STRATEGY PURSUED BY INTERNATIONAL DAIRY PROCESSORS: IMPLICATIONS FOR FONTERRA

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To my parents,
From whom I have learned that life
is not a straightforward road,
and yet a wonderful journey.
Your lives inspire me everyday!

ABSTRACT

The 'dairy industry' accounts for a significant amount of wealth creation in New Zealand. It contributes 7% of the country's GDP, and between 20-25% of its export earnings. Given the absolute export orientation of land-based industries in the country, and particularly of the dairy processing industry, where 95% of output is exported, the long-term competitiveness of New Zealand dairy processors is set firmly in the international environment.

An exploratory investigation of the contextual environment of the global food value system has identified the complex relationships between food processors, food retailers, and food consumers. The observation of the actions and decisions – strategy – pursued by a group of international dairy processors over recent years reveals a strong convergence of patterns among apparently 'dissimilar' organisations.

A multiple case study approach to the research was used, supported by extensive primary and secondary data collected over a twelve month period. Nine case study companies were selected and their strategic orientation revealed. There was a high level of convergence between stated and observed strategies, and subsequent outcomes. Industry concentration, consolidation activities, and internationalisation of companies are strategies being pursued among all of the case study companies. Meanwhile, various ownership structures were found to neither hinder large dairy processors from pursuing growth strategies nor hinder them from pursuing added-value strategies.

The creation of Fonterra Co-operative Group, the country's largest organisation, and largest exporter of processed dairy products in the world, was a response by the dairy sector to the wider global consolidation/concentration trend. Now, consolidation and concentration in the dairy processing industry in New Zealand has reached a plateau. Without compromising its co-operative structure Fonterra faces the dual challenges of further internationalisation and the continued pursuit of value-added strategies as constructive means to improve shareholders' returns.

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CHAPTER ONE

INTRODUCTION

1.1 NEW ZEALAND'S CONTRIBUTION TO GLOBAL DAIRY FOOD

Increased competition and the globalization of markets are two of the factors that motivate large enterprises to adapt and review their strategic orientation in their pursuit of competitive advantage (Stopford & Wells, 1972; Levitt, 1983; Bartlett & Ghoshal, 1987a; Rodrik, 2000). The food industry is traditionally characterised as either multidomestic or multinational by contributors to the international business literature (Bartlett & Ghoshal, 1989; Kobrin, 1994; Porter, 1986; Rall, 1989 cited in Harzing, 2000; Traill, 1997a). These authors argue that the high demand for local responsiveness outweighs the pressure for cost efficiency. Therefore, the result of product differentiation from country to country remains a strategic requirement (Bartlett & Ghoshal, 1987b) of this industry.

The food industry is responsible for the creation of great wealth in most countries of the world. It adds critical value to agricultural produce and it constitutes a considerable share of consumers' expenditure. An investigation of strategy pursued by organisations within the food industries demands an understanding of both the contextual environment in which they operate, and of the major links in the food value system. Significant structural changes worldwide are reshaping the entire system, and successful organisations must respond to a complex set of interrelationships between consumers, food retailers and food processors.

Now considered a mature industry (Thompson & Strickland, 1998), the food industry is characterised by slow to flat growth, low profit margins, and increased segmentation. Food retailers and food processors increasingly face consumers concerned with quality, health, and nutrition, not only from high-income regions of the world, but also from the increasingly affluent middle-class of developing countries. "Consumers are the final agents in the food choice process, and their characteristics, attitudes, and behaviour are very important food consumption determinants" (Gracia & Albisu, 2001, p. 474). Knowledge

about consumers' consumption patterns is crucial for organisations in the industry to achieve and sustain competitive advantage.

The change in the dynamics of the food value system provided by a shift of consumers' relative positioning, from least to most-heard voice, is accompanied by an emerging power imbalance between food retailers and food processors. The top ten food and drink processors had combined revenues of $ 258,911 million dollars, while the same figure for the top ten food retailers was $ 593,710 million dollars in 2001[1]: 129% higher in value terms (Fortune, 2002). In the United States the top four food retail chains accounted for 43% of supermarket sales in 2001 (Spring, 2001 cited in Cotterill, 2001). While in the European Union, the top three food retail chains accounted for more than 50% of sales in 11 countries. In Finland, the Netherlands and Sweden retail chains accounted for more than 80% of industry sales. Food retailers now hold crucial information about consumers' behaviour and preferences. These organisations are not only consolidating in their home markets but also pursuing various strategies of internationalisation.

While Cotterill (2001) observed that we now have a food system predominantly served by powerful food manufacturers [processors] selling to powerful food retailers he failed to observe the asymmetry between them. The phenomena of mergers and acquisitions, and concentration can now be observed in both the food processing industry and in the food retailing industry as organisations attempt to create bargaining power (Porter, 1985).

Dairy products constitute the single largest category of products in an average basket of food products (Traill, 1998). The dairy processing industry in many countries has evolved over the years from local to national, and more recently, international reach. Large dairy processors are emerging worldwide as result of consolidation triggered by increased competition, search for economies of scale and scope, and the power imbalance with food retailers.

[1] This figure includes Wal-Mart Stores' revenues of $ 219, 812 million dollars, included in the 'General Merchandisers' category of the rank within industries' section of Fortune, 2002.

The dairy sector in New Zealand generates between one-fifth and one-quarter of the country's exports and around 7% of its GDP. It comprises around 40,000 people in New Zealand and throughout the world – including dairy farmers, food processing workers, scientists and marketers (New Zealand Dairy Board, 1999). New Zealand exports some 95% of its dairy production, being responsible for almost 40% of the international trade[2] of dairy products (Personal Communication, 2002). Only some 5-7% of total milk production is traded internationally, 93% being consumed within the country of origin (New Zealand Dairy Board, 2000), therefore, New Zealand accounts for a disproportionate amount of the global trade in dairy products.

New Zealand's strong presence in the international trade of dairy products can be attributed to at least two factors of vital importance. The first factor is the pasture-based system of livestock management and nutrition, where animals are fed most of the year from pasture, and pasture surpluses. The second factor is the export orientation of the industry, due to a relatively tiny domestic market, able to absorb only 5% of production (Mitchell, 2001). Yet New Zealand remains a relatively small player in terms of world milk supply, accounting for just 2% of world production.

The trend of amalgamation of dairy companies in New Zealand has been observed over the years. In 1920 there were over 500 dairy companies and factories while today there is only one very large and two small dairy co-operatives (Garrick, Lopez-Villalobos & Holmes, 2001). The most recent merger happened in 2001 when the two largest dairy processing co-operatives in the country and the marketing arm of the industry, the New Zealand Dairy Board (hereafter referred to as NZDB), merged to create one organisation. Fonterra Co-operative Group now collects and processes more than 95% of the milk produced in New Zealand; employs over 20,000 people worldwide; and, has a presence in 140 countries. With this amalgamation the dairy sector was deregulated and the single seller status of the legacy company, the NZDB, was removed by Government legislation.

[2] If Fonterra Co-operative Group shares in some Australian dairy companies are taken into consideration.

Arguably the amalgamation was a strategic decision in order to remain competitive in the international trade of dairy products, and to guarantee and further expand the organisation's presence in international food markets. Fonterra was created to achieve a 'totally integrated' structure, in which processing, marketing and research and development occur in the same organisation (Norgate, 2002). Thirteen thousand dairy farmers of New Zealand co-operatively own the company, its primary objective is to 'lead in dairy', creating sustainable wealth to shareholders-farmer owners.

Mergers, acquisitions, and internationalisation are among some of the trends emerging from the observation of large dairy processors worldwide. Fonterra is also pursuing such a strategy, although largely inherited from the NZDB. The contextual environment for dairy processors proves to be complex and dynamic and, an investigation of 'what' strategy they have pursued over time may reveal a pattern of actions among apparently 'dissimilar' organisations.

1.2 PROBLEM STATEMENT

Many scholars have researched the New Zealand dairy sector focusing on various aspects of interest. Dobson's (1990) study "The competitive advantage of the New Zealand Dairy Board" applied the scenario analysis techniques developed by Porter (1985) revealing important points on the political environment facing the New Zealand dairy industry, such as subsidies, protectionism and quotas. At the same time, Cartwright (1990) published an analysis of the competitive advantage of the New Zealand dairy industry.

The development of Porter's diamond model was studied and discussed by Crocombe, Enright and Porter (1991), Cartwright (1993), Xu (1998), and by industry practitioners (Spring, 1992). While their collective contribution was an in-depth analysis of the competitive forces driving the dairy industry, they also identified missing elements of the diamond model. Application of the model to export dependent land-based industries has been found to be suspect (Lockhart, 1997). Mtonga (1993) analysed the co-operative structure of the dairy industry in New Zealand as well as aspects of industry deregulation,

and Lyon (1995) investigated the role of government in the New Zealand dairy industry's access to overseas markets.

More recently Smith (1998) studied the industry applying the advocacy coalition framework. While Akoorie and Scott-Kennel (1999) examined the role of the marketing arm of the industry – the NZDB – in the industry structure. Although elucidative, none of this research focused on either the strategy pursued by a New Zealand co-operative nor on the strategic orientation of its competitors.

1.3 RESEARCH PURPOSE AND QUESTIONS

Unlike previous studies on the New Zealand dairy industry, this investigation focuses on corporate strategy pursued not only by a dairy company from New Zealand, but also by a select group of international dairy processors. In this respect, this study represents a significant departure from the general trend of analysing the industry and not the organisation.

The exploratory nature of the present study has prevented the researcher from formulating hypotheses and from identifying specific variables to be investigated. The research questions that guided this research were:

1. 'What' is the contextual environment in which dairy processors operate?

2. 'What' strategy can we observe large international dairy processors pursuing in face of the new contextual environment within which food industries operate worldwide?

Mintzberg and Waters (1985) portrayal of strategy as a pattern observed over time has particular relevance to this study because the process of data collection is largely one of the observation of a firm's actions and decisions over several years. The contextual environment of organisations that compose the data set for this study is extremely

significant because Mintzberg and Waters' approach to strategy formation reveals that often the environment dictates patterns in organisations' actions and decisions.

1.4 THESIS OUTLINE

This thesis is presented in seven chapters. This Chapter has provided the background of the study, and discussed the problem and the purpose for conducting this scientific inquiry. Chapter Two introduces the strategic management literature and identifies the model that will be followed to identify the strategies pursued by international dairy processors. Next, the contextual environment in which dairy processors operate is investigated and major links within the food value system are discussed.

Chapter Three provides insight into the milk supply situation around the world, and investigates the success factors of the New Zealand dairy farming system, the shortcomings and advantages. An overview of the history of the sector is also provided. Chapter Four describes the research techniques and method that guided this research endeavour, the selection criteria developed for the multiple case studies, the data sources, collection and analysis, and some ethical considerations.

The results of this inquiry are presented in Chapter Five and Chapter Six. Chapter Five presents the individual case reports, which are the result of analysis and the reduction of vast amounts of data collected over the research period. Chapter Six discusses the main trends emerging from the observation of these strategies across the organisations involved in this study.

The final chapter, Chapter Seven, summarises the results of the study and provides implications for the New Zealand based dairy processor, Fonterra. Limitations of the study and suggestions for future research are then presented.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

Thousands of academic contributions and practitioners' discussions have contributed to the development of the strategic management discipline since its establishment in the 1960's. Strategy has evolved as a dynamic concept and authors have defined it according to their numerous frames of reference. This Chapter chronologically introduces many of these contributions and the paradigm shifts that have occurred. Mintzberg and Waters' (1982, 1985) definition of strategy as an observable pattern of actions and decisions over time and the theoretical framework developed by them are explored. Their approach offers an appropriate technique for this research into a very significant part of the global food industry.

The various links of the food value system are introduced in Section 2.3. The objective being to describe the contextual environment of food retailers and processors. Another important link in the system – the consumer – and the pattern of food consumption worldwide is also discussed.

2.2 PARADIGM SHIFTS WITHIN STRATEGIC MANAGEMENT

Strategic management is an eclectic field, and cannot be explained by one fixed paradigm. As Hoskisson, Hitt, Wan and Yiu (1999) appropriately point out "because the nature of strategy problems cannot be easily framed within a fixed paradigm, strategic management is necessarily a multi-paradigmatic discipline requiring varied theoretical perspectives and methodologies" (p. 444). The development of this field has been substantial in the last two decades, and as proposed by Khun (1970) scholars across disciplines have seen the rise of many schools of thought and paradigm shifts. Some of these frames of reference are embedded with sound definitions, scholarly conversation and empirical testing, resulting in numerous models, frameworks and techniques to analyse organisations and their strategies.

The objective of Section 2.2 is to provide an overview of some of the schools of thought and their contributions to the field of strategic management[3]. The author adopts a chronological perspective on the evolution of the strategic management field. The Design School of thought and early contributions made by Chandler, Andrews and Ansoff are first discussed. The structure-conduct-strategy paradigm is introduced and Porter's five forces model and generic business strategy concept then described. Moving away from the 'strategy as fit' approach, the author deliberates on Mintzberg and Waters' argument that strategy, 'realised as intended' or emergent, can be observed over a period of time. The section ends with a brief discussion of the resource-base view (RBV) and contributions made to the field by Hamel and Prahalad.

Strategy and strategic management are sometimes used interchangeably, simply put, the former can be thought of as the plan of action while the latter represents the process of planning, implementing, controlling and evaluating the plan. In brief, strategic management is the field that combines the complex functions of managing and strategizing. However, a too simplistic view of these concepts and the failure to distinguish planning from strategizing is a source of problems within organisations (Hamel, 1996).

Strategy has been defined by many authors within the field of management, but its origin is deeply linked to the military sciences and its use in the military dates back to the fourth century BC (Sun Tzu, 1971 cited in Mintzberg, 1990). In the early 19th century, strategy was not yet formalised as a concept within business, mainly because firms were small and produced only one or two products. Strategy was then implicit in the premises of business policy formulation (Hofer & Schendel, 1978).

Among the first ones to address the issue of strategy was Drucker (1954), who implicitly referred to strategy in his seminal work *The Practice of Management*'. Drucker asked two fundamental questions, 'What business are we in?' and 'What should it be?' that propelled organisations to examine their purpose. But it was not until the 1960's that the concept of strategy was further elaborated and refined.

[3] For further review of the literature on strategic management and the development of concepts and

Early contributions were made by Chandler (1962) who defined strategy as "the determination of the basic long-run goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out those goals" (p. 13). Through this definition Chandler did not, however, differentiate between the concept of strategy and the process for its formulation (Hofer & Schendel, 1978).

Ansoff (1965) later elaborated on the concept stating that "a firm needs a well-defined scope and growth direction, that objectives alone do not meet this need, and additional decision rules are required if the firm is to have orderly and profitable growth" (p. 94). At the same time, Learned, Christensen, Andrews and Guth (1965) defined strategy as "the pattern of objectives, purposes, or goals, major policies and plans for achieving those goals, stated in such way as to define what business the company is in, or to be in, and the kind of company it is, or it is to be" (p. 151).

These early contributions took on a contingency perspective and the fit between strategy and structure became the dominant paradigm. These contributions represent the rise of the Design School of thought, as classified by Mintzberg (1990)[4] (or Classical School according to Whittington (1993)). Strategy was seen as a rational process of analysis, which is designed to achieve competitive advantage of one organisation over another in the long term (Mintzberg, 1994). Additionally, strategy formation was seen as "a prescriptive or conceptual process, and should be developed neither intuitively nor in emergent fashion, but through a conscious, deliberate process based on formal training" (Department of Management Systems, 2002, p. 23).

