products, such as nutritional supplements and bio-actives, sold globally.

Markets, strategies and organizational models

Cooperative organizational models

During the last few decades, a large number of traditionally organized agricultural cooperatives have modified their organizational form. While agricultural cooperatives used to be a fairly homogeneous type of business organization, today they exhibit a quite diverse pattern. Previously, almost all were mainly collectively financed and collectively governed, and the members were treated equally (also a trait of collectivism). Today, many agricultural cooperatives have external equity capital – either external financiers own shares in the cooperative itself, or some subsidiaries are owned jointly with external capital interests. Many cooperatives have financial instruments, which allow members to invest voluntarily in their cooperative. The number of cooperatives with closed memberships has increased, i.e., such were there is a market for delivery rights. Furthermore, today cooperatives have gone far towards differential treatment of their farmer members, in contrast to the equal treatment that used to be sacred (Kyriakopoulos, 2001; Bogetoft and Olesen, 2007).

The trend towards a more diversified population of cooperatives has caused researchers to make classifications (Hansmann, 1988; Barton, 1989; Cook, 1997; Cook and Tong, 1997; Hackman and Cook, 1997; van Dijk 1997; Torgerson *et al.*, 1997; Nilsson, 1998; Kyriakopoulos, 2000; van Bekkum, 2001; Nilsson, 2001; Chaddad and Cook, 2004; Kyriakopoulos *et al.*, 2004; Van Bekkum and Bijman, 2006). However, there is no agreement about appropriate categories, not the least because the classifications are made for different purposes and within different cultural contexts. Nonetheless in most classifications, there seems to be a dividing line between traditional and non-traditional cooperatives, though non-traditional cooperatives have many labels – entrepreneurial, proportional, and others. In this article, the label entrepreneurial is used. What divides the two is the degree of collectivism (in traditional cooperatives) versus individualism (in entrepreneurial cooperatives).

Collectivistic and individualistic organizational attributes can be of various kinds. One fruitful conceptualization is in financial, governance, and transactional dimensions. This is also in accordance with the most commonly used definition of cooperative business, stated by USDA: "A cooperative is a user-owned and controlled business from which benefits are derived and distributed on the basis of use" (Dunn, 1988). Van Bekkum (2001) suggests a model of how these three dimensions can be expressed in terms of collectivism and individualism (Table 2).

Table 2: Collective vs. individualized attributes in cooperative organizational structures

	Collective structure	Individualized structure
Investments		
Financial entry conditions	Free and costless entry.	Closed membership or subject to members' ownership of production rights.
Financial instruments	Collective reserves without any individual rights, risks, obligations or benefits; member loans with no or limited interests.	General reserves (minor); member loans; capital accounts; voluntary, long-term, tradable, non-voting, risk-bearing and high-interest-bearing bonds or subordinated member loans; etc.
Distribution of residual surpluses	Addition to reserves (major), price supplements.	Addition to reserves (minor); dividend payment on production right basis.
Nature of the right to residual claims	Held by the membership as a collective; permanent; non-tradable.	Held by individual members; permanent but the attachment to transactions restricts duration of individual ownership; voting; tradable within the membership and hence appreciable.
Governance		
Voting rule	One member, one vote.	Proportional to production rights.
Decision making rights and monitoring	Decision management and decision control in the hands of the Board of Directors.	Separation of residual risk-bearing (members individually) from decision management, with decision control delegated to the Board of Directors.
Transactions		
Pricing policy	Uniform pricing for all members, with some minimum criteria.	Differentiated pricing in terms of volume and quality to reflect handling costs and market returns.
Supply management	Unrestricted deliveries. Intake obligation from members. No significant entry barriers for non-members.	Delivery volumes are dependent on marketing needs, through obligatory purchase of production rights tradable among members. Some raw materials may be purchased from non-members as market opportunities call for.

Source: *Van Bekkum (2001:47), modified*

Market strategies

The process of cooperative organizational development can be explained in terms of changing market conditions. Competition is growing increasingly intense as agricultural policies are being liberalized, as markets are being opened, as the retail chains' power is increasing, as consumer markets become more and more diverse, etc. The intensified competition means an economic squeeze in terms of prices, profits, and costs, so the cooperatives have increasing difficulties to pay good prices for the members' products. The cooperatives have to react to this.

One reaction is that many cooperatives have embarked on a *differentiation strategy* (Porter, 1998). By making their offers to the market different from those of competitors, the cooperatives can avoid the most competitive markets. Therefore, the cooperatives have to produce what the market demands, rather than selling what the members produce. This implies that the cooperatives increasingly direct the members' production in terms of qualities, or volumes, or both. Moreover, differential treatment of members may become necessary (Bogetoft and Olesen, 2004). This implies a gradual shift in the power balance from the membership to the management. Another reason why the management has become more powerful is that differentiated business operations become more complex whereby the members may have difficulty controlling and directing the management.

Another consequence of a differentiation strategy is the need for capital. Differentiated production and sales imply large investments in production as well as in markets. The processing of the members' produce must be far-reaching, and much R&D is required. Furthermore market research, communication, and promotion call for capital.