The influence of the Design School has been notably strong, and according to Mintzberg (1990), "its basic framework underlies almost all prescription in this field and, accordingly, has had enormous impact on how strategy and the strategy-making process are conceived in practice as well as in education and research" (p. 171). It offered the theoretical concepts for the development of both the Positioning and the Planning Schools.

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methodologies see Hofer & Schendel (1978) and Hoskisson, Hitt, Wan, and Yiu (1999).

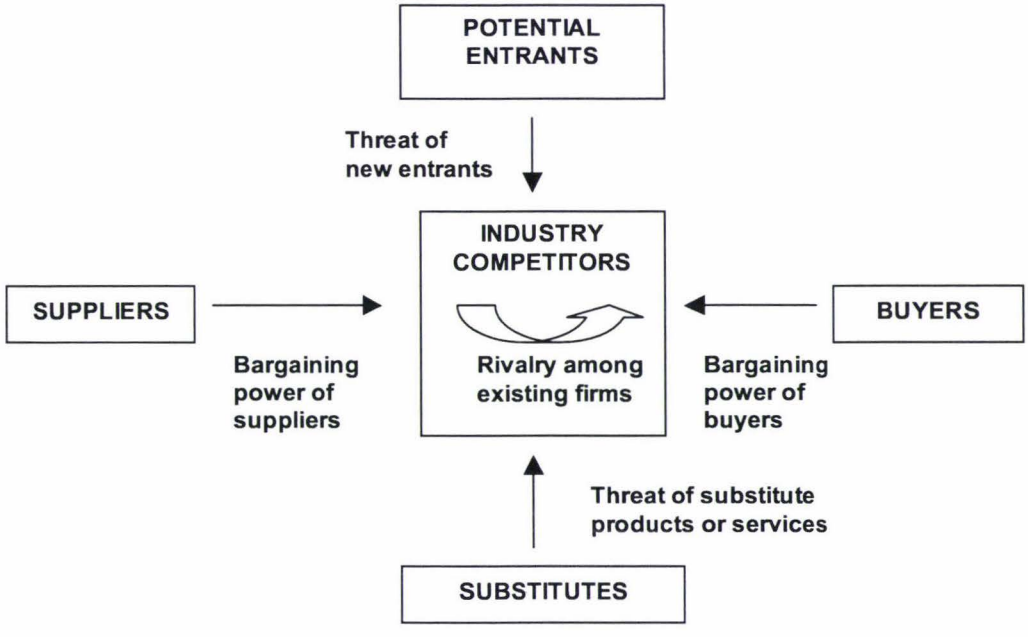
[4] For a fuller overview of the Schools of thought on strategy, see Mintzberg (1989); Whittington (1993) provides another typology for the different perspectives.

The contribution of the Positioning School to the field of strategic management is also significant. Industrial organisation (IO) economics brought econometric tools to strategic management research, and the IO paradigm of structure-conduct-performance and strategic groups are still largely utilised for industry studies. Bain (1968) in his book *Industrial Organization* stated that the primary unit of analysis was the industry or competing groups of firms, rather than the individual firm. As pointed out by Porter (1981 cited in Hoskisson et al., 1999) the central theme behind the IO paradigm is "that a firm's performance is primarily a function of the industry environment in which it competes; and because structure determines conduct (or conduct is simply a reflection of the industry environment), which in turn determines performance, conduct can be ignored and performance, can therefore, be explained by structure" (p. 425). The adoption of the S-C-P paradigm in strategic management naturally shifted the research focus from the firm to market structure and industry analysis.

According to Porter (1980), an "industry is the group of firms producing products that are close substitute for each other" (p. 5). He argues that although the definition of environment can be too wide, the key aspect of the firm's environment is the industry or industries in which it competes. Industry structure then determines the intensity of competition and "the state of competition in an industry depends on five competitive forces" (p. 3), shown in Figure 2.1. The collective strength of the five forces determines profitability of an industry.

Porter also identified three generic business strategies that a firm may choose to follow in coping with these forces: overall cost leadership, differentiation and focus as illustrated in Figure 2.2. The appropriateness of the choice an organisation makes will determine its competitive advantage in the long run (Lockhart, 1997). To further enforce his central theme towards the market and the company's positioning within it, Porter defined strategy in terms of position, "the creation of a unique and valuable position, involving a different set of activities" (1996, p. 69).

Figure 2.1. Forces driving industry competition



Source: *Competitive strategy: Techniques for analysing industries and competitors* (p. 4), by M.E. Porter, 1980, New York: Free Press.

The matrix of the three generic strategies is still extensively employed by practitioners and academics worldwide and it has undoubtedly been a useful tool in the study of strategic management. However, its essence is one of a prescriptive model and of rationality, elements that now appear to be less valuable in the face of increased complexity of modern organisations and fast changing business environment.

In a more recent paper, Porter (1996) strongly defends the Positioning School and the crucial significance of strategic positioning in business competition. He argues that organisations are failing to differentiate strategy and operational effectiveness and cites the overall decline of Japanese companies as a clear example of this problem.

> Positioning – once the heart of strategy – is rejected as too static for today's dynamic markets and changing technologies. According to new dogma

> rivals can quickly copy any market position, and competitive advantage is, at best, temporary. But those beliefs are dangerous half-truths, and they are leading more and more companies down the path of mutually destructive competition. (p. 61)

The new 'dogma' arguably refers to hypercompetition, as postulated by D'Aveni (1995). D'Aveni argued that "hypercompetition results from the dynamics of strategic maneuvering among global and innovative combatants" (p. 96). He further disputed the usefulness of "rule books and generic strategies" in the more turbulent and complex environment of today's organisations. Conversely, Porter (1996) calls hypercompetition a 'self-inflicted wound not the inevitable outcome of a changing paradigm of competition" (p. 61).

Figure 2.2. Three generic strategies

Source: *Competitive strategy: Techniques for analyzing industries and competitors* (p. 39), by M.E. Porter, 1980, New York: Free Press.

Although Porter's influence on the field is widely regarded as substantial his focus on industry analysis raises considerable discussion. Rumelt (1991) argued that "interfirm heterogeneity within industries (business specifics effects) explains firms economic performance much more than industry membership" (p. 169). Hoskisson et al. (1999) further points out that there is a certain amount of controversy regarding substitutability of

products, processes or geographic market boundaries. A recent study conducted by McGahan and Porter (1997) showed that industry represents an important factor in affecting a firm's economic performance, specially in the service sector, but no longer so much in the manufacturing sector. Furthermore, Rumelt (1991), and Baden-Fuller and Stopford (1992) have argued that strategic thinking matters and that the effective allocation of organisational resources outweighs industry context, structure and level of maturity.

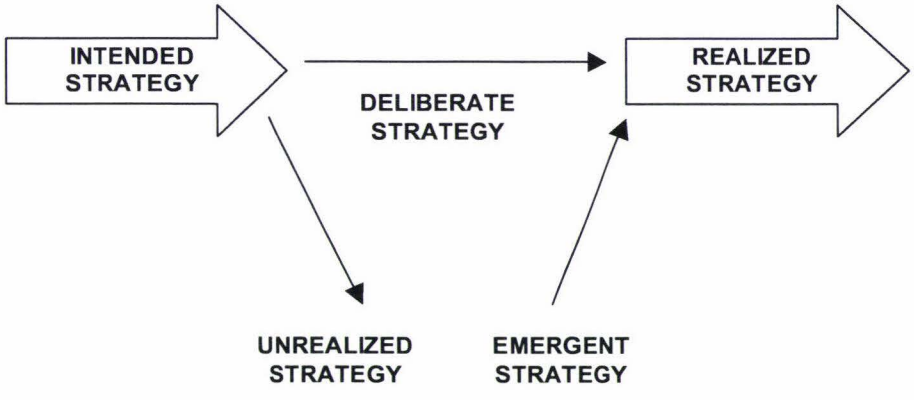
Porter (1990) further contributed to the literature on strategic management by developing the diamond of national competitive advantage. He identified the supposed factors that would ultimately determine the competitiveness of nations. The model expanded to include factors of globalisation and international business (Dunning, 1993), but it is not without its critics. It has now been applied in numerous nations other than the United States, where it was originally developed. A nation that holds very distinctive economic, social, political and geographic characteristics (Cartwright, 1993).

Moving away from the 'strategy as fit' approach, Mintzberg, as early as 1978, was already redefining strategy from a different view (1978, 1979a, 1979b). He suggested that the definition of strategy as a plan was incomplete for the organisation, and non-operational for the researcher. Mintzberg defined "strategy in general, and realized strategy in particular, as a pattern in a stream of decisions. In other words, when a sequence of decisions in some area exhibits a consistency over time, a strategy will be considered to have formed" (1978, p. 69).

Later, Mintzberg and Waters (1985), and Mintzberg (1987) redefined strategy as "a pattern in a stream of actions" arguing that "actions represent intentions too" (p. 257). According to these authors such a definition was developed to operationalize the concept of strategy, providing tangible basis on which to conduct research into how it forms in organisations. Mintzberg and Waters' approach was to observe the plans and intentions of the organisation and compare them with what the organisation actually achieved. This represents the emergence of the distinction between "*deliberate* strategies – realized as intended – from *emergent* strategies – patterns or consistencies realized despite, or in the

absence of, intentions" (p. 257). Five strategies were identified as a result of this process and are depicted in Figure 2.3.

Figure 2.3. Types of strategies



Source: "Of strategies, deliberate and emergent", by Mintzberg & Waters, 1985, *Strategic Management Journal, 6*(3), p. 257.

By comparing intended and realised strategies, Mintzberg and Waters (1985) developed the idea of a continuum, where one extreme represents the planned and rational strategy, in which carefully thought and analysed plans are translated into actions. The other end of the continuum represents the emergent strategy, when "environment dictates patterns in actions either through direct imposition or through implicitly re-empting or bounding organizational choice" (p. 271). With the idea of a continuum, Mintzberg and Waters, argued that there is no better way of formulating strategy and that each organisation faces different environmental conditions, expectations and responsibilities and, therefore, responds differently to these.

Mintzberg (1978, 1979a, 1979b, 1987), and Mintzberg and Waters' (1985) new approach to the definition of the term strategy meant a paradigm shift within the discipline of strategic management, because essentially, the conception of a term shapes the research undertaken to answer research questions. Strategy formation began to be seen as a process, which characterises the descriptive Learning School of thought (or Processual School, according

to Whittington (1993)). "Strategic management is seen, not as a formal planning process, but rather in terms of processes by which strategies develop in organisations on the basis of managers' experience, their sensitivity to changes in their environment and what they learn from operating in their market" (Johnson & Scholes, 1999, p. 26).

Indeed, the Learning School cemented the comeback of the firm as a unit of analysis, but this move gradually started with the Positioning School and the development of research strategy based on strategic groups. Miles and Snow's seminal work of 1978, *Organizational Strategy, Structure and Processes*, offered substantial support for the view that an organisation's strategy can be "inferred from its behavior" (Miles & Snow, 1978, p. 7 cited in Lockhart, 1997, p. 140). These authors argued that strategy is a pattern of major and minor decisions about an organisation's possible future operations. These decisions only gain meaning as they are implemented.

Another significant shift within the field of strategic management occurred in the early 1990's, with the emergence, or resurgence as some might argue, of the resource based view of strategy (RBV). The RBV sees the organisation as a bundle of resources. Edith Penrose first advocated the concept in 1959, which focused on internal strengths and weaknesses of organisations (the 'black box') relative to their external opportunities and threats. Other authors that have recently contributed to the RBV are Wernerfelt, (1984), Hamel and Prahalad (1989) and Barney (1991).

Hamel and Prahalad (1989, 1993, 1994) and Prahalad and Hamel (1990) strongly advocated the idea of strategy as stretch and leverage. These authors argued that the model they identified among successful Japanese organisations during the 1980's focused on the problem of leveraging resources to reach seemingly unattainable goals (Hamel & Prahalad, 1989).

The strategy as stretch and leverage paradigm is developed on the premises of core competencies and the strategic intent concept. "Core competencies are the collective learning in the organization, especially how to coordinate diverse production skills and

integrate multiple streams of technology" (Prahalad & Hamel, 1990, p. 83). And also "core competence is communication, involvement and a deep commitment to working across organizational boundaries. It involves many levels of people and all functions (Prahalad & Hamel, 1990, p. 85). Meanwhile strategic intent assumes the shape of a company's obsession over a long period of time:

> [It] encompasses an active management process that includes: focusing the organization's attention on the essence of winning; motivating people by communicating the value of the target; leaving room for individual contributions; sustaining enthusiasm by providing new operational definitions as circumstances change; and using intent consistently to guide resource allocations. (Hamel & Prahalad, 1989, p. 64)

Strategic intent is an ambitious and compelling goal that provides "the emotional and intellectual energy for the journey" towards the future (Hamel & Prahalad, 1994, p. 129). The idea of strategic architecture is also fundamental, and in short it yields a definition of the company, the market it serves, and provides a high level blueprint of how intent will be achieved.

The stretch and leverage model has been largely adopted by management textbooks, and according to Johnson and Scholes (1999), "strategic development by stretch is the identification and leverage of the resources and competences of the organisation which yield new opportunities or provide competitive advantage" (p. 25).

Hamel and Prahalad (1989) also provided a useful discussion about the differences between strategy as fit and strategy as stretch and leverage. They asserted that the "fit model" is too concerned with matching the environment with its available resources, emphasising the search for advantages that are intrinsically sustainable. Conversely, the stretch model "emphasises the need to accelerate organisational learning to outpace competitors in building new advantages" (p. 65). According to these authors, strategy as stretch, helps to

bridge the existing gap between those who see strategy as a 'grand plan, thought up by great minds', and those who see strategy as a pattern in a stream of incremental decisions.

> Strategy as stretch is strategy by design in the sense that top management does have a relatively clear view of the goal line and a broad agenda of the capability-building challenges that lie between today and tomorrow. Strategy as stretch is strategy by incrementalism to the extent that top management cannot predetermine every single step of the future. Strategy as stretch recognises the essential paradox that while leadership cannot be entirely planned for, neither does it happen in the absence of a clearly articulated and widely shared aspiration. (Hamel & Prahalad, 1994, pp. 146-147)

Hamel and Prahalad (1994) offered an enthusiastic view of the process of strategy formation and their writings are embedded with optimistic leadership, collaboration and participation. The RBV strengthened the view of organisations as unique and complex entities, achieving different performance levels with apparently similar resources in apparently similar environmental conditions, therefore, worthy of individual analysis.

The development of strategic management has been remarkable over the last four decades, and while the need for strategy concepts developed from practice, academia has intensively refined these concepts over the years. The models, or schools of thought should not be seen as mutually exclusive nor should strategic thinking be limited by theoretical boundaries. Johnson and Scholes (1999) also point out that there is always a risk of thinking of the process of strategic management as an "orderly sequence of steps" (p. 25). Strategic management research enjoys a wealthy data set of modern and complex organisations, operating in vibrant environments and with talented advocates. The discipline will continue to evolve, propelled by organisational change, managerial needs and/or academic refinement.

Mintzberg and Waters (1985) portrayal of strategy as a pattern observed over time has particular relevance to this study because the process of data collection is largely one of the

observation of a firm's actions and decisions over several years. The contextual environment of organisations that compose the data set for this study is extremely significant. Mintzberg and Waters' approach to strategy formation reveals that often the environment dictates, or at least influences patterns in organisations' actions and decisions.

2.3 THE FOOD INDUSTRIES

The objective of this section is to introduce the contextual environment within which the research was conducted. Firstly, the worldwide food value system will be discussed and some of the important determinants of its dynamics investigated. The next three sub-sections offer an overview of the major links within the value system, consumers, retailers and processors.

The first characteristic of the food value system is its slow growth rate, largely due to slow growth in the demand for food. As Engel's Law states, when incomes rise the proportion of expenditure allocated to food declines (Senker, 1988; Traill, 1998). Traill (1998) suggests that this relationship is, however, not perfect being affected by national preferences and by prices. For example, consumers in the poorer countries of southern Europe allocate a higher share of their income on food than do their northern counterparts (Table 2.1).

The richer northern European countries with very high GDP per capita [Luxembourg, Denmark, Germany, Sweden, France, Belgium, Netherlands and the UK] allocate less than 15% of their total expenditure on food, while Greece and Portugal spend more than 25%. Economic factors such as the level of income have further implications on the patterns of food consumption. For example, consumers with high income will tend to spend relatively less on food products but at a relatively higher level, prioritizing quality, well-being, health, convenience and indulgence[5].

[5] Aspects relating to patterns of food consumption are further discussed in Section 2.2.1.

Table 2.1 Proportion of expenditure allocated to food in the European Union, 1993.

Country	GDP per capita (ECU)	Proportion of total consumer expenditure devoted to food (%)
Luxembourg	26,856	10.9*
Denmark	22,254	14.6
Germany	20,097	10.9
Sweden	18,256	14.4
France	18,640	14.5
Belgium	17,849	14.0
Netherlands	17,268	11.1
Italy	14,586	17.0
United Kingdom	13,835	10.9
Ireland	11,335	18.2
Spain	10,434	17.8*
Greece	7,406	28.3
Portugal	7,324	25.4

* 1991 figures.

Source: Structural changes in the European food industry: consequences for competitiveness, 1998, (p. 37), by W.B. Traill. In *Competitiveness in the Food Industry*, 1998, by W.B. Traill & E. Pitts (eds.).

As population growth is historically slowing down, particularly in high-income industrialized countries[6], food processors and food retailers compete for shares of the consumer's food expenditure in a fairly static market (Senker, 1988, p. 2). Connor, Rogers, Marion and Mueller (1985) also suggest that the demand for food is relatively unresponsive to price or household income changes. "During periods of economic stress, food expenditure comes under special scrutiny as a budget category that is specially difficult to adjust" (Connor et al., 1985, p. 5). Connor (1988) later noted that "food industry growth will increasingly come from persuading consumers to purchase more expensive foods that incorporate great convenience or other valued attributes" (p. 17). Wealthier consumers will

[6] According to OECD (2001), world population growth is declining since 1960's, when it was an average of 2.1% per annum, achieving 1.3% for the year 2000.

tend to increase the level of expenditure allocated to food, as they search for quality attributes as opposed to quantity.

The second characteristic of food systems is the very strong national flavor, making it less subject to foreign competition (Senker, 1988). Nevertheless, Traill (1998) cites the example of the Single European Market, where firms from the member states can sell food within Europe with little or no tariff and non-tariff barriers reaping the benefits of the single market, through which they also face increased competition. He goes on to advocate that "changes are not restricted to Europe: globalization is a trend affecting food, like other industries" (Traill, 1997a, p. 393). According to Traill (1998), such a trend is influenced by technological advancements making distribution systems more efficient, convergence in patterns of consumer behavior, and by the emergence of new forces in global food markets, notably Asian countries.

The food industry is traditionally characterized as multidomestic or multinational by contributors to the international business literature (Bartlett & Ghoshal, 1989; Kobrin, 1994; Porter, 1986; Rall, 1989 cited in Harzing, 2000; Traill, 1997a). These authors argue that the high demand for local responsiveness outweighs the pressure for cost efficiency, and product differentiation from country to country is a strategic requirement (Bartlett & Ghoshal, 1987b). However, Traill (1997a) points out to recent research suggesting that multinational enterprises (MNE) seem to be adopting a structure where subsidiaries are specialized on a limited part of the parent's product line, or have global or regional responsibility for all aspects of a particular product range, including R&D, production and marketing.

Fierce competition and slow to moderate industry growth rates have propelled companies in the food industry to explore strategies of mergers and acquisitions, searching for economies of scale and integration. Connor et al. (1985) observed that historically, food processors wanted to achieve national distribution for their products in order to take full advantage of national advertising media, in addition to applying modern technology to the physical processes of food manufacturing. The next three sub-sections further elaborate on aspects

of changing consumer demand and on the contextual environment in which food retailers and food processors operate.

2.3.1 Consumer power in the food value system

It is not very long ago when consumers use to be the very least heard voice in the food value system, a system dominated by a large number of small firms and a small number of very large enterprises. Nowadays, consumer's preferences ultimately propel innovation, quality, regulations and improved services within the agri-food system. "Consumers are the final agents in the food choice process, and their characteristics, attitudes, and behaviour are very important food consumption determinants" (Gracia & Albisu, 2001, p. 474). In addition, the consumer voice is a first priority concern for food manufacturers and retailers, and knowledge about their consumption patterns is crucial for achieving and sustaining competitive advantage over competitors.

Food consumption patterns worldwide are changing as markets become more 'globalised'. Connor (1994) argued that Europe is slowly moving towards an American style of food consumption, where similar levels of income, similar socio-demographic characteristics, same relative prices, and same information would drive a trend towards the same basket or array of goods. Traill (1997a) asserts that such a controversial statement "has been expunged by the time the article emerged in journal form" (p. 407).
Numerous studies across Europe have analysed the evolution of food consumption (Besh, 1993; Blandford, 1984; Caiumi, 1992; Gracia & Albisu, 1994; Meulenberg & Viane, 1993 cited in Gracia & Albisu, 2001) and have reported on some general trends. The decrease in the proportion of expenditure allocated to food already reaches very low levels, and total food consumption, in quantity terms, has already reached maximum level. In addition, the shift in food consumption structure and an increase in the proportion of food consumed away from home have being widely reported.

Nevertheless, such studies invariably showed that the evolution of food consumption differs from country to country. Despite the fact that some of the studies demonstrated that the composition of diets had considerable similarities, and that differences in consumption

patterns among countries were diminishing over time, not even the Europe Union can be considered a homogeneous block. "National boundaries supplemented by language boundaries are still the best predictors of differences in food-related behaviour" (Gracia & Albisu, 2001, p. 475).

Traill (1997a) indicates that there is some evidence to support the convergence in consumption pattern, like the FAO food balance sheet for 1961 and 1990, in which the coefficients of variation of food consumption across 29 European countries in 1990 were lower than in 1961. Conversely, this author contends that the cultural aspect is as an important influence on consumer's behaviour and food consumption, and cultural diversity is the gatekeeper of national boundaries within food systems.

Traill and Meulenberg (2002) point out that changes observed in consumer demand and in food-related lifestyles have resulted in a finer market segmentation, a more rapid rate of product turnover and the development of transnational segments of food consumers.

Gracia and Albisu (2001) suggest that food consumption determinants are various and come from different levels in the food system. These authors reviewed the consumer level and elaborated on aspects that influence European consumers. For instance, economic factors (e.g., rising income), social demographic characteristics (e.g., ageing population, smaller household, women participation in the labour force, 'food on the move'), demand for quality, preferences, lifestyle and eating patterns are changing very rapidly and influencing the dynamics of the food industry.

> Consumers are becoming wealthier, and they are affluent enough so that they demand food not only for nourishment reasons but also for enjoyment, preference, ethics, culture, safety, prestige, impulse, and other factors that have been revealed to be very important in building final food choices. Economic, social, and demographic characteristics, as well as food consumer choice and behaviour, should be considered for a better understanding of European food consumers. (Gracia & Albisu, 2001, p. 469)

Consumers worldwide are demanding food products with more quality: quality being a difficult attribute to define, since it appear to depend entirely on taste. Quality can be achieved through product or process innovation, improved packaging, convenience, assurance of origin of production, health and safety (Traill, 1997b). The demand for quality can take many forms, for example, growth in consumption of convenience foods, growth in meat consumption in poorer countries and, growth in consumption of generally more expensive ecological foods.

"Changes in food consumption patterns and food related behaviour are, to a large degree, responsible for the nature of the product changes that take place in the industry" (Traill, 1998, p. 36). Food processors and retailers are closely observing such changes and those enterprises able to rapidly respond to these changes will be better positioned in the competitive environment of the global food industry.

2.3.2 Food retailers

Both food retailing and processing have become more concentrated over the last decade. This structural change is a reflection and a strategic choice in response to increased competition and food market saturation (Hamm & Grinnell, 1983; Traill, 1997a, 1998; Gracia & Albisu, 2001; Wrigley, 2001).

Processors and retailers' activities are interrelated, but the power relationship between them is shifting from processors to retailers (Hamm & Grinnell, 1983; Gracia & Albisu, 2001). This power shift can be attributed to increased concentration among food retailers, market segmentation of food-retailing services and new computer-based technology (Hamm & Grinnell, 1983). Table 2.2 illustrates the power of the top three food retailers in countries of the European Union in 1998.

Table 2.2 European retailers' characteristics by country in 1998.

Country	Own label Sales (%)	Three Top Retailers	TOP3 Sales (%)	Number of outlets per 1000 habitants
Austria	6.9	BML/SPAR/ADEG	56	0.9
Belgium	25.8	GIB/DELHAIZE/COLRUYT	62	1.2
Denmark	19.1	FOB/DANSKSUPER/DAGROFA	63	0.7
Finland	6.7	KESKO/SOK/SUOMEN/SPAR	80	0.8
France	16.8	INTERMARCHE/LECLER/AUCHAN	44	0.7
Germany	11.3	EDEKA/REWE/ALDI	53	0.9
Greece	2.6	MARINOPOULUS/VEROPOULUS/S KLAVENTIS	25	1.6
Ireland	12.0	TESCO/DUNNES/SUPERVALUE	54	2.5
Italy	8.4	COOP/INTERMEDIA/EUROMADIS	38	2
The Netherlands	17.8	AHOLD/SUPERUNIE/VENDEX	80	0.4
Portugal	11.9	SONAE/JMR/AUCHAN	55	3.1
Spain	16.2	PROMODES/EROSKI/PRYCA	35	1.8
Sweden	9.7	ICA/KF/D GROUP	95	0.7
United Kingdom	29.7	TESCO/SAINSBURY/ASDA	52	0.6

Source: Adapted from "Food Consumption in the European Union: Main determinants and country differences", by A. Gracia and L.M. Albisu, 2001, *Agribusiness, 17*(4), p. 483.

Concentration of food retailers is very high in Finland, the Netherlands and in Sweden, where the three biggest food retailers account for more than 80% of the sales. In Austria, Belgium, Denmark, Germany, Ireland, Portugal and United Kingdom, sales concentration of the top three retailers is higher than 50%. Recently, a merger between two large French food retailers, Promodes and Carrefour has increased the concentration ratio in France to above 50% as well and has placed the giant French retailer at the top of the European food retailers ranking.

Traill (1998), and Gracia and Albisu (2001) suggest that one of the strategies adopted by food retailers to control the food value system is 'own label' or 'private label' products. According to the table above, the United Kingdom, the Netherlands, France, Denmark and Belgium already have a strong market for private label products of above 15% of the market. Nevertheless, this importance varies among countries, from a very high 29.7 % in the UK to as low as 2.6% in Greece.

The Euromonitor Database (1996 cited in Traill, 1998) identifies four different types of private-label products:

- First and second generation products essentially provide cheap alternatives to established brands;
- Third generation products imitate the quality characteristics of established brands, maintaining a price advantage; and
- Fourth generation products compete directly with established brands in terms of quality and innovation.

On average, the price of own-label food products in Europe has been estimated to be 25% lower than branded products. The market share for own-label food products is expected to increase because of their low prices and similar quality, with the UK being a classical example of strong fourth generation products (Gracia & Albisu, 2001). Hamm and Grinnell (1983) argued that private label reduce consumer loyalty to advertised brands. Cotterill (2001), however, suggests that private labels products are rarely so successful that they eliminate manufacturer brands.

The increased concentration of market power among food retailers is another observed trend. Wrigley (2001) noted that a wave of mergers and acquisitions swept the U.S. food retailing industry in the late 1990's increasing the share of the market held by the top five firms by over 50% in just three years. Table 2.3 offers an overview of this increased concentration since 1992.

Table 2.3 Increasing concentration levels in the U.S. food retail industry, 1992-1999.

	1992	1994	1996	1997	1998	1999[a]
Supermarket sales ($ bill)	286.8	301.0	323.2	334.5	346.1	363.3
Sales of the 4 leading firms ($ bill)	66.9	68.9	75.0	82.8	88.8	131.7
Share of 4 leading firms (CR4)	23.3	22.9	23.2	24.8	25.7	36.2

[a] Supermarket sales 1999 estimated.

Source: "The consolidation wave in U.S. food retailing: A European perspective", by N. Wrigley, 2001, *Agribusiness, 17*(4), p. 490.

According to Table 2.3, market share had been steady from 1992 to 1996, at around 23%. By 1999 market share was already up to almost 37%. Recent merger movements have further increased the concentration in the U.S. food retailing industry. Spring (2000 cited in Cotterill, 2001) suggests that the top four chains (Kroger, Wal-Mart, Albertsons, and Safeway) now control 43% of supermarket sales. Table 2.4 illustrates the rapidly changing scenario in the U.S. food retailing industry.

The consolidation of the food retailing industry has been followed by a change in the constitution of the elite group, with three of the leading firms in 1992 no longer featuring in 1999. The scale of the firms has shifted from $10-$20 billion annual sales to $20-$50 range. Another visible trend is the entrance of large multinational retailers, such as Ahold from the Netherlands and Delhaize from Belgium.

Wrigley (2001) provides some explanations as to the lateness of the consolidation wave among U.S. food retailers. Firstly, the regulatory history of the industry, in particular antimarket extension-acquisition and merger regulation, prevented firms from pursuing such strategies. Secondly, the period of financial reengineering of corporate America in the 1980's, reshaped entire industries, including the food industries. As a consequence the release of potential scale-related pricing power/operating margin advantages of the major multiregional operators occurred only recently. The last factor pointed out by Wrigley relates to responses of food retailers in the face of a new market entrant – Wal-Mart – the world's largest organisation (p. 499).

Bell (2000) points out that in European countries, ownership and financial control hinder some food retailers from achieving all the benefits from vertical integration. He also suggests that regulatory authorities are taking an increasing interest in the oligopolistic structure of food retailing in the European Union, their criteria being consumer welfare rather than producer protection (Bell, 2000).

Table 2.4 The leading U.S. food retailers 1992 and 1999 – a changing elite.

	1992			1999		
Rank	**Firm**	**Sales ($ bill)**	**Market Share [a]**	**Firm**	**Sales ($ bill)**	**Market Share [a]**
1	Kroger	22.1	7.7	Kroger	45.4	12.5
2	American Stores	19.1	6.6	Albertson's	37.6	10.3
3	Safeway	15.2	5.3	Safeway	28.4	7.8
4	A&P	10.5	3.7	Ahold USA	20.3	5.6
5	Winn-Dixie	10.3	3.6	Wal-Mart [b]	19.8	5.5
6	Alberson's	10.2	3.5	Delhaize America	14.4	4.0

a Share of total US supermarket sales. NB market share figures based on total US 'food store' sales produce more conservative figures (see Wrigley, 2000).

b Wal-Mart ranked in terms of sales of food and food-related "supermarket type" merchandise at its supercenters, i.e., 44% of $45.1 bill Wal-Mart supercenter sales in 1999 (Merrill Lynch, 2000).