Hence, as traditionally organized cooperatives embark on differentiation strategies, they may face both governance problems and capital problems. The members do not want to make large investments in the cooperative, since after they have done so, they do not have full ownership to this capital – the control is in the hands of the Board and the management. Furthermore, the members have difficulties judging whether the management's investment decisions will benefit them. Some of the farmers are no longer members when the investments are paying back, and all members have different preferences as to how their money should be invested, so collectively binding investment decisions do not suit them well when the amounts become large.

Against this background it is no wonder that many traditionally organized cooperatives change their organizational form into an entrepreneurial form. They invite external financiers as co-owners, either in the cooperative itself or in some subsidiaries which are devoted to far-reaching processing, sometimes even in foreign countries. Likewise it is understandable that more and more cooperatives introduce financial instruments which imply that the members' investments are voluntary and the ownership is remunerated with an appropriate capital return. Through the new owners, there will also be more control of the managements' investment decisions because the investors are keen that their capital is wisely used.

While the differentiation strategy is an attractive option for many cooperatives, not all are able to follow it, since it may be very capital intensive. Thus, some cooperatives pursue a *focus strategy*. This is similar to a differentiation strategy as it involves making one's product different from the competitor products, and it requires large investments per product unit. It differs as the product range is narrower and the market segments are fewer. Hence, many smaller cooperatives identify a specific market that is small enough that they can dominate this market, and so, they process the members' products to suit the demand on this market.

A focus strategy may hence involve large investments per unit of product processed as well as strong control of the farmer members' production. Both these factors may explain the growth of relatively small closed cooperatives in recent decades, often called New Generation Cooperatives (Stefanson *et al.*, 1995; Cook, 1997; Nilsson, 1997). The farmers make large investments in the cooperative because they have individual ownership to their money, and they do accept being under tough control by the cooperative because they have strong control of the cooperative.

Not all agricultural cooperatives can, however, choose a differentiation strategy or a focus strategy. If they were to do so, they would face even stiffer competition (with each other) on the markets for differentiated products, while the markets for undifferentiated products would be poorly satisfied by the cooperatives, i.e., this would be poor market adaptation. The markets for undifferentiated products consist of both consumer and retailer markets, demanding a low price for standard products, and the markets for commodities, sold to other manufacturers, who want to buy cheaply. Hence, a key characteristic of markets for undifferentiated products is price sensitivity, i.e., the criterion for being successful on these markets is the producers' ability to produce at low costs.

The so-called *overall cost leadership strategy* has historically been the natural strategy for traditionally organized cooperatives. In the childhood of the cooperative movement almost all markets were price sensitive, and almost all sales were of undifferentiated products. Thus, a processor that could find ways of producing at an average cost level, lower than that of all competitors, had a winning concept. One way of attaining a low cost level was to produce a large volume, thereby exploiting economies of scale in the manufacturing and marketing activities. In this respect, the traditional cooperative organizational model has major strengths.

Economies of scale come about through open membership, members' delivery rights and all the other traditional cooperative principles (Nilsson, 1998). Because the equity capital is collectively owned (built up from retained earnings), capital gains are used to raise the prices paid to the farmers. Therefore more farmers want to become members at the same time as existing members produce larger volumes. Because individual investments are not given any remuneration, these capital gains also help to recruit more members and get larger volumes. The socially attractive elements in the cooperative principles such as equal treatment and equal voting rights mean that more farmers want to become members. Cooperative ideology contributes to creating loyalty within the membership, thereby obtaining a stable inflow of raw products to the cooperative.

Hence, the traditional cooperative organization form could be regarded as the ideal model for firms that want to be successful using the overall cost leadership strategy. All the collectivistic traits of the traditional cooperative model have the effect of raising the number of suppliers and of stimulating the suppliers to increase their production, so that economies of scale can be attained. The large number of mergers among traditional agricultural cooperatives during many decades also indicates that size of the operations is of great importance.

The discussion above can be summarized as shown in Table 3. Each of the three main strategies, suggested by Porter (1998) seem to be connected to a specific cooperative organizational models (the italicized boxes in Table 3). The main dividing line is the degree of collectivistic versus individualistic attributes, and such in all respects – concerning ownership, governance, and transactions.

It should be stressed, first, that the different strategies and the different organizational models can be combined. For example, a cooperative that in itself is traditionally organized may run its value-added activities in a subsidiary owned together with external investors.

Second, the links are only indicative, i.e., many real-life cooperatives do not fit well into the pattern of Table 3. In particular many successful traditional cooperatives apply a differentiation strategy. This is so because also other factors may explain whether cooperatives with different organizational models are successful with specific market strategies. Factors (a) and (b) pertain to capital problems, while (c) and (d) are examples of factors that reduce governance problems.