Source: "The consolidation wave in U.S. food retailing: A European perspective", by N. Wrigley, 2001, *Agribusiness, 17*(4), p. 491.

Another significant change relates to the physical structure of food retailers. Until recently groceries used to be purchased from various small-specialised shops, but there seems to be an increased preference, in most countries, for the 'one-shop stop' concept (e.g., multiple grocers, large discount stores, supermarkets, hypermarkets, supercenters). Table 2.5 depicts the differences between distribution systems among European countries. In France, for example, 51% of the food sales are realised in hypermarkets, as opposed to only 9% in Greece. Meanwhile the traditional small food outlet represents only 1% of food sales in the Netherlands, as against 23% in Greece.

Gracia and Albisu (2001) suggest that consumers in different countries adapt to different stores and their supply, which implies that retailers have a strong influence in the consumers' food choices. Traill (1998) reveals that in Western Europe, supermarkets and hypermarkets accounted for 96% of packaged food sales, 82% of soft drinks, 78% of cheese, 53% of 'fresh' fruit and vegetables, 42% of fresh meat, 34% of fresh fish and seafood and 30% of fresh bread (FMICC, 1992 cited in Traill, 1998). It seems that large

venue retailers have been unable to meet consumers' needs for fresh produce in the same manner as they have for long shelf life packaged goods.

Table 2.5 Percentage of food sales by type of retail outlet in countries of the European Union in 1998.

Country	Hypermarket	Large Supermarkets[a]	Small Supermarkets[b]	Self-Service	Traditional
Austria	12	15	40	29	4
Belgium	15	43	30	8	5
Denmark	17	22	36	22	2
Finland	23	25	26	22	4
France	51	24	20	5	0
Germany	25	18	36	16	6
Greece	9	14	32	22	23
Ireland	11	32	10	41	6
Italy	14	18	21	24	22
The Netherlands	5	29	54	11	1
Portugal	41	18	11	11	19
Spain	34	11	15	19	21
Sweden	13	35	32	17	3
United Kingdom	45	29	13	8	5

[a] 1000 to 2500 m^2

[b] 400 to 1000 m^2

Source: "Food Consumption in the European Union: Main determinants and country differences", by A. Gracia and L.M. Albisu, 2001, *Agribusiness, 17*(4), p. 485.

Traill (1998) proposes these enterprises are now the "channel captains, who control the direction of the modern food system" (p. 44). They make use of very high technology to provide efficient distribution systems with minimal stocks and inventories. Bell (2000) also points out that advanced information technology used by food retailers has enabled them to integrate the process of distribution and reverse the supply chain from producer push to consumer pull.

Food retailers now hold crucial data about the consumer behaviour and patterns of consumption, firstly through consumer loyalty cards and secondly through complex

systems of scanning and barcoding. They are now able to develop products (private label products) targeting much finer segments of the market (Traill, 1998).

Cotterill (2001) compares United States and European food retailers, and points out that U.S. supermarket chains have not established themselves as channel captains by instituting strong retail brands via supply chain management programs. "In the U.S., even Walmart has not yet aggressively pursued this strategy [retailers branding their stores and their own label lines]" (p. 50). It appears that European food retailers control the in-store market levers, a phenomenon that could be predicted by the Five Forces Industry Analysis, acting as a gatekeeper to the consumer. They are believed to exert control – Porter, (1980) would argue bargaining power – over the owners of product brand [food processors].

A recent trend among the elite group of food retailing is internationalisation. Because of the slow growth rates that characterises the industry, international expansion, consolidation and acquisitions, are strategies pursued by firms with sufficient capital to invest abroad. Food retailing use to be characterised by a strong regional focus, but retail chains became large national players, following the wave of mergers and acquisitions. Now these enterprises are investing in overseas markets, and Traill (1998) points out that firms with international ambition will find an even more competitive environment.

For instance, two large European food retail chains occupy strong positions in the United States market, illustrated in Table 2.4. Similarly, Walmart has entered the German market by acquiring Wertkauf in 1997, and the British market by acquiring ASDA in 1999. Likewise, the merger between Carrefour and Promodes ensured their leading position in France, Belgium, Portugal and a strong position in South America and Spain. Ahold, from the Netherlands, used to acquisitions outside Europe, recently made a move into the Scandinavian market by acquiring 50% of ICA. In addition, six European food retailing chains, namely Carrefour, Tesco, Aldi, Auchan, Eleclerc and Sainsbury account for over 26% of annual sales in the 'big six' European countries, namely Germany, France, Italy, Spain, The Netherlands and Great Britain (Congrilait, 2002). Traill (1998) notes, however, that this internationalisation trend is not as evident among food retailers as it is among food

processors. A review of the attributes of food processors and their contextual environment is presented in the following section.

2.3.3 Food processors

"Food manufacturers [processors] use labor, machinery and energy to transform raw animal, vegetable, and marine commodities into intermediate food-stuffs or finished edible products" (Connor et al., 1985, p. 12). Rogers (2001) observed that the processing stage has the fewest number of companies in the vertical food system, but these are often considered the most powerful and influential links – "marketing channel leader(s)" (p. 4).

Similarly, Cotterill (2001) argues that American retail chains have only exploited "in-the-box solutions" (p.49). These represent improvements in channel coordination and pricing efficiency such as category management and copycat private label products. Food processors are still in control of the content of the system.

Connor et al. (1985) extensively discussed the food processing industry. They reported that "manufacturing [processing], arguably, is the key stage of the food marketing system. Through their control of processing, food manufacturers [processors] are primarily responsible for the composition and design of consumer foods, particularly the less traditional kinds that make up an increasing share of the household market basket" (p. 4). These authors contend that food processors have an extensive role in the food system, from development of new plant varieties and agronomic practices through their procurement requirements to consumer satisfaction through development of new products. Marketing strategies adopted by large food processors have, for instance, influenced warehouse and store designs, shelf allocation and retail pricing behaviour.

The food and drink processing industry represents the largest sector in Europe in terms of output value, and second in terms of employment (Gracia & Albisu, 2001). Like food retailing, food processing follows a bimodal trend with few large enterprises and a large number of small firms. In the European Union more than 80% of the food processors

employ less than 10 workers, while 0.3% employ more than 500 workers. On average large processing companies account for 40% of the industry's turnover, but employ only 29% of the total workforce, as presented in Table 2.6. Traill (1998) compares the food manufacturing industry with other manufacturing industries in terms of this bimodal trend, and suggests that there is nothing unique about the food sectors and that there are not substantial structural differences between food and 'all manufacturing' industries.

Table 2.6 Size distribution of 'all manufacturing' enterprises and 'food, drink and tobacco' enterprises in the European Union, 1990.

Size class [a]	Enterprises (%)		Employment (%)		Turnover (%)	
	Total Manuf.	Food industry	Total Manuf.	Food industry	Total Manuf.	Food industry
0	33.6	26.7	3.6	2.8	1.5	1.2
1-9	49.2	56.0	16.5	17.0	10.8	5.8
10-99	15.7	15.6	34.3	28.9	31.2	25.4
100-499	1.3	1.4	22.4	22.3	25.8	27.2
Total SME	99.8	99.7	76.8	71.0	69.3	59.6
500+	0.2	0.3	23.2	29.0	30.7	40.4

[a] Sizes are classified according to numbers of employees. '0' refers to a single self-employed person enterprise (zero employees); an SME is defined as a company with less than 500 employees.

Source: Structural changes in the European food industry: consequences for competitiveness, 1998, (p. 48), by W.B. Traill. In *Competitiveness in the Food Industry*, 1998, by W.B. Traill & E. Pitts (eds.).

Rogers (2001) also describes the processing sector in the United States as a 'big-small' model, where extremely large firms control leading positions in most markets, and smaller companies, operate in a competitive fringe serving niche markets. Table 2.7 illustrates the aggregate concentration in the U.S. food and tobacco processing industry.

Table 2.7 Aggregate concentration, measured by value-added, in food and tobacco processing in the United States, 1992.

Company Ranking Group	Number of Companies	Number of Estabs	Estabs Per Company	Value-Added (Millions $)	Percent of Value-Added	Ratio of VA to VS
All Companies	16,152	20,912	1.3	184,467	100%	41.7%
1-20	20	1,121	56.1	81,255	44%	53.6%
21-50	30	755	25.2	30,583	16.6%	41.1%
51-100	50	686	13.7	15,128	8.2%	35.1%
101-200	100	734	7.3	13,087	7.1%	35.0%
201-500	300	1,052	3.5	15,334	8.3%	35.2%
501 and higher	15,652	16,564	1.1	29,080	15.8%	31.6%

Notes. Companies were ranked by value-added in food and tobacco processing. Estabs = establishments, VA = value added, VS = value of shipments.

Source: "Structural changes in U.S. food manufacturing, 1958-1997", by R.T. Rogers, 2001, *Agribusiness, 17*(1), p. 8.

The top 20 firms are multi-plant operations, averaging 56 plants, compared to an average of 1.3 plants per firm for all companies. The top 100 largest food and tobacco processors in the U.S accounted for about 75% of the value added in 1997, with the top 20 accounted for over 50%. The payroll of the top 20 in 1992 was about the same as the entire payroll for the 15,652 firms ranked lower than the top 500.

In New Zealand the food, beverage and tobacco manufacturing industry accounted for 25.3% of full-time employment numbers in 2001, the largest single 'manufacturing' industry in the country (Statistics New Zealand, 2002). However, the manufacturing sector is today second to the services sector (wholesale and retail trade, business and financial services and community, social and personal services) in terms of employment. Such a structural change occurred during the last 15 years.

Traill (1998) and Rogers (2001) suggest that concentration in the food manufacturing industries is rising everywhere as organisations search for economies of scale, growth and international expansion. Rogers and Ma (1994) point out "there is a positive relationship between aggregate concentration and market concentration. When the largest food firms

(those among the top 100) enter a market, the outcome is not reduced market concentration but increased concentration" (cited in Rogers, 2001, p. 30).

Food processors face escalating pressures from large retail chains, as discussed in Section 2.2.2, and many authors argue that the power relationship is shifting towards retailers. Over the years, successful processors have pursued growth strategies through mergers and acquisitions, joint ventures, strategic alliances and working relationships with competitors. Many companies have increased their investment in research and development on a quest for competitive edge through differentiation, product and process innovation, time and place. One of the most powerful strategies is the manufacturer's own brand. According to Gracia an Albisu (2001) European consumers continue to relate brands with higher quality and prestige.

Hamm and Grinnell (1983) noticed that manufacturers of advertised brands tend to increase product development, product testing, advertising and sales promotion efforts, to maintain access to supermarket shelves. However, there is a limit to such a strategy, "since it can increase production costs, thereby potentially increasing the private label-advertised brand price differential" (p. 1070). These authors also suggested that manufacturers of less-than-leading market share advertised brands faced difficulties in allocating their products to supermarket shelves, a situation still observed today as reported by Bell (2000).

The process of internationalisation of food manufacturers is not as advanced as it may seem. According to Traill (1998), of the top 100 European food processing companies, half had a presence in only one or two countries of the European Union, and only nine companies sold in at least four of the five biggest markets – Germany, France, UK, Italy and Spain. Nevertheless, Intra-Union trade remains a substantial aspect of international trade in Europe, and represents over 50% of international sales of most of large dairy processors that make up the data set of this study.

Trade of processed products had an annual growth rate of 9.4% p.a. between 1961 and 1990 compared with 2.1% growth in trade of bulk (agricultural) commodities over the same

period. The ingredients market is enjoying considerable growth over the last decades, as large food processors tend to move away from initial manufacturing stages. This growth is also been driven by strong demand from the foodservices and hospitality sectors. Traill (1997a) notes that the ingredients segment could be global, even if consumer markets for final foods remain fragmented, an opportunity not lost on Fonterra.

Hamm and Grinnell (1983) pointed out that "manufacturers [processors] have also recognized that cooperation with distributors is both necessary and desirable" (p. 1071). Changes within the food processing industry, and its associated procurement and distribution systems, will have an impact on the entire food value system, just as changes in the food retailing sector or in consumer behaviour will do so. This set of complex relationships determines, to a large extent, strategies adopted by individual companies. That explains why the study of food industries demands an understanding of every link within the food value system.

2.4 SUMMARY

Chapter Two has provided a revision of some of the dominant frames of reference within the discipline of strategic management (Section 2.1), as well as a discussion of the contextual environment of the food industries (Section 2.2).

Among the valuable contributions made to the field, Mintzberg and Water's approach offers an operationalised concept of strategy. "Strategy as a pattern in a stream of decisions [and actions]" (Mintzberg & Waters, 1985, p. 257). In order to determine the strategic orientation of organisations, one needs to look at what the organisation actually did over time. The observation of actions taken by organisations and the identification of patterns emerging from these actions, demand an understanding of the contextual environment.

The food value system is complex and characterised by powerful links. Some of the general trends affecting consumers, food retailers and food processors were discussed. Consumer preferences and changing consumer characteristics are today the main drivers of

processors' quest for product innovation. Meanwhile, it seems that the relationship between food processors and food retailers are increasingly becoming one of collaboration, as large food retailers search for large food processors with nation-wide facilities and advanced supply chain systems.

CHAPTER THREE

THE CONTEXTUAL ENVIRONMENT

3.1 INTRODUCTION

The objective of Chapter Three is to embed the previous discussion of the global food industry into the contextual environment of the 'dairy industry' worldwide. Definitions adopted in this research are introduced and relevant aspects of milk production, a highly perishable and nutritious raw material, and processing are described. Next, the competitive environment in which large dairy processors operate is discussed. Section 3.2 provides a description of worldwide milk supply. Last but not least, Sections 3.3 and 3.4 offer the reader a summary of the New Zealand 'dairy industry', by respectively characterising the dairy production system and providing a brief history of the sector.

3.2 THE CONTEXTUAL ENVIRONMENT

The food processing industry creates a great amount of wealth, particularly in high-income industrialised countries. It represents the third biggest industry in the United States in terms of employment (Rogers, 2001), second in the European Union (Gracia & Albisu, 2001) and also second in New Zealand (Statistics New Zealand, 2002). One sub-sector of the food manufacturing industry that arises interest is the dairy sector. According to Traill (1998) dairy products constitute the largest single category of products in an average basket of food products. Gracia and Albisu (2001) suggest the expenditure allocated on processed food in Europe represents 43.5% of total food expenditure, the largest consumption in volume attributable to dairy products.

The American Standard Industrial Classification (SIC) classifies dairy products as a sub-group of the Food and Kindred Products Industry. "This group [dairy products] includes establishments primarily engaged in (1) manufacturing creamery butter, natural cheese, condensed and evaporated milk, ice cream and frozen desserts, and special dairy products, such as processed cheese and malted milk; and (2) processing (pasteurizing, homogenizing,

vitaminizing, botling) fluid milk and cream for wholesale or retail distribution" (Connor, 1988, pp. 444-445).

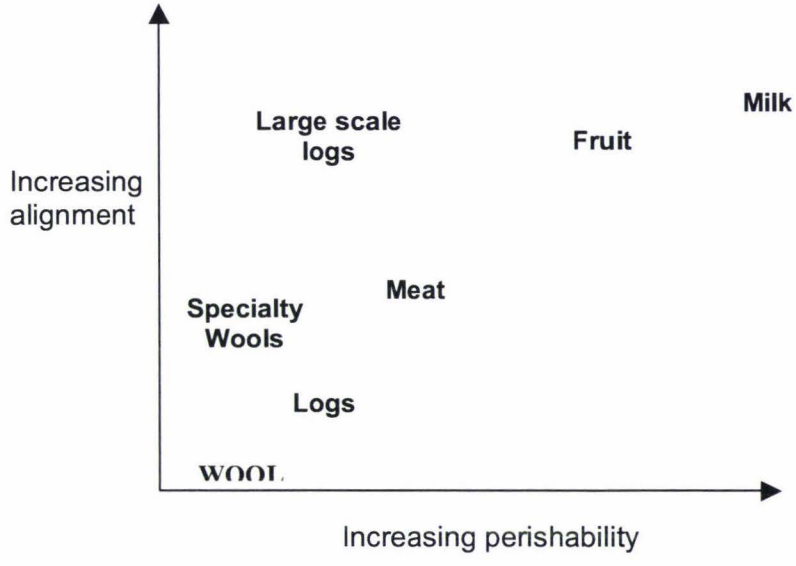
According to a report prepared for the New Zealand Ministry of Research, Science and Technology, the main input items for the dairy processing industry are milk and other food inputs, and the main outputs are milk and cream, whole milk powder (WMP), skim milk powder (SMP), casein, fats, industrial products, cheeses and butter, frozen confectionery, ice cream, baby foods, yoghurt and cultured products, protein and pharmaceutical products (Bollard & McNaughton, 1992).

The New Zealand Manufacturers Advisory Group consider the dairy and meat processing industries primary manufacturing industries, due to the relatedness between the raw material and final products. Dairy and meat products groups combined had the highest operating income, and the highest salaries and wages paid within the manufacturing sector in 2001 (Statistics New Zealand, 2002). The dairy sector generates around 7% of the country's GDP and between one-fifth and one-quarter of New Zealand's exports (Mitchell, 2001).

Bollard and McNaughton (1992) describe dairy processing as an "extremely high value added industry which transforms a low value item with a useful life that is measured in hours, into a range of high value, long life products" (p. 62). Nevertheless, these same authors have reported that, relative to other manufacturing industries in New Zealand, the dairy processing industry is characterised by "low" (p. 14) value added due to the comparative high cost of milk and the high capital investments required.

According to Lockhart (1997) "vertical alignment between producers and first stage processors within an industry appears to intensify alongside product perishability" (p. 43). This author cites the New Zealand dairy industry as an example of full integration between producers and processors. Figure 3.1 represents the relationship between perishability of land-based output and vertical alignment within an industry.

Figure 3.1 The relationship between output perishability and industry-wide alignment among producers and first stage processors.



Source: *Towards a theory of the configuration and management of export dependent land-based value systems: The case of New Zealand,* by J.C. Lockhart, 1997, p. 47, Auckland, University of Auckland: Unpublished Doctoral Thesis.

Milk is one of the most perishable agricultural outputs, which in part explains the tight alignment within the dairy value system, from producers to manufacturers and distribution. Before the processing stage, at the farm gate, raw milk does not have a market value, and in many circumstances poses a substantial health risk.

Dairy co-operatives have provided producers means of integration and coordination in the milk value system. It seems that co-operatives have survived longer in dairying especially because of the perishability of the product, and the necessity to guarantee collection, processing and market for dairy products daily. In most European countries the market share of co-operatives tends to be around 60% to 70% for butter and powder manufacture, 40% to 60% for cheese, and around 60% to 90% for liquid milk (Wilson, 2001).

The importance of milk in the human diet is well documented and Rosenthal (1991) suggests that "milk is a rich source of nutrients and comes close to being nature's perfect

food" (p. 5). Milk has proteins of excellent quality, vitamins and minerals, making it an especially important component of our daily food intake. Milk components are constantly used as ingredients in other products of non-dairy origin, such as bread, cake, cereals, pasta, sauces, beverages and snack foods.

The dairy processing industry has developed differently in each country, but the overall trend of industrial organisation has been the same. Over the years, and as in the case with the wider food industry, dairy processing has followed a bimodal trend. Many small companies process small amounts of milk and distribute dairy products locally; while very few large companies process millions of tonnes of milk a year and engage in complex distribution channels at national and international levels.

Dairy processing technology has evolved greatly over the last 150 years, and "it has evolved from an ancient skill to a modern technology due to pressures applied by modern society" (Rosenthal, 1991, p.3). Direct breakthrough technologies such as pasteurisation (L. Pasteur 1860-1864), introduction of the first centrifugal cream separator by Carl De Laval (1890), and introduction of ultra high temperature pasteurisation in 1948, combined with the development of transportation systems and artificial refrigeration, bought the milk processing industry to modern times (Rosenthal, 1991). It is believed that further breakthroughs will now come from biotechnology. "Advances in both the technology of milk and milk product processing and in the improvement of the biological organisms which supply that milk is a bedrock of fresh technology in dairying" (Marshall & Hanley, 2001). These authors also suggest that the potential impact of biological knowledge and its conversion into various technologies will reshape the dynamics of the dairy sector.

'Biosciences' – a more generic term than biotechnology which for many means gene technology – can be applied in four phases within the dairy supply system: the biology and management of the feed, its processing by the cow, the subsequent production of milk, and the final processing of that milk. It seems that many of the advances in biological knowledge have been driven by the microbiology of milk products, and that the processing

plant has long been the innovative edge of the dairy supply system (Marshall & Hanley, 2001, p. 5,6).

Munro (2001) points out that "generally it takes many years for new laboratory ideas to become successful commercially on a significant scale. This means that most of the new processing technologies likely to become commercial in the next 10-20 years are already in the laboratory or pilot plant" (p. 2). Marshall and Fenwick (1998) suggest that "processing technologies already in practice will incrementally improve, thereby improving the efficiencies of labour, scale and overall economy with which dairy products are manufactured" (p. 46). According to these authors important achievements for the sector could come from improved sensory properties, observation of safety concerns and process efficiency. On-farm concentration, sustainability and scale seem to represent significant improvements in process efficiency.

Food processing technology must observe aspects of flavour, texture, nutrition, preservation and packaging of the final product in order to achieve consumer acceptance. For manufacturers, flavour and texture must provide an experience that will result in repeat buying by the consumer. Dairy foods must provide consistency as well as be nutritionally balanced. Munro (2001) points to worldwide research increasingly focussing on nutraceutical properties for the minor components in milk, such as anti-osteoporotic, immune enhancing, anti-hypertensive, anti-cancer, anti-bacterial, anti-viral and anti-inflammatory. Meanwhile major areas of development are improved separation technologies to extract milk components, analytical techniques for quantifying these minor components, efficacy testing including in-vitro, animal and human clinical trials, technologies to preserve bioactivities, and technologies to modify milk components (Munro, 2001, p. 4).

Marshall and Fenwick (1998) suggest that "the needs of the market will determine the technologies that will be required in future. Changing lifestyles will drive the requirement for new products and for the improvement of current products" (p. 41).

Traill (1998) contends that the dairy processing industry in Europe, together with sugar, brewing and chocolate is highly concentrated, enjoys the benefits of economies of scale and scope for production, advertising and marketing, and has greater involvement of multinational companies. Rogers (2001) suggests that in the United States, market concentration is rising everywhere, and point out that "milk and the other dairy industries are the next industries to show rising concentration, from what were once unconcentrated industries" (p. 30). New Zealand, with one of the most concentrated dairy processing industries in the world, has one single dairy co-operative collecting and processing about 95% of the milk produced in the country (International Dairy Federation (hereafter referred to as 'IDF'), 2001).

Dairy companies are diverse firms: some specialising in the manufacture of dairy products and others engaged in processing a broad range of food products and nutraceuticals. Furthermore, some firms are giant multinationals, sourcing raw products from various locations and exporting value-added products to various countries; others are exploring the lucrative global food ingredients and food services market, while others remain domestically oriented. These companies include co-operatives, publicly listed companies or family owned businesses (Rabobank International, 2001a). Table 3.1 lists the top 20 dairy companies in the world on turnover basis.

Dairy companies face a number of changes and challenges that are forcing them to reconsider their strategies. This process may result in the need to increase the scale of operations in manufacturing and/or marketing. The most important changes and challenges are the growing demand for dairy products; an increasing number of consumer requirements; increasingly powerful customers; concerns over milk supply; and, changes in dairy policies (Rabobank International, 2001 cited in International Dairy Federation, 2002, p. 7).

Table 3.1 The world's top 20 dairy companies, spring 2001.

Company[1]	Home Country	Dairy Turnover (2000), US$ billion	Ranking 1998	Ranking 2000
1 Nestlé	Switzerland	13.6	1	1
2 Dean Foods	USA	8.7	2	21
3 Dairy Farmers of America	USA	7.9	3	3
4 Fonterra	New Zealand	6.5	9	-
5 Kraft Foods	USA	6.3	4	2
6 Danone	France	6.2	5	4
7 Parmalat	Italy	5.6	6	13
8 Unilever[2]	UK/The Netherlands	5.0	10	15
9 Lactalis	France	4.9	8	6
10 Meiji Milk Products	Japan	4.7[3]	16	10
11 Arla Foods	Sweden/Denmark	4.3	11	-
12 Morinaga	Japan	4.2[3]	17	11
13 Friesland Coberco	The Netherlands	3.8	12	5
14 Bongrain	France	3.6	14	9
15 Land O'Lakes	USA	3.6	15	20
16 Campina Melkunie	The Netherlands	3.5	13	8
17 Snow Brand	Japan	3.4[3]	7	7
18 Sodiaal	France	2.5	18	14
19 National Dairy Holdings	USA	2.3	-	-
20 Nordmilch	Germany	2.0	20	-

[1] Including mergers and acquisitions in 2002. [2] Estimate. [3] Fiscal year ended March, 2001. (-) Company did not exist in the current structure.

Source: The World Dairy Situation, 2002, *Bulletin of the International Dairy Federation (IDF)*, 378, p. 7.

The common characteristic that groups the companies listed in Table 3.1 is the volume input of raw milk used for further processing. The differences between the organisations are numerous. Eleven of the 20 companies are investor operated firms – Nestlé, Dean Foods, Kraft Foods, Danone, Unilever, Meiji, Morinaga, Bongrain, Land O'Lakes, Snow Brand and National Dairy Holdings. Two other companies are listed on their national stock exchange but have strong family influence – Parmalat and Lactalis. And seven are co-operatively owned by dairy farmers –Dairy Farmers of America (DFA), Fonterra, Arla Foods, Frieland Coberco, Campina and Nordmilch. Further, Nestlé, Fonterra, Kraft Foods, Danone, Parmalat, Unilever and Sodiaal, have invested on the international market and are

considered 'global players'. While Dean Foods, DFA, National Dairy Holdings and the Japanese companies pursue a near exclusive domestic oriented strategy. Some companies from the European Union have a pan-regional presence and are active in a number of countries within the European block (Euromonitor, 2002).

Wilson (2001) suggests that dairy co-operatives in many European countries are usually on the "defensive" compared to the private sector, since the strength of the former usually lies in "large-scale commodity products rather than with innovative branded and heavily marketed consumer products" (p. 28). However, it would be too simplistic to regard the co-operative sector as homogeneous, and as the report suggests, there is a "new breed of co-operatives who see market orientation, expansion and diversification and new sources of capital as the only way forward" (p. 28). Surely new generation co-operatives raise the question of ownership and accountability and the managerial dilemma of whether priority should be given to high milk prices or returns to shareholders. Nevertheless, dairy co-operatives are dynamic and actively searching for ways to move forward. The most recent wave of mergers and acquisitions among large dairy processors has witnessed the reinforcement of the co-operative structure.

According to Rabobank International, in the period between 1st January 1998 and July 2002, a total of 620 mergers and acquisitions in the 'dairy industry' occurred worldwide. A summary of the consolidation activity by geographical areas is illustrated in Table 3.2.

Table 3.2 Consolidation in the 'dairy industry', between January 1998 and July 2002

Deals initiated by companies from	Number of deals	%
Europe	430	70
North America	123	20
Oceania	46	7
South America	9	1
Asia	11	2
Africa	1	0

Source: "Internationalisation: consequences for co-operatives and non-co-operatives", by A. Zwanenberg, 2002, *Congrilait Conference Proceedings*, p.1.

Europe is the most dynamic region in the consolidation wave, where 70% of the deals originated and where 58% of the targets were located. The European Union is the largest milk-producing area, with 122 million tonnes of milk produced in 2001[7]. Oceania is another exceptional case of consolidation, and 16 deals happened in the year 2000, especially in New Zealand. Latin America has been a popular target for take-overs by dairy companies from outside the region, due to its low cost milk production and expanding dairy products' consumption.

In addition to rationalisation and concentration among dairy companies, the dairy processing sector as a whole is responding to a set of environmental pressures: (i) further reduction of protectionist barriers with the Doha WTO negotiations round and reform of the Common Agricultural Policy in the European Union (CAP), leading to a more competitive environment; (ii) possible phasing out of milk quota systems and European Union enlargement; (iii) the power shift relationship with food retailers; (iv) pressure on margins and maturity of the sector, and (v) changes in consumer behaviour, lifestyle and demands (Wilson, 2001).

Companies within the dairy processing sector comprise interesting cases for strategic management studies, since their long term success or immediate stagnation and failure are subject to a series of very specific and dynamic developments in their business environment and to their ability to quickly and strategically respond to such developments. Agricultural trade policies, domestic and international government regulations on subsidies and quotas, food safety, environmental issues, agronomic research, biotechnology, milk composition, and on-farm concentration, are only a few of the developments that have direct impact on this industry.

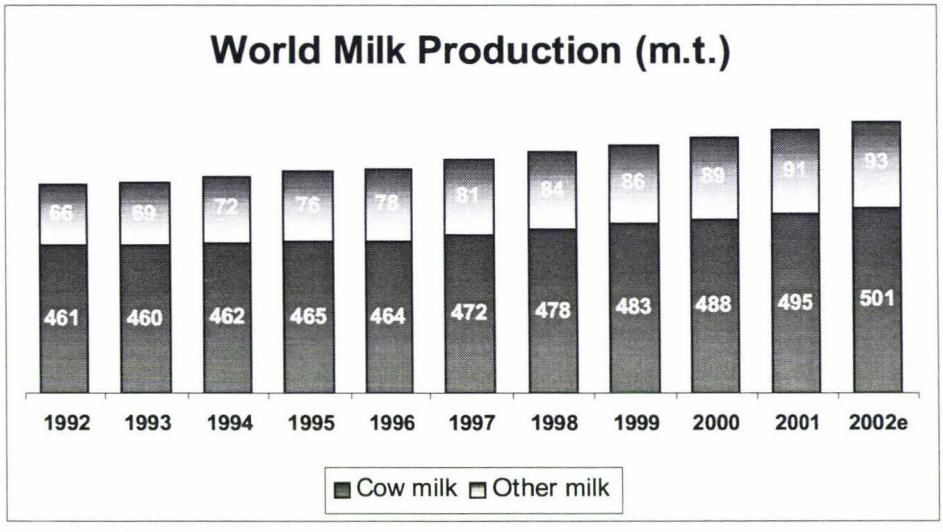
One concern of dairy processing companies remains that of securing their milk supply. Large processing companies have recently increased their incursions into low cost milk producing regions, such as South America and Eastern Europe (Wilson, 2001; Rabobank International, 2001a). An overview of the global milk supply situation follows.