Table 3: Connections between the organizational models and the strategies of agricultural cooperatives

Main strategy (Porter 1983)	**Traditional cooperative**	**Entrepreneurial cooperative with external co-owners**	**Entrepreneurial cooperative with closed membership**
Overall cost leadership	*Good prospects because of large volume (economies of scale) and limited need for investments as well as simple and easily controllable operations*	Investors would hesitate to accept volume maximization as a goal as the profits become too small	The cooperative's volume is not sufficient to gain competitiveness
Differentiation	Governance problems and capital problems may occur	*Good prospects for a differentiation strategy because of access to capital and involved owners*	The cooperatives has not sufficient capital to act on large markets
Focus	Governance problems and capital problems may occur	A focus strategy is appropriate but only for a minor part of the cooperative's business operation(s)	*Good prospects due to involved owners, while the limited access to capital is acceptable due to small volume and specified market*

(a) The assets used in non-core business activities may have increased in value so much that a cooperative has capital enough for investments in core business activities. (b) A cooperative may be so dominant at a specific market that it enjoys success, irrespective of whether it falls into another box than the prescribed box in Table 3 (van Bekkum, 2001). (c) The mentality within the membership, or the culture, may have the effect that members are satisfied with a specific cooperative model (e.g. Fahlbeck, 2007). (d) Personal factors may have immense importance, such as whether the directors or the CEO are skilled and motivated (Fulton and Giannakas, 2007). (e) Finally, the success of a cooperative depends to a large extent on the members' (suppliers') attributes; for example, if they are not able to produce at low costs, it does not help even if the cooperative operates at a very large scale.

Methodology

Data were collected in New Zealand in 2003. Personal interviews were carried out with eleven past and current representatives of the cooperatives and dairy industry organizations (see reference list).

The interviews were conducted without a standardized questionnaire. Questions were prepared and structured, based on the constructs in the preceding section. The interviews were, however, open and often led to further questions, which were answered and developed upon by the interviewees. Of the three dairy cooperatives, the largest, Fonterra, is considered to be most interesting because it is the cooperative that has undergone the most thorough-going organizational changes. Hence, this cooperative is given greater consideration.

The dairy cooperatives

The New Zealand Dairy Board and the "mega-merger"

The NZDB was governed by a Board of Directors consisting of thirteen Directors; eleven farmers, who represented their cooperatives, and two government appointees. The dairy cooperatives owned NZDB in proportion to their supply of products to the NZDB. In 2001, New Zealand Dairy Group owned 58 percent of the NZDB and Kiwi owned 38 percent, Tatua and Westland owning the remaining four percent (MAF, 2001; Dobson, 1990).

The New Zealand government in 1998 decided that all the producer boards should be dissolved, and the boards themselves should provide the government with plans for deregulation. The dairy industry responded by proposing a merger between at least the two largest dairy cooperatives. The operations of the NZDB would be integrated into the new firm (MAF, 2001). As mergers in the dairy business had proceeded for many decades, discussions on a final amalgamation had occurred for some time.

An alternative to the merger, which was discussed, was a division of the NZDB between the two largest cooperatives with the smaller cooperatives being financially compensated. Tatua and Westland had stated that they were not interested in being integrated in the new dairy giant (van Bekkum, 2001).

In December 2000, New Zealand Dairy Group and Kiwi announced that they intended to merge and that they wanted the new firm to include also the NZDB. A review of the proposal was commissioned by the government and carried out by external consultants. They stated that the structure of the NZDB had been appropriate when the dairy industry consisted of a large number of cooperatives, and that the structure was inefficient when only a few cooperatives remained. A merger with the NZDB was considered to be the best solution to achieve vertical integration in the industry since the costs of splitting up the NZDB between the cooperatives would have been too high (van Bekkum, 2001; MAF, 2001; Johnson, 2001).

One factor that contributed to the merger was the structure of the industry and the power balance between the dairy cooperatives. From 1995, the ownership of the NZDB was attributed to the dairy cooperatives in the form of shares. The larger the cooperative, the more influence it would have on the NZDB. Hoping that increased influence would mean better possibilities for the respective cooperative to manufacture the products that generated a higher margin, cooperatives were eager to increase in size to gain more control over the NZDB (Kelly, 2003; Dalley, 2003).

The deregulation of the NZDB was driven by external and internal pressure. One external force that pushed the NZDB in the direction of deregulation was the WTO negotiations. Classified as a State Trading Enterprise under WTO rules, the NZDB and other export boards were under pressure from politicians and trade officials.

Of greater importance was the internal pressure, which came from critics both outside and within the dairy industry. The arguments were of both a pragmatic and an ideological character. Dobson (1998) points out the main arguments that some critics used in favor of a deregulation. These critics included for instance the finance minister, the commerce minister, and business people interested in exporting dairy products, who considered that reforms of the NZDB were needed to:

- "create incentives for additional foreign investment in New Zealand's dairy industry;
- acquire the equity capital needed to permit the Board to become a more dominant player in international dairy and food markets; and
- provide a corporate structure that would reveal in an unambiguous fashion how effectively the Board performs." (Dobson, 1998, p. 10)

Others were very negative to the creation of a huge and dominating dairy cooperative. An editorial in an influential weekly, the National Business Review, was particularly critical:

> "The government has shown surprising weakness by allowing the proponents of the dairy mega-merger to reorganise their industry in an anti-competitive way. … This is a political merger – it satisfies the egos of dairy company managers who believe their industry is, or should be,

> the best in the world – but has little to do with sound business thinking. … One and one, in merger terms, do not usually equal to two but usually about 1.5. The benefits of 'bigger is better' are generally overstated." (National Business Review, 13 April 2001, p. 21)

The NZDB itself suggested a model where the NZDB would remain intact while the two processors would merge. However, this was not possible according to competition rules. The cooperatives were also interested in getting control over the assets of the NZDB such as brands, sales structures, and international marketing expertise. The processors therefore suggested a merger resulting in a large cooperative, which would also integrate the functions of the NZDB (Kelly, 2003).