[7] World Dairy Supply is further discussed in Section 3.1.

3.3 WORLD MILK SUPPLY

According to Rabobank International (2001a) the world demand for dairy products is growing at 2% per annum, while world milk supply increases at an average 1.5%. Nevertheless, world milk production is continuously growing, and for the year 2002, it was expected to reach 594 million tonnes (IDF, 2002). Figure 3.2 illustrates the evolution of world milk production since 1992.

Figure 3.2 World milk production, 1992-2002 in million tonnes.



e = estimated

Source: "The World Dairy Situation", 2002, *International Dairy Federation Bulletin, 378/2002*, p.5.

Cow's milk represented almost 85% of the world milk production in 2001, while goat milk and sheep milk, mainly used for specialty cheeses, represented only 3.5%. Buffalo milk production is still rising strongly and in 2001 its represented almost 12% of total production, following the long term trend of a 4% increase on average per annum. However, buffalo milk yields are still low and growth is dominated by ongoing expansion on the subcontinent. Hereafter, terminology such as milk, dairy supply, milk delivered to processors and so forth relate to cow's milk unless otherwise stated.

The European Union produced about 122 million tonnes of milk in 2001. Within the region, the main milk producing countries are Germany, France, United Kingdom, the Netherlands, and Italy (IDF, 2001). India is the largest milk producing country, where 70 million families produced 79 million tonnes of milk, half of which being buffalo milk (Rabobank International, 2001a). The United States is the third largest producer totalling almost 75 million tonnes in 2001 (IDF, 2001). Table 3.3 illustrates the world milk supply by region since 1995 and Figure 3.3 identifies the 15 largest milk producing countries in 2001 according to IDF country data.

Table 3.3 Cow milk production by world region, 1995-2002

m.t	1995	1997	1998	1999	2000	2001	2002 [e]
Africa[1]	5.3	5.4	5.5	5.3	5.2	4.8	4.7
North America[2]	86.0	87.0	88.1	91.2	93.7	93.2	95.4
South America[3]	31.6	34.3	36.0	36.7	36.6	36.8	37.0
Asia[4]	58.0	59.8	61.7	63.7	66.0	69.0	70.5
EU 15	121.8	121.4	121.2	122.3	122.0	122.5	123.0
CEEC	32.8	33.3	33.7	32.8	32.0	31.7	32.2
CIS	62.4	53.5	53.0	51.6	50.4	51.6	53.0
Other W. Europe[5]	5.9	5.8	5.8	5.8	5.7	5.6	5.6
Oceania[6]	18.5	20.2	20.2	22.4	23.9	24.2	24.7
World	**468.2**	**472.1**	**478.1**	**483.0**	**488.1**	**494.5**	**501.5**

[e] = Estimated

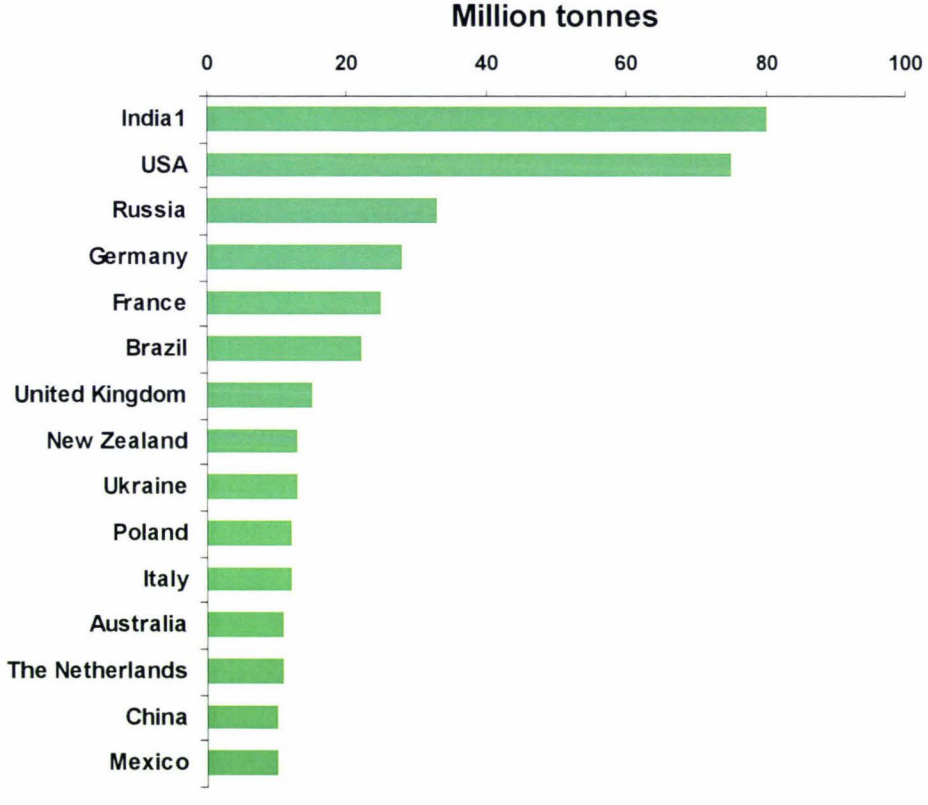
1) *Only South Africa, Kenya, Zimbabwe.*
2) *USA, Canada, Mexico.*
3) *Argentina, Brazil, Chile, Uruguay, Venezuela.*
4) *China, Japan, India and Asian CIS.*
5) *Switzerland, Norway, Iceland.*
6) *New Zealand, Australia: years ending May and June of following year.*

Source: Adapted from "The World Dairy Situation", 2002, *International Dairy Federation Bulletin, 378/2002*, p 46.

Oceania and North America have been consistently enjoying growth in their respective milk supplies over the last decade. The United States is expecting growth of over 2 million tonnes or 3%, after the decline of more than half million tonnes in the year 2001. Production is slowly rising in the European Union, however, the quota system is still in place, restricting significant production growth. In Central and East-European countries and

in the countries of the former Soviet Union milk production started to recover in 2001, after years of decline. In Asian countries a steady growth is also expected with China reporting an increase in 2001 of more than 20%. Furthermore, despite the economic slowdown in Latin American countries, milk production is also expected to rise, apart from Argentina due to severe economic crisis.

Figure 3.3 Milk production by country, 2001.



[1] Total production for India includes buffalo milk; cow's milk = 35 million tonnes.

Source: Adapted from "The World Dairy Situation", 2002, *Bulletin of the International Dairy Federation*, 378, p. 49.

The data available on total cow's milk production and deliveries to processing companies, reveals an average share of milk deliveries to processing plants of just under 80% of that

produced. In Western Europe, North America, Japan and Oceania this share is higher still with delivery rates between 94 and 99% and only marginal increases possible. However, in many countries of Central and Eastern Europe and the former Soviet Union, milk processing on farms and the informal market are still significant, and official milk deliveries to processing plants lies between 50 and 60%. This figure is even lower for other developing countries such as India - below 10%. In Brazil, the largest milk producing country in South America, about 40% of the milk produced is traded and processed in the 'informal' market [8] (Personal Communication, 2002).

The consolidation trend observed among food retailers and food processors can also be observed in the dairy farming sector worldwide. In highly industrialised countries where volume regulations are not in place, producers are looking for concentration and economies of scale in order to reduce costs. In New Zealand, and to a lesser extent Australia, where price support schemes have long been phased out and the market is deregulated, milk returns are dependent on international markets, exchange rates and, therefore, on dairy processing companies' competitiveness.

Every link of the dairy value system is witnessing constant change. For example, farm numbers have decreased, but larger herds and improved animal performance guarantee steady growth in milk supply over the years of 1% per annum. Dairy processors and food retailers are constantly seeking economies of scale, synergy and growth opportunities in order to retain and increase market shares and returns on investments, and consumer power is ultimately shaping the entire food value system.

3.4 DAIRY PRODUCTION IN NEW ZEALAND – AN OVERVIEW

New Zealand has a temperate climate that encourages year round plant growth, enabling outdoor grazing. The efficient utilisation of this natural resource is the integrated management of pasture and livestock, is for some "the economic cornerstone of the dairy industry" (Mitchell, 2001, p. 1).

[8] Includes milk produced and processed not in the legal environment.

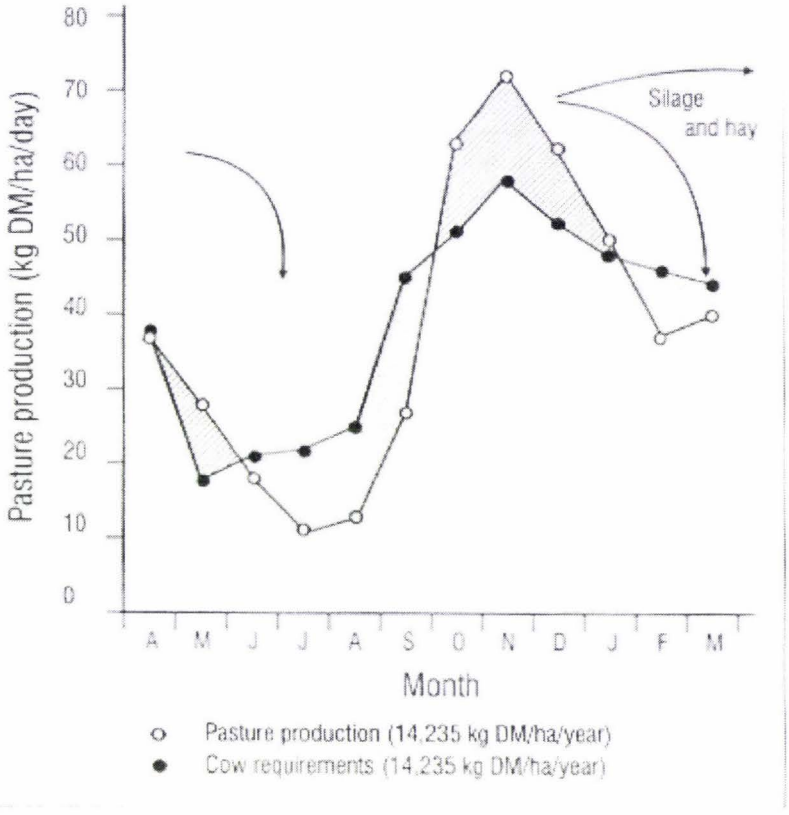
"The New Zealand economy is based on agricultural production and export, with agriculture in turn dominated by livestock production systems based on grazed pastures" (Matthews, Hodgson & White, 1999, p. 134). In most farming systems, 85% to 90% of the total feed for livestock is grazed pasture (Matthews et al., 1999; Holmes, Brookes, Garrick, Mackenzie, Parkinson & Wilson, 2001).

Efficient farming systems are characterised by production conditions that best synchronise pasture supply and feed demand (Figure 3.4), minimising the need for harvesting surpluses or feeding supplements in periods of feed deficit (Garrick et al., 2001). Calving has been concentrated in the spring, when pasture growth reaches its peak and high animal requirements can usually be achieved with pasture production. Nevertheless, strategic use of supplementary feed can increase productivity per animal and per hectare, while offering further benefits for animal health. Figure 3.4 depicts the pasture growth curve and animal requirements curve for every month of the year. The arrows suggest the use of conserved feed such as silage or hay to transfer feed resources between periods of surplus and deficit.

According to Matthews, Harrington and Hampton (1999) "the match between feed supply and demand is in the first instance driven by total annual pasture production and its seasonal variation" (p. 157). Because there are periods when pasture production does not exactly match animal requirements, various technologies such as irrigation, fertiliser application, grazing management, supplementary feed and stock policies are employed. In New Zealand, husbandry such as stocking rate and calving date are widely used to match the seasonal patterns of pasture production and animal requirements.

The seasonal pattern of pasture growth, largely determined by the climate, has lead to a seasonal pattern in milk production (Figure 3.5). Seasonal production is an unique characteristic of New Zealand, and to a lesser extend of Australian, dairy farms.

Figure 3.4 A feed profile for a seasonal dairy system.



Hatched areas indicate periods of feed surplus, and shaded areas periods of feed deficit.

Source: Management of grazing systems, by P.N.P Matthews, K.C. Harrington & J.G. Hampton, in *"New Zealand Pasture and Crop Science"*, by J. White and J. Hodgson (eds.), 1999, p. 157.

The advantages of such systems are the ability to produce milk solids[9] at low cost per kilogram due to the low costs of feeding, effluent-disposal, machinery and relatively high output per variable labour unit. Some of the disadvantages of synchronising feed demand and pasture growth, derive from short lactation length (days in milk), and reliance on 'fair' weather. In addition, the milk processed in each month as percentage of the annual total ranges from near 0% in June/July to 15% in October and November creating inefficiencies in the use of the dairy processing capacity. Figure 3.5 compares the amount of milk processed in each month of the year in four countries. Another disadvantage of the seasonal

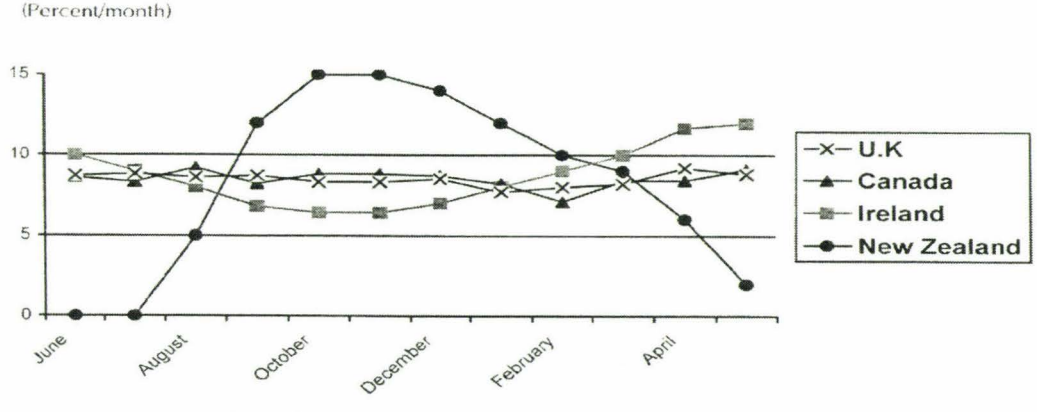
[9] New Zealand dairy farmers use the term milksolids to describe the amount of milk fat and milk protein contained in the milk. One kilogram of milksolids is equivalent to approximately 12 kilograms of milk.

system is milk composition, because it varies greatly according to the stage of lactation, which is almost the same for the whole herd (Holmes et al., 2002).

Figure 3.5 Seasonal pattern of milk supply from New Zealand dairy farms (1996/97).

Source: Livestock farming systems in New Zealand, by P.N.P Matthews, J. Hodgson & J.G.H. White, in *"New Zealand Pasture and Crop Science"*, by J. White and J. Hodgson (eds.), 1999, p. 137.

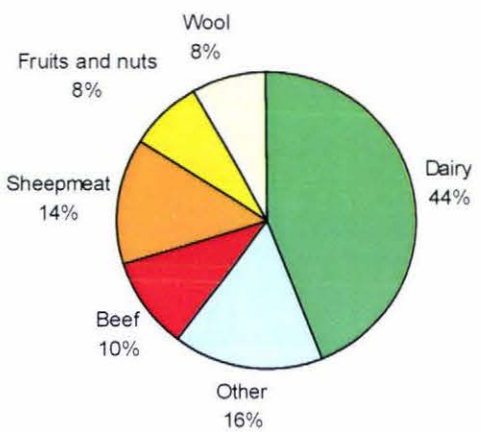
Figure 3.6 Milk processed in each month in four different countries, 1998.



Source: Introduction to dairy production in New Zealand, by C.W. Holmes, I.M. Brookes, D.J. Garrick, D.D.S. Mackenzie, T.J. Parkinson and G.F. Wilson, in *"Milk production from pasture"*, 2002, p. 7.

With a small population of just under four million people, the country has a limited market for agricultural products relative to production capacity, and market opportunities only lie with exports. New Zealand exports on average 80% of its pastoral production, mainly beef, sheep meat, dairy products, wool and other horticultural produce (Figure 3.7).

Figure 3.7 New Zealand agricultural exports, 1999.



Source: Statistics New Zealand, 1999.

Another implication of seasonal production is the high capital investment in processing facilities to absorb milk supply during peak months of September, October and November. According to Holmes et al. (2002) the capacity created in dairy processing plants for the period of maximum milk flow in spring, is under-utilised or not utilised at all for about half of the year, causing considerable economic inefficiencies. While "inefficiencies are [or appear to be] tolerated by the industry as a whole because they are necessary to capture the benefits of the low on-farm milk production costs of the seasonal pastoral systems" (p. 15) they disadvantage New Zealand in the international market place.

Garrick et al. (2001) point out that the real returns for milk have generally deteriorated over the last 50 years, until the recent increases in 2000/01 and 2001/02 which may prove to have been an aberration. Holmes et al. (2002) suggest that prior to 2001, the real economic

returns on dairy farms had not increased in recent years (Table 3.4), but they claim to remain sound for the good dairy farmer[10]. What this means in practice is the continued investment in land (fixed cost) and cow (variable cost) in an effort to avoid the predicament of declining terms of trade and world commodity prices, a phenomena widely reported on since Crocombe, Enright and Porter's study of 1991.

Table 3.4 Prices paid to farmers for milk (in nominal $NZ and in $NZ adjusted for effects of inflation).

Price paid for milk ($/kg milksolids)		
	Nominal	**Adjusted**
1950-59	0.40	7.09
1960-69	0.43	5.65
1970-75	0.80	5.40
1981-85	2.20	4.80
1991-95	3.30	3.70
1998/99	3.58	3.57
1999/00	3.78	3.78
2000/01	5.00	
2001/02	5.30	
2002/03	3.57 [f]	

[f] = Fonterra forecast

Source: Adapted from, Introduction to dairy production in New Zealand, by C.W. Holmes, I.M. Brookes, D.J. Garrick, D.D.S. Mackenzie, T.J. Parkinson and G.F. Wilson, in *"Milk production from pasture"*, 2002, p. 14.

According to Shadbolt (2002) studies conducted by the International Farm Comparison Network (IFCN) identified that "although New Zealand dairy farmers might have the lowest cost of milk production in the world, their profitability on average, could be classed as being uncomfortably low in the competitive world dairy environment" (p. 10). The IFCN categorised farms into four groups according to average costs, in US$/100 kg of milk. In 2001, New Zealand, together with Australia, Brazil, Argentina, India and large

[10] New Zealand's largest dairy co-operative, Fonterra Group has recently released the final payout forecast for

farms in Estonia, had the lowest production cost - less than $18/100 kg of milk - but New Zealand farmers received one of the lowest farm-gate prices, between $15 and $20/100 kg milk, second only to Brazil, where farmers received less than $15/100 kg of milk.

New Zealand's total milk production (including milk used on farms and domestic market milk) for the season to 31 May 2002 was estimated at 13.2 million tonnes This figure represents an increase of 7% from the previous season due to a favourable spring (Statistics New Zealand, 2002). Dairy products output accounted for over 30% of total agricultural production in the country in the period 1997-1999, up from just over 20% in the period 1987-1989.

Matthews et al. (1999) and Holmes et al. (2002), point out that the export orientation of the dairy system means there is an absolute need to remain competitive in world markets, distorted tariffs, import barriers and subsidies. According to these authors New Zealand has remained competitive by developing low-cost production systems based on grazed pasture with high output per hectare and per labour unit. "The ability of New Zealand's dairy industry to continue to export competitively and profitably depends heavily on the costs in New Zealand relative to those elsewhere" (p. 14).

New Zealand farmers have responded to declining terms of trade over the years by investing in the 'scale' of their production systems. The number of cows in milk has increased from almost 1.7 million in 1930 to over 3 million in 1999. The average size farm in North Island is now 86 hectares compared to 41 hectares in 1930 (or as big as 135 hectares in South Island). It has been a production-led response to declining market returns, especially over the last three decades.

New Zealand dairy farmers have been able to develop an efficient production system that benefits from natural attributes. The entire dairy sector has organised itself around seasonal plant growth and production. The foundation of the dairy industry is the ability to produce milk and dairy products at relatively low costs. This aspect is fundamental to the

2002/03 season of NZ$ 3.57/kg of milk solids.

organisation and historical evolution of dairy companies in New Zealand, as discussed in the next Section.

3.5 HISTORY OF THE DAIRY PROCESSING INDUSTRY IN NEW ZEALAND[11]

The dairy sector in New Zealand evolved around co-operative principles and the origins of this major export industry can be traced back to the first years of European settlement in New Zealand (NZDB, 1999a). Ward described the development of the industry with passion:

> In a real sense the story of the New Zealand dairy industry is the story of a nation – from its simplest beginnings with the first dairymen supplying their families and the neighbourhood with milk, butter and cheese, to a great co-operative enterprise with market round the world; from the relatively uncomplicated first cooperative dairy companies to national industry battling against the immense economic pressure of subsidised marketing. It is a story of the intense struggle of families, of far-sighted men and women, and a story of powerful rivalries among men and companies. (1975, p. vii)

The first recorded arrival of domestic cows in New Zealand occurred in 1815 when the missionary Samuel Marsden brought a bull and two heifers to the Bay of Islands. By 1823 those three animals had become a herd of more than 50 animals and by 1840s small quantities of butter and cheese were being exported to Australia (Ward, 1975; NZDB, 1999a; Holmes et al., 2002).

The first commercial dairy company was established in 1871, by a group of dairy farmers near Dunedin – the Otago Peninsula Cheese Factory. In 1882 refrigeration was developed and Edendale – a dairy company from Southland – shipped the first cargo of butter to Britain that year. By 1885 there were 23 factories in operation, and by 1890 there were about 200 factories around the country. Export of cheese and butter to Britain and Australia

were growing and by 1901 other markets included South Africa, India, Japan, United States and various Pacific Islands. The government recognised that far greater attention to quality and control was needed if the industry was to succeed in the export business (Ward, 1975). The introduction of the relatively new Babcock test for the measurement of the concentration of milk fat was another important development.

In these early years not all the companies were co-operatively owned, in fact in 1894 just under 40% of the total dairy factories were co-operatives (Ward, 1975). The commercial know-how and greater financial resources of the privately-owned companies played an important part in the early development of the industry, and healthy competition helped improve the manufacturing and management standards of all companies (NZDB, 1999a). However, dairy co-operative numbers were increasing and by 1920's, 85% of about 540 dairy companies were co-operatively owned. Dairy farmers intended to gain more control over their precious and perishable product, as they were (and remain) dependent on having their produce collected daily and processed into long shelf life products.

According to Holmes et al. (2002) another important development was the introduction of the cream separator by dairy farmers, who in 1918 widely adopted the new technology in 71% of the farms. By the 1920's mechanical milking machines, first introduced in the 1890's, were widely used in the country, and by 1940 nearly 90% of cows in New Zealand were milked by machines rather than by hand (NZDB, 1999a). By the 1950's, with improved roads, infrastructure, collection and storage of milk, the trend towards the utilisation of cream separator on farms had been reversed.

The marketing and export of dairy produce was initially conducted by individual companies, many of which had agents and offices overseas. In 1923 the government created the New Zealand Dairy Control Board to establish a system of group marketing and to increase the efficiency of marketing arrangements (Holmes et al., 2002). Some farmers were pleased with the initiative and some opposed the idea of a single organisation controlling exports (NZBD, 1999a). During the years between WWI and WWII, the New

[11] For a fuller account of the development of the dairy industry in New Zealand since the early years of

Zealand Dairy Board did not fulfil its duties of marketing control, as many companies continued to export by themselves.

In 1935 the government introduced subsidies in the form of a 'guaranteed price' scheme for farmers. It reached a peak in early 1980s when total government support averaged 41% of the net value of pastoral output. Between 1985-90 government reforms reduced this figure to 20% of production value and by 1996 they had been removed.

In 1961 the government established the New Zealand Dairy Board (NZDB), the structure that would, apart from minor alterations, last until 2001. The organisation enjoyed statutory power to acquire and market all dairy products for export. It had to respond to the Parliament through the Minister of Agriculture, although there was no governmental representation on the board.

The Dairy Board would last as the full marketing board of New Zealand dairy products until 2001, when the two largest dairy co-operatives – Kiwi Dairies and New Zealand Dairy Group – and the NZDB itself merged to form one large co-operative company, Fonterra Co-operative Group Ltd[12]. In addition, to regularise the largest merger in the history of the New Zealand dairy industry, government deregulated the market and removed the barrier that has prevented other companies from exporting dairy products from New Zealand.

3.6 SUMMARY

Following the reviews of the strategic management literature and of the food value system provided in Chapter Two, this Chapter has focused the study on the dairy processing industry. Although some confusion can develop with regards to this expression, the present chapter attempted to introduce boundaries and definitions adopted for the study. These are discussed further in the following Chapter.

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settlement see Ward (1975).

[12] The events that ultimately lead to the formation of the Fonterra Co-operative Group are further investigated in Chapter Five, Section 5.5.

It has been demonstrated that the dairy processing industry is a significant part of the global food industry. Organisations operating in this sector face challenging environmental changes, of which some are beyond their control, such as international agricultural policies, subsidies and quotas. In most of the large dairy producing and consuming countries regulations and governmental intervention still distorts the market and the competitiveness of firms.

The New Zealand dairy sector is an exception and is based on low cost seasonal production of milk, export orientation and the absence of subsidies. Since early years efficient dairy production systems have far exceeded domestic consumption and industry growth has been pursued through its international orientation.

The contextual aspects in which the dairy processing industry operates, reviewed in this chapter, will provide the foundation for this study's analysis and subsequent discussion. The observed strategies pursued by large dairy processors could not be properly explained without an understanding of this contextual environment.

CHAPTER FOUR

DESIGN AND METHOD OF RESEARCH

4.1 INTRODUCTION

The techniques used for data collection and subsequent analysis are described in this chapter. Attributes of multiple case study research strategy are presented in Section 4.2.1. Next, the selection criteria adopted to delineate the boundaries of the data set are described, and a brief introduction on each of the nine case study companies is provided. Validity and reliability issues are discussed in Section 4.2.3, and data collection procedures are presented in Section 4.3. Data analysis - one of the most challenging parts of case study research – is reported in Section 4. 4. The Chapter ends with a brief consideration of ethical issues.

4.2 THE RESEARCH PROCESS

The research process and the production of knowledge through scientific inquiry are indeed challenging activities. Arguably, the entire process is subject to biases. For example, the selection of the topic has been influenced by the researcher's background. There is no perfect research, but there are good pieces of research that can add to the wider body of knowledge. These contributions demand rigorous and exhaustive thinking during the entire research journey. And, if persistence overcomes mental fatigue, frustration and periods of blurry creativity, the product of such a long journey, can be rewarding.

The present research process has neither been a linear sequence of steps or a structured set of activities. As suggested by Ghauri, Gronhaug and Kristianslund (1995) research activities are in fact interrelated, as the researcher is constantly refining questions, revisiting the literature, reviewing sampling criteria and reanalysing data. For reporting purposes, the process has been divided according to the research technique adopted,

identification of the selection criteria, observation of quality parameters, data collection, and data analysis.

According to Nachmias and Nachmias (1996) "a scientific methodology is a system of explicit rules and procedures upon which research is based and against which claims for knowledge are evaluated" (p. 13). Prior to the execution of a research study, methodology helps to define the "rules of the game" (p. 13), and once the study has been conducted and a report produced, the research technique section describes how the game was played.

The motivation for this research endeavour was the desire to develop a great understanding of the fast changing international environment currently faced by the New Zealand dairy sector. Across the dairy processing sector worldwide, consolidation and concentration were setting an increasingly competitive scenario for the largest organisation within New Zealand – Fonterra Co-operative Group.

In New Zealand, the entire dairy sector was changing considerably, from the massive improvements in the dairy farming sector to a phenomenal industry concentration. The topic and problem that guided this research were set:

1. The contextual environment in which dairy processors operate.
2. Strategies pursued by large dairy processors in face of the new contextual environment within food industries worldwide.

4.3 RESEARCH TECHNIQUE AND DESIGN

The research design represents the framework of scientific study, offering guidance and rules to the way practical questions regarding sampling criteria, data collection and data analysis are to be answered. The initial research design has a direct influence on the quality of later research stages. However, design should not be inalterable (Royer & Zarlowski, 2001). Indeed topics such as strategic management, strategic change and organisation life cycle are viewed as dynamic topics, requiring flexibility and evolution of design.

One of the most discussed topics within research design concerns quantitative and qualitative approaches to data collection and analysis, reflecting the influence of the positivist and of the non-positivist (constructivists, interpretivists, irreductionists) paradigms respectively. However, such discussion of the relationship between research design and paradigm positioning is vast, and the "association of qualitative methods and constructivism on the one hand and quantitative methods and positivism on the other represents an oversimplification of this relationship" (Royer & Zarlowski, 2001, p. 115).

This exploratory multiple case study adopted narrative and analytical techniques from the qualitative approach. Loose structures facilitated the development of questions and concepts, and offered greater insight into each one of the organisations involved, than had the study followed a strict protocol established at the beginning of the research. The qualitative approach has provided this study with rich and 'grounded' data (Eisenhardt, 1989). The organisations were analysed and the results are a description of their strategic orientation without moving it away from the context, and the observation of emerging trends.

As discussed earlier, the phenomenon in question – strategies pursued by large dairy processors – cannot be separated from the context surrounding these organisations, such as milk supply, firms' location, national government policies and international market agreements. The case study technique was chosen due to several factors: the exploratory nature of the research problem, the diffuse boundary between phenomenon and context; the contemporary characteristic of this inquiry; and, the belief that a case study strategy would produce more valuable insights about each organisation (Yin, 1994).

4.3.1 Case study research

The unique strength of the case study method is its ability to deal with a full variety of evidence, from documents and archival records to interviews and observations or any combination of these. According to numerous authors the most important condition for differentiating among various research techniques is the type of research question being

asked (Hamel, Dufour & Fortin, 1993; Yin, 1994; Ghauri et al., 1995; Berg, 2001). Therefore, reasonable time and discussion were allocated to this phase of the research. An investigation of 'what' strategies dairy processors pursue has allowed, and demanded, a broader investigation into the contextual environment of the food industries.

Case studies, when well elaborated, scientifically conducted, and properly presented, all in accordance to time and budget constraints, are still an extensively used research strategy in the social sciences and, in particular, management research.

4.3.2 Selection of multiple case studies

Similarly to quantitative studies, the objective of sampling in case studies is to determine the minimum size that will enable a satisfactory level of confidence in the results (Angot & Milano, 2001). According to Yin (1994) the replication logic in qualitative research is comparable to that of multiple experiments, with each case corresponding to one experiment. The number of cases required for research depends on two criteria, the desired degree of certainty, and the magnitude of the observed differences (Angot & Milano, 2001). Bourgeois and Eisenhardt (1988) also report that multiple case research design in itself is a strong guarantee of external validity.