> "Whereas in the past [the processors] were the 'slaves' of this organization, they became the masters and the Dairy Board became the slave." (Chris Kelly, former Senior Executive of the NZDB, interview, March 2003)

Therefore, the formation of Fonterra was a decision made by the dairy industry itself. The idea behind the merger was to provide a platform for competing on world markets. A document, issued together with the merger proposal, listed reasons for the merger:

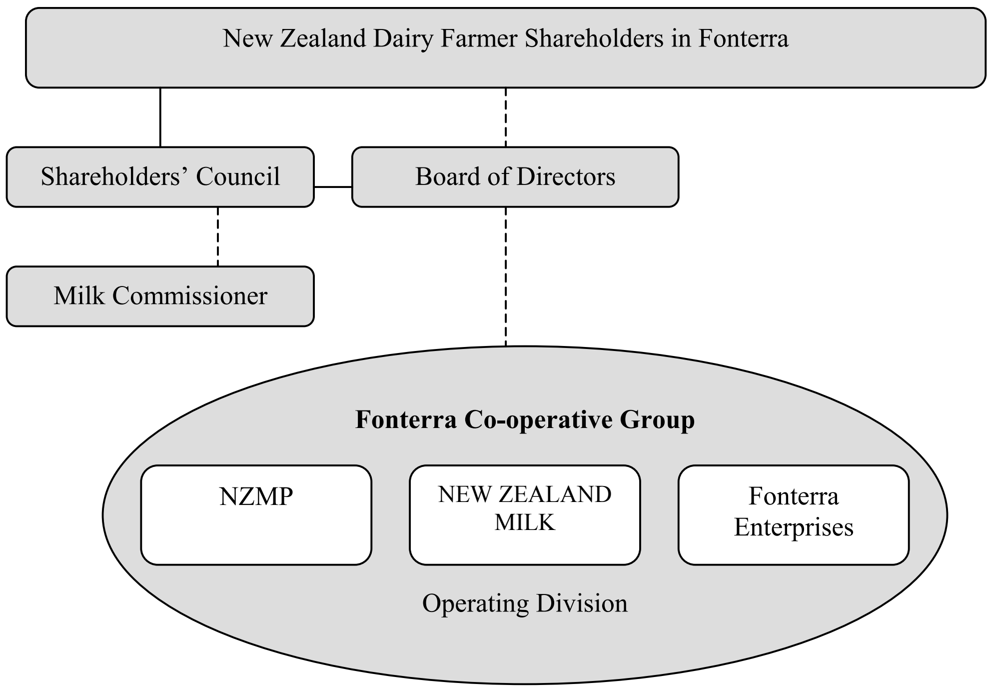
- *Cost savings:* savings due to cost reductions in areas as supply chain optimization, procurement and administrative staff overheads.
- *Revenue enhancements and productivity improvements:* benefits that "arise from better production planning, enhanced responsiveness and better co-ordination between manufacturing and marketing functions."
- *Strategic benefits:* benefits that "arise from the better realization of the industry's strategic plan under [Fonterra]." (www.fonterra.com)

Fonterra

<u>Strategies</u>

Fonterra Co-operative Group Ltd has 13,000 shareholders. Nine-tenths of shareholders' production is exported. The main products are commodities such as milk powder, butter, casein, and anhydrous milk fat (www.fonterra.com). The organization structure is shown in Figure 1.

Figure 1:Fonterra company structure



Source*:* www.fonterra.com

NZMP is Fonterra's ingredients business. It encompasses collection of milk, manufacturing and packaging of over 1000 items, and the operation of a supply chain linking production plants in New Zealand and overseas.

NEW ZEALAND MILK is Fonterra's fast-moving consumer goods business, selling branded products internationally. The firm also operates plants abroad, especially in Latin America and Asia.

The Fonterra Co-operative Group consists of a number of other enterprises, supporting Fonterra's core business. These include a biotechnology company, technology development, a rural retailer, and an agricultural website.

Fonterra's main strategy is to be the "lowest cost supplier of commodity dairy products" (www.fonterra.com). Low costs are Fonterra's major competitive advantage. A look at the product mix confirms this. However, the strategy also comprises value-added products: "a leading specialty milk components innovator and solutions provider" and "a leading consumer nutritional milks marketer" (www.fonterra.com). Several interviewees think that the share of value-added products will increase. This will require increased investments in R&D and in marketing.

Fonterra distinguishes between "cornerstone" and "non-cornerstone" activities. The former "involve the collection, processing and marketing of [shareholders'] milk and the activities with a strong link to selling or adding value to [shareholders'] milk" (Fonterra, 2003). Non-cornerstone activities are those in which Fonterra competes internationally, but which do not use shareholders' milk. However, these activities require capital, and capital supply is from shareholders only. Because of the varying ability and interest among farmers to supply capital, there are discussions about de-linking or structuring these activities outside the cooperative, where shareholders are given an investment choice. De-linking non-cornerstone activities means that the proportionality between the supply of milk and the provision of capital is broken and that investments are open to external investors. Another option is a share structure where shareholders have the choice to invest in shares financing non-cornerstone activities, in addition to the compulsory investment in shares financing cornerstone activities (Fonterra, 2003).

Another strategic theme is to be an "effective developer of dairy ingredients partnerships in selected markets" (www.fonterra.com). Fonterra has partnerships and joint ventures, such as an alliance with Nestlé in North, Central and South America, a joint venture with Arla Foods in Great Britain, and a joint venture with Dairy Farmers of America.

<u>Transaction – pricing policy and payout</u>

The payout to the shareholders has two components: the *Actual Milk Return* and a *value-added component*. The Actual Milk Return is calculated by Fonterra for every season and is based on Fonterra's revenues and costs. The value-added component expresses the cooperative's net profits from capital investments, after an amount for reinvestments has been deducted.

With Fonterra being the only cooperative of its size in New Zealand, the milk price cannot be set in relation to the milk price of other cooperatives; neither can the shareholders compare Fonterra's performance in relation to other processors' performance. For this reason, a benchmark price is calculated every season (van der Poel, 2003). This price is called the *Commodity Milk Price (CMP)* and is "a theoretical estimate of the price an efficient commodity producer could afford to pay for your milk and still make an adequate return on capital" (Fonterra, 2002d:4). Such a processor with an ideal long-term product mix is "invented" for benchmarking purposes (Fonterra, 2002d; O'Boyle, 2003).

The CMP is calculated each year by an independent Valuer (Standard & Poor) and is based on international commodity prices and foreign exchange rates less an assessment of efficient manufacturing costs (Woodford and Robb, 2004). An *actual CMP* is calculated at the end of each season and is based on actual commodity prices and actual foreign exchange rates. The actual CMP can be used to assess the efficiency of Fonterra's business by comparing the actual CMP to the Actual Milk Return. The Actual Milk Return is based on actual revenues and costs, whereas the CMP is a theoretical assessment of the cost of milk that an efficient commodity manufacturer could pay (Fonterra, 2002d).

<u>Investment – the Fair Value Share</u>

Shareholder investment in Fonterra is done through the purchase of *Fair Value Shares*. Each shareholder is required to hold one share for each kilogram of milksolids supplied under the season (Fonterra, 2002a; Fonterra, 2002d).

In the past, transactions between the cooperative and its shareholders were based on nominal share value, meaning that the price of the share that a new supplier would pay should be the same as the amount he would receive when leaving. This made it difficult to assess the cooperative's value. Fonterra introduced the Fair Value Share which reflects the value of shareholder investment. An independent Valuer estimates the Fair Value Share price every season. The increased value of the share is part of the returns from the cooperative to the shareholders – the value-added component (Fonterra, 2002d; www.fonterra.com).

<u>Governance</u>

The Board consists of twelve Directors. Shareholders elect nine Directors while three are appointed by the Board for their specialist skills. Elected Directors retire by rotation after three years and may stand for re-election (www.fonterra.com).

The Shareholders' Council (Figure 1) has 46 Councilors, representing shareholders in 25 wards. The Council ensures "that the cooperative nature of Fonterra is protected, that effective monitoring of the business by shareholders is able to take place, and that the needs of shareholders as both owners and suppliers are properly considered by the Board" (Fonterra, 2002b). It appoints the Valuer to establish the Fair Value range of the shares and the CMP, and appoints a Milk Commissioner, who arbitrates in disputes between shareholders and the cooperative.

The Shareholders' Council works with the Board of Directors to develop a cooperative philosophy for Fonterra. A set of Cooperative Principles was elaborated in 2002-2003 by Councilors and members of the Board (Fonterra, 2002c; Pedersen, 2003).

The voting system is one vote per 1000 kilograms of milksolids supplied by the shareholder. The exception is the election of Councilors for the Shareholders' Council, where each shareholder has two votes (Fonterra, 2002a; O'Boyle, 2003).

A couple of years after the merger, Fonterra was still struggling with its corporate culture. New Zealand Dairy Group and Kiwi had different cultures and used to be competitors. The incorporation of the NZDB added a third culture. Although a large majority of shareholders voted in favor of the merger, they were sometimes reluctant to give up the identity of their old cooperative. Communication problems between shareholders and the new cooperative, combined with a low payout in the 2002–2003 season due to low world market prices, contributed to poor satisfaction among shareholders (Pedersen, 2003; Lynch, 2003; Holmes, 2003).

Westland

<u>Strategy</u>

Westland Milk Products decided not to take part in the mega-merger. The main reasons were a wish to remain in control of the shareholders' investments and a fear of losing influence in the new dairy giant (Robb, 2003).

Before the merger, Westland used to sell all its products through the NZDB. The cooperative mainly produced commodities, such as milk powder and butter. When the NZDB was abolished, Westland and Tatua received the value of their shares in the NZDB. This left Westland with a strong balance sheet. On the other hand, Westland lost its market channels because NZDB was integrated into Fonterra. An intermediate solution was an agreement according to which Fonterra markets Westland products. The amount of products marketed through Fonterra will be phased out as Westland is building its own sales structure.

> "However, there is a sense of sadness for many of us to see the Dairy Board absorbed into the large conglomerate, Fonterra. […] Westland has prospered … through the integrated industry and has had the luxury of concentrating on manufacturing excellence, leaving marketing to the Dairy Board." (Ian Robb, Chairman of Directors, Westland, Annual Report 2002)

Having been mainly in commodities, Westland is aiming at increasing its share of value-added products and is investing in R&D, protein processing facilities, and a laboratory. Westland expects soon to have increased its activities in the fields of customer relations, R&D, product development, and processing (Robb, 2003). A CEO with experience in high value milk ingredients and nutritional products has been recruited. A joint project with Tatua for the extraction of lactoferrins has been established (Westland, 2002; Robb, 2003).

Transaction, investment and governance

Westland applies a share structure, where the only types of equity are nominal shares and retained earnings. Each supplier holds one share per kilogram of milksolids supplied. The nominal share gives low entry barriers, but entry is restricted to farmers in the Westland area.

> "We are what I call a 'true co-op'." (Ian Robb, Chairman of Directors, Westland Milk Products, April 2003)

The nominal value of the share enables present members to increase their production for a low cost. When members exit, they receive the same amount that they paid for the shares when entering the cooperative (Robb, 2003).

Voting is distributed on the basis of one vote per 10,000 kilograms of milksolids with a maximum of ten votes per supplier. The Board of Directors consists of eight elected Directors and two appointed Directors with specialist skills, who are accepted by the shareholders at a meeting following the appointment (Robb, 2003).

Tatua

Strategy

Tatua Co-operative Dairy Company Limited is the smallest of the cooperatives with 132 suppliers (Tatua, 2002). It is focused on value-added products, such as aerosol creams, bag-in-box food service products, caseinates, whey protein, hydrolysates, and other biologically active compounds (Frampton, 2001). Tatua was the cooperative that offered shareholders the highest payout in the 2001–2002 season.

The focus on value-added products has its origins in the 1970s, when Tatua anticipated that there would be further consolidation within the dairy industry. During the 1970s the NZDB introduced a "cost model" basis of payment, based on an assumed daily processing capacity of a plant. This induced all the cooperatives to build bigger and bigger plants in order to manufacture commodity products (Frampton, 2001).

Tatua could not compete with the larger dairies in the production of commodity products if it would be paid on the basis of NZDB's cost model. Tatua's response was to focus on high-value, low-volume markets. The first product introduced was aerosol whipped cream (Frampton, 2001). Tatua was asked to take part in merger, but wished to remain independent.

> "Although we were asked many times to take part in merger discussions, no one was able to demonstrate that our shareholders would be better off in a merger situation." (Alan Frampton, Chairman of Directors, Tatua Co-operative Dairy Company Ltd, interview, March 2003)

Part of the capital that Tatua received after the dissolution of the NZDB was used to develop an international exports network. However, Tatua continued to export a number of its products through Fonterra's sales structures (Frampton, 2003).

<u>Transaction, investment and governance</u>

Tatua's membership is closed, whereby the product supply can be controlled. Tatua applies strict rules of entry for new shareholders, with a number of requirements (Frampton, 2001; Frampton, 2003).

The producer capital contributions are proportional to product delivery rights. Tatua's shareholding structure is based on a nominal share of three NZ$ 1.00 shares for each two kilograms of milksolids supplied. The shares used to be redeemable at their nominal value but not tradable. Since 1999/2000, a "hybrid" share structure is in place. In addition to nominal shares, there is the *Milksolids Supply Entitlement (MSE)*, which gives the shareholder the right to supply a kilogram of milksolids. In order to receive full payout, the supplier must possess one (standard) share and one MSE for every kilogram of milksolids supplied. The idea is that the MSEs capture the value that Tatua adds to the milk. The MSEs can be sold, leased or given away among shareholders (Frampton, 2001; Frampton, 2003).

> "… the modern co-operative idea is to move a bit closer to the investor-owned firm in the sense that you put a market related value on share capital so that new milk must pay an appropriate entry fee thus placing some control on the growth of the milk supply. There is an element of selfishness in this as compared to the old co-operative principles, but if you want to survive as a smaller company you have got to be able to control the milk supply." (Alan Frampton, Chairman of Directors, Tatua Co-operative Dairy Company Ltd, interview, March 2003)

Just as supply is tied to shareholding, voting is based on one vote per kilogram of milksolids. A restriction is that no shareholder may have more that five percent of the votes (Frampton, 2001; Frampton, 2003).

Analysis

Markets

The domestic market is of minor importance for the New Zealand dairy cooperatives. Hence, market changes within New Zealand, including the deregulation of the domestic market in the 1990s, have not affected the dairy processors notably. It is the export markets that count, with 95 percent of the volume. Hence, because the New Zealand Dairy Board was responsible for all exports of dairy products, the abolition of this organization in 2001 had fundamental repercussions.

Suddenly, the dairy cooperatives had direct access to the international markets. They had virtually innumerable potential customers instead of only one, i.e., NZDB. They became responsible for marketing their products themselves. They gained direct communication channels to all markets. The dissolution of NZDB was a landmark for the dairy cooperatives' market conditions (Pritchard, 2005).

On the international markets, competition increases all the time. This means, first, a constant price squeeze on the markets for commodities. There is a stable demand for these products, but their relative price level shows a declining trend. Moreover, new market opportunities develop as the world trade is being liberalized, as freight becomes easier, and as there are growing investment opportunities on the international arena.

Second, intense competition stimulates firms to be innovative and sensitive to customer demands. This means a growing demand for value-added dairy products as well as tailor-made ingredients. Only a minor part of the New Zealand dairy products is sold as value-added or consumer products. The share is, however, increasing as both Fonterra and Westland find profitable business opportunities within these product ranges. Tatua has already for many years focused on value-added products.

Strategies

Fonterra's main strategy is *overall cost leadership* (Sankaran and Luxton, 2003). Most products are undifferentiated and exported as commodities on a global scale. Fonterra continues to expand this business, for example through international joint ventures and acquisitions. With a low cost for raw material and with large quantities permitting low average processing costs as well as a good logistic and sales network, Fonterra is able to keep its position as the world's leading low cost supplier. It will, however, have to make permanent efforts to keep the cost level at a minimum (Simons, 2002).

The non-cornerstone activities should predominantly be considered to follow a cost leadership strategy. Fonterra makes use of its capabilities to process milk at a low average cost, also when the milk originates from foreign suppliers. However, these operations require investments. If these operations are de-linked from the rest of the firm and get non-suppliers as shareholders, a marked expansion may follow.

With part of its operations in branded consumer goods and value-added ingredients, Fonterra has a *differentiation strategy* for some products. The margins are higher in consumer goods and enable the manufacturer to be a price-maker, not merely a price-taker. With direct access to the global markets, Fonterra can exploit the growing demand for such profitable value-added products, offering high quality products at prices below those of the competitors. This strategy does, however, require large investments in R&D and marketing.

Westland used to produce only commodities, exported through the NZDB – later through Fonterra. This is a *cost leadership strategy,* the products being sold on the world market for ingredients. The firm is building up its own market channels, adapted specifically for its products. As Fonterra will be phased out as a market channel, Westland is establishing a global sales network of its own.

While the commodity business still dominates, Westland is about to embark on a *focus strategy*, going into the value-added segment. This implies large investments in areas such as R&D.

Tatua has special ingredients and high value-added products as its core area. The cooperative has for several years pursued a *focus strategy*, aiming at high-value, low-volume markets. The products are highly specialized and differentiated, perceived as unique, and have a high value on the market. The firm reaches the customers mainly through its own market channels – to some extent through Fonterra. Before the dissolution of the NZDB, part of the volume was sold through this organization, but Tatua had a special permission to market most products on its own.

Structures

Fonterra must most of all be considered a *traditional cooperative*. There are, however, also clear indicators that Fonterra is gradually adopting more and more *entrepreneurial* traits, which is in line with its strivings towards more value-added activities.

The number of shareholders is large and the membership is heterogeneous. The structures of the cooperative are mainly collective, though with some individual elements. In terms of *transactions*, the cooperative has an open membership. The requirement to own Fair Value Shares is an entry barrier compared to the cost of joining traditional open cooperatives. However, because these shares offer the possibility of capital gains, farmers will hardly refrain from becoming members – on the contrary. The cooperative has an intake obligation for shareholder milk, i.e., the cooperative wants to have a large volume of milk from its suppliers.

The special "Fonterra way" of calculating the milk price is a consequence of the cooperative's dominance at the New Zealand milk market. Hence, this is above all an expression of collectivistic traits. The price is calculated through an administrative procedure, even though the aim of this is to arrive at a price level that corresponds to a market price for raw milk. An entrepreneurial element is, however, that Fonterra, in an effort to give correct market signals to the members, distinguishes between the value of the raw milk and the value of value-added processing activities. Therefore, the members get correct information for their decisions concerning how large sums to invest in the cooperative and how large volume to supply to the cooperative.

The *investment* relationship is characterized by the appreciable Fair Value Share. The share is not tradable so its price is assessed administratively (by an external Valuer). Therefore, it is only a weak indicator of entrepreneurial cooperatives. By introducing the Fair Value Share, Fonterra gave the shareholders an incentive to invest in the cooperative. The members realize that such investments could give high returns. The appreciable shares influence the members to regard Fonterra as a modern, progressive business firm.

The issuance of Fair Value Shares strengthened the balance sheet, whereby the cooperative could invest in profitable business ventures, also in non-cornerstone activities and in value-added operations. Given good profit opportunities, the members accept risky investments, even such where their own milk is not being processed. The fact that the balance sheet shows a low share of unallocated equity can be explained by the Fair Value Shares. Because the shares are redeemed by the cooperative only upon the member's surrender, they constitute a stable capital, provided that the volume of milk supplies remains the same, and so, Fonterra does not have to rely on unallocated capital.

The *governance* relationship diverts from the collective "one man, one vote" in that voting is proportional to volumes supplied. Most notable is, however, the existence of the Shareholder Council – due to its autonomy it has the character of a watchdog. It was formed because the mega-merger would result in a very market-dominating actor, and so there was a need for a special institution to ensure that the powerful Board of Directors would act in the best interests of the membership. Thus, this unit could be regarded as a result of the organization's wish to operate at large scale. At the same time, the Shareholders' Council may also be instrumental in guiding the Board about value-added operations.

Westland must, with its mainly collective structure, be classified as a *traditional cooperative,* just as it was before the dissolution of the NZDB. *Transactions* between the members and the cooperative are done solely on the basis of shareholding, where one share entitles the shareholder to supply one kilogram of milksolids. Membership is open to suppliers in the area (www.westland.co.nz).

Investments in Westland are done through the purchase of shares with a nominal value. Hence, the entry barriers are low. A significant share of the equity comes from the receipts that Westland got for its shares in NZDB (over NZ$ 100 million[4]). With such a large amount of (unallocated) capital in the balance sheet, Westland has possibilities to invest in R&D, production plants, marketing, etc. This explains the cooperative's gradual shift towards a more differentiated strategy, in the form of value-added products. While less rich cooperatives might have tried to issue new shares to existing shareholders or to investors in order to pursue such a differentiation strategy, Westland does not seem to need more capital. Westland has an individualized *governance* structure. Votes are distributed in relation to milksolids supplied.

Tatua has an individualized structure. It is an entrepreneurial cooperative with closed membership. The *transaction* relationship is strictly regulated by the possession of *Milksolids Supply Entitlements*, which serve as delivery rights. This implies high entry barriers for potential members. The system guarantees the control over the volume of milk supplied to the cooperative. The *investment* dimension is characterized by tradable and thus appreciable shares, which give the shareholders powerful incentives to invest in the cooperative, as well as incentives to monitor the operations carefully. The *governance* is individualized because voting is proportional to production rights.

Conclusions

The aim of the study is *to investigate whether the New Zealand dairy cooperatives altered their organization structures as a result of market changes brought about by the deregulation of the dairy sector.* The discussions in the preceding sections give the following answers:

4 Corresponding to US$ 70 million or € 57 million.

- The deregulation of the domestic market in the 1990s did not lead to any noticeable organizational changes in the New Zealand dairy cooperatives because the domestic market accounts for only a small part of the cooperatives' sales.
- The governmental decision to dissolve the NZDB was a major impulse for the development of new organizational structures in the cooperatives, mainly the fact that the mega-merger took place and that Fonterra got specific organizational attributes. .
- After the cooperatives started working on the global markets on their own, they have taken on more and more entrepreneurial traits in their cooperative organizational model.

During the existence of the NZDB, the cooperatives' products were sold on the world market, but the processors had no direct access to the buyers. The Dairy Board functioned as a filter, whereby the cooperatives had both weak incentives to develop their own strategies and limited capabilities to do so. Low costs were their only success factor, and so, a traditional cooperative organization form was their natural choice because this gives the possibilities to reap economies of scale.

The exception is Tatua, which had difficulties managing under the NZDB's pricing model. Its response was to start selling value-added products, which it was permitted to export on its own. In this context, Tatua converted into a closed cooperative – an entrepreneurial form.

When the government announced that the NZDB should be dissolved, the dairy industry leaders realized that new market opportunities would be opened for the cooperatives. The new strategies fostered new organizational structures. One opportunity consisted in proceeding with selling commodities to the world market, but for this to take place more efficiently it would be advantageous to have NZDB's resources within the cooperative organization. Therefore, New Zealand Dairy Group and Kiwi merged, whereby they also ensured that NZDB would be integrated. For these operations, it was not necessary to change the cooperative organizational form. The introduction of the Shareholders' Council did not imply any major change – it only facilitated for a market-dominating cooperative to operate.

After NZDB was dissolved, all three cooperatives intensified their efforts on the global markets, though they focused on more or less different markets. Especially Fonterra, with its large size and its business-oriented suppliers, and initially also Westland, exploited their low costs in a cost leadership strategy.

In spite of the cost advantages, production of commodities through the cost leadership strategy does not give very high profits to the cooperatives and their shareholders. Provided that the cooperatives have capital to invest in R&D, in advanced production facilities and in marketing, there may be a possibility to earn more money on value-added products. Hence, all three cooperatives have during recent years restructured their financial situation. The two smaller cooperatives have used capital they got after NZDB was dissolved.

Fonterra's solution is more radical. It issued Fair Value Shares to its shareholders. Through individually owned investment instruments, the cooperative shareholders have incentives to invest and to allow the cooperative to embark on a differentiation strategy. Hence, the Fair Value Share expresses that Fonterra has taken on entrepreneurial traits, even though the shares are not tradable. Another sign is the discussions within the firm to separate cornerstone activities and non-cornerstone activities (member milk, and non-member milk, respectively), whereby the non-cornerstone activities could be financed by members voluntarily. Further, the way Fonterra calculates its milk prices is instrumental in a financial context. Because the members regularly see how much of the payout is a result of the value-added activities, compared to how much the raw milk is worth, they are more willing to invest in the cooperative; therefore, the cooperative has capital to expand these business operations.

Both Fonterra and Westland are still predominantly traditionally organized cooperatives, though they have lately introduced some entrepreneurial attributes, not the least as concerns financial solutions. Tatua is fully an entrepreneurial cooperative.

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