The logic used to select multiple cases must predict similar results or produce contrasting results but for predictable reasons. According to Eisenhardt (1989) "random selection is neither necessary, nor even preferable" (p. 537) because of the limited number of cases that can be studied. "It makes sense to choose cases such as extreme situations and polar types in which the process of interest is "transparently observable" (Pettigrew, 1988 cited in Esisenhardt, 1989, p. 537). The development of selection criteria has been fundamental for the establishment of boundaries in this study. The often called 'dairy industry', is a broad term that generally encompasses more than one phase within the 'dairy' value system. This study has defined the *'dairy industry'* as the *'dairy processing industry'*.

Once the 'dairy industry', for the purposes of this study, was properly refined the selection criteria were then formulated as follows:

1. Identification of the 15 largest milk producing countries in the world in total volume per year (Figure 3.3).
2. Developing countries were then discarded, on the basis that the dairy sector in developed countries is more structured, organisations are more complex, and information is readily available.
3. Identification of the largest dairy processor company within each country. The dimension chosen for the final step was volume of milk processed within the home country[13].

The selection criteria used for (1) and (3) were based on information provided by National Committees of the International Dairy Federation and other national bodies, published annually in the IDF bulletin[14]. Only one company – Arla Foods – was selected on partially different grounds. Arla Foods was formed from the merger between two companies, MD Foods from Denmark and Arla from Sweden. It was the first cross-border corporate merger and today the merged company is the largest dairy processor in Europe. Denmark and Sweden are traditional milk producing countries, and represent Arla Foods' home markets. Individually, though, their total milk production figures would be smaller than that of Japan. One Japanese company – Meiji Dairies - could have been selected, which would complete ten case studies, but language limitations and scarce information excluded Meiji Dairies from the research.

One of the consequences of the selection criteria developed was the exclusion of Nestlé. The largest food and dairy company in the world, was excluded from the sample, given that Switzerland is a relatively small milk producing country, and that Nestlé processes milk in various countries. In addition, Nestlé is not considered a company primarily engaged in milk processing, as it purchases large amounts of dairy ingredients for further processing. The case study companies used for this research are in Table 4.1.

[13] Home country refers to the location of corporate headquarters. Selection criteria on the basis of turnover, as opposed to volume, has no effect on the identification of the case study organisations.
[14] IDF points out that data is more accurate in countries with developed dairy industry.

Table 4.1: Case companies under investigation

Company	Headquarters	Ownership structure
Arla Foods	Denmark/Sweden	Co-operative
Dairy Crest	United Kingdom	Public
Dean Foods	United States	Public
Fonterra	New Zealand	Co-operative
Friesland Coberco	The Netherlands	Co-operative
Lactalis	France	Private
Murray Goulburn	Australia	Co-operative
Nordmilch	Germany	Co-operative
Parmalat	Italy	Private

European companies are interesting cases given the regulatory environment in which they operate, the large market they enjoy and because Europe is both the largest milk producing region and largest dairy products consumer in the world.

Dairy Crest, a publicly listed company, has grown significantly over the last two years due to mergers and acquisitions in the UK. The company is today the largest dairy processor in the country, and invests heavily in value-added consumer goods and doorstep milk deliveries. Friesland Coberco and Nordmilch co-operatives are also the result of a series of amalgamation between dairy co-operatives over the years. The former is particularly active in the cheese food segment and intends to move away as much as possible from commodity dairy products within the next few years. The later, from Germany, was created in 1999 and has been going through restructuring and rationalisation plans over recent years, to better position the company in the domestic market. Meanwhile, Lactalis, the French family-owned company and, now the second largest dairy processor in the European Union, hasn't recently engaged in major acquisitions, but enjoys good positioning in the American market, and is a major player in the cheese segment in France. Parmalat, is one of the most acquisitive food companies in the world, and has good positioning in South America, Canada and Australia. Although it is a diversified company, almost 60% of its turnover come from the Milk Business Division.

Dean Foods, created in 2001 following the merger between Suiza Foods and Dean Foods, is the company selected from the United States. It ranks today as the second largest dairy company in the world on a turnover basis, though it focuses mainly on the domestic market, apart from some incursion into the Spanish market. It is timely to point out that Dean Foods was selected for this research based on volume of milk processed. Dairy Farmers of America is the largest dairy co-operative in the United States, but it sells most of the milk it collects to dairy processors instead of processing itself.

Murray Goulburn, from the Victoria State in Australia, is a co-operative active in the export market of dairy ingredients as well as in domestic consumer goods market. The final case study organisation is Fonterra Co-operative Group, from New Zealand. Fonterra is the largest exporter of dairy products in the world, accounting for almost 40% of the international trade of dairy products. Its reliance and focus on export markets is a unique feature amongst the companies selected for investigation.

4.3.3 Validity and reliability issues

According to Nachmias and Nachmias (1996) and as pointed out earlier, a scientific methodology comprises explicit rules that shape the research process and "against which claims for knowledge are evaluated" (p. 13). The quality of a scientific inquiry is assessed in every stage of the research, from the identification of the research question to the elaboration of conclusion. A tight fit between interrelated activities of the research process is expected. However, aspects of validity and reliability seem to prevail when assessing scientific rigour. Nevertheless, the pluralistic nature of organisational science allows researchers to evaluate the knowledge they produce using different criteria of validity [and reliability] according to their dominant paradigm (Girod-Seville & Perret, 2001).

Validity relates to aspects of the entire research - internal and external validity - and to aspects of individual components of the research - construct validity. Reliability basically refers to whether a study is replicable by another researcher or at another time producing the same results.

Yin (1994) suggests these four tests are also very important for ensuring the quality of case study research. Table 4.2 describes the techniques that can be adopted by case study researchers as well as when they should be adopted during the research process. The last column of Table 4.2 indicates whether the tactic has been adopted in the present study or not (the pertinent discussion follows in the next sub sections).

Table 4.2 Case study tactics for four design tests

Tactic adopted	Case study tactic	Phase of research in which tactic occurs	
Construct validity	• Use multiple sources	Data collection	Yes
	• Establish chain of evidence	Data collection	Yes
	• Have key informants review draft case study report	Composition	Yes
Internal* validity	• Do pattern-matching	Data analysis	-
	• Do explanation-building	Data analysis	-
	• Do time-series analysis	Data analysis	-
External validity	• Use replication logic in multiple case studies	Research design	Yes
Reliability	• Use case study protocol	Data collection	No
	• Develop case study database	Data collection	Yes

* For explanatory or causal studies only, and not for descriptive or exploratory studies.

Source: *Case study research: Design and methods* (2nd ed.) (p. 33), by R. K. Yin, 1994, Newbury Park, CA: Sage.

4.3.3.1 Construct validity

Establishing correct operational measures for the concepts being studied

According to Drucker-Godard, Ehlinger and Grenier (2001) one of the main difficulties in assessing construct validity in management research concerns the operationalisation of concepts, when they are reduced to measurement variables. The selected variables or constructs are indicators of a concept that is often not directly observable (p. 198). Therefore, the critical issue of operationalising a concept is to ensure that it is capable of measuring the theoretical concept as embedded in the research question.

Construct validity was enhanced by using multiple sources of evidence – secondary data collected from different sources – and by establishing a chain of evidence throughout the research. The selection of overseas companies for this research has made the adoption of

other modes of data collection, such as interviews and direct observation somewhat difficult although not impossible.

Nevertheless, contact was established in most of the case companies and, following a positive e-mail reply to an introductory message stating the purpose of the research, case study reports were submitted to staff members' for review (Table 4.3). The feedback has been positive and insights and comments have enriched case study reports. Data collection techniques are further discussed in Section 4.4.

Table 4.3 The process of submitting case study reports to organisations involved in this research

Company	How contact was established	Key informant position	Reply (e-mail)
Arla Foods	Company website	Corporate Communications	Case report review and comments
Dairy Crest	IDF Conference, Paris, 2002	Group Technical Director	Case report review
Dean Foods	No contact was established	-	-
Fonterra	IDF Conference, Auckland, 2001	CEO; COO; Managing Director; Director	Case report review
Friesland Coberco	IDF Conference, Paris, 2002	Market Analyst	Case report review and comments
Lactalis	Company website	Corporate Communications	Case report review and comments
Murray Goulburn	Company website	PA to Managing Director	Case report review and comments
Nordmilch	Company website	Global Business analyst	Case report review and comments
Parmalat	IDF Conference, Paris, 2002	Senior Vice-President	Case study not returned

4.3.3.2 External validity

Establishing the domain to which a study's findings can be generalised.

Case studies rely on analytical generalisation, as opposed to statistical generalisation. The case study researcher attempts to generalise the results to a theory instead of generalising the findings to a larger population.

External validity was dealt with by the multiple case research design itself. All cases were selected from the same industry and basically engaged in similar activities. Through literal and theoretical replication this research draws some analytical generalisations useful for the broader dairy processing industry presented in Chapter Seven. The selection of cases was not based on principles of statistics, but on relevant criteria developed by the researcher. These criteria do not prevent the researcher from providing the research community with a better understanding of the strategic orientation of dairy processors.

4.3.3.3 Reliability

Demonstrating that the operations of a study – such as the data collection procedures can be repeated, with the same results.

Yin (1994) suggests two tactics, the use of case study protocol and the development of a case study database, to ensure reliability of the research. These tactics are to be employed previously and during the data collection phase respectively. Nevertheless, the exploratory nature of the current investigation prevented the development of a formal case protocol, as theoretical framework, research question and case selection evolved concurrently with the study. However, Eisenhardt (1989) suggested that such a tactic might limit researcher's flexibility and ability to respond to unexpected discoveries during their research journey.

The development of a case study database relates to systematically organising and documenting data collected for each case. The database created was divided by organisation and data was classified according to the following categories:

- Information retrieved from companies' websites, such as financial highlights, history of the company, key figures, maps with processing plant locations, etc ...
- Companies' annual reports – 2000, 2001 and 2002
- Conference proceedings – paper presented about companies involved in the study
- Companies' reports by Global Marketing Research Database – Euromonitor
- Companies' reports by Leatherhead RA Research Group
- Companies' news
- Other case studies
- General reports on the dairy industry
- Academic case studies

The main point in the development of such a database is that every case study research should strive to develop a formal, presentable database, allowing other investigators to review not only the case report but also the raw data. This review of the database should guarantee the replicability the study's findings by another researcher in a different time.

4.4 DATA COLLECTION

Many documents were utilised as source of evidence, and such a decision can be attributed to a series of factors:

1. Good availability of secondary data through university, national and proprietary library databases, research agencies, conference proceedings, and companies' web sites;
2. Initially, access to informants within the companies was somewhat limited;
3. Concerns over confidentiality and the exposure of sensitive information – the use of data already published avoided these aspects altogether;
4. Budgetary constraints given that most of the case companies are located overseas, and
5. Time constraint.

It is usual to find researchers underestimating the amount and value of secondary sources. According to Nachmias and Nachmias (1996) the use of secondary data for scientific inquiry has been on the rise for the last few years, especially in the field of social sciences.

These authors suggest three explanations for such increased use: conceptual-substantive reasons, methodological reasons, and economical reasons. From the conceptual-substantive point of view secondary data can offer more scope and depth into contemporary investigations, as well as provide basis for comparative analysis. In addition, there are methodological advantages in the analysis of secondary data, if it is accurate and reliable, providing opportunities for replication. Economic reasons are seldom explanatory, since "primary research is a costly undertaking" (p. 306).

Annual reports from all cases study companies were requested and obtained, either in hard copy or on company websites. Cooper and Schindler (2001) suggest that "to an outsider, the annual report is viewed as a primary source, as it represents the official position of the corporation (p. 260).

The researcher also attended two international dairy conferences – World Dairy Summit and Congrilait – both organised by the International Dairy Federation (IDF). The World Dairy Summit was held in Auckland, New Zealand between 29th of October and 2nd of November 2001. There were over 650 attendees and six themes were held simultaneously during the four days event. The researcher attended 'Dairy leaders forum', the 'Policy, economics & Marketing' and 'Emerging technologies' seminars. Congrilait was held in Paris, France between 24th to 27th of September, 2002. Congrilait is a larger event organised by the IDF every four years. There were over 3,000 attendees and 14 themes, from milk production to food safety. The themes of the conferences attended were 'Dairy policies and economics', 'Consequences of the internationalisation of dairy companies', 'New trends in dairy products consumption' and 'Global retailing: new challenges'. Both conferences were critical to the realisation of the broad context in which the dairy sector is embedded, from milk production concerns, to consumer demand and international politics (see Appendix One and Two for Conference Programmes).

The proceedings of these conferences, provided in CD-ROMs, constituted valuable secondary data and a source for background building. The company contacts established, mainly during Congrilait in Paris, were an essential part of the case report composition

phase, since most of the companies involved returned valuable and positive feedback. Table 4.4 provides an overview of all data sources utilised in the present research, divided by company.

Table 4.4 Summary of sources of evidence by company

Evidence	Arla Foods	Dairy Crest	Dean Foods	Fonterra	FCDF
Annual Reports					
Years	2000; 2001	2001	2001	2001; 2002	2001
Interviews					
Number	0	1	0	4	1
Duration	-	20 min (not taped)	-	270 min (taped)	20 min (not taped)
Conferences paper					
Number	2	0	0	3	0
Year	1998; 2002	-	-	2002	-
Company profile					
Euromonitor	2001	-	2001	-	2000
Leatherhead	1999	-	1999	-	1999
Europe's Dairy Industry report	2001	2001	-	-	2001
Rabobank Report	2001	-	-	2001	2001
Academic papers (case studies)	-	-	2	4	1
Year	-	-	2000	2001; 2002	2001

Evidence	Lactalis	Murray Goulburn	Nordmilch	Parmalat
Annual Reports				
Years	2001	2001; 2002	2000; 2001	2000; 2001
Interviews				
Number	0	0	0	1
Duration	-	-	-	15 min (not taped)
Conferences paper				
Number	0	0	0	1
Year	-	-	-	2002
Company profile				
Euromonitor	2001	2000	-	2001
Leatherhead	1999	-	1999	-
Europe's Dairy Industry report	2001	-	2001	2001
Rabobank Report	-	-	-	-
Academic papers (case studies)	0	3	1	0
Year	-	2000 ; 2001	-	-

In addition, the following company websites were regularly and frequently accessed during the entire research period.

- Arla Foods: www.arlafoods.com
- Dairy Crest: www.dairycrest.co.uk
- Dean Foods: www.deanfoods.com
- Fonterra Co-Operative Group: www.fonterra.com
- Friesland Coberco Dairy Foods: www.fcdf.com
- Lactalis: www.lactalis.com
- Murray Goulburn: www.mgc.com.au
- Nordmilch: www.nordmilch.de
- Parmalat: www.parmalat.com

4.5 DATA ANALYSIS

Eisenhardt's (1988) approach to within-case analysis and to cross-case analysis provided the framework for data reduction and analysis used in this study. At a more conceptual level Mintzberg and Waters (1982), and Mintzberg (1987), through the 'tracking down' project, have provided guidance and direction in how to observe emergent strategies.

The vast amount of the data collected on each of the case study companies during the twelve month period was firstly reduced under descriptive attributes, such as history and development, operations, brands, key figures and supply agreements for milk supply. This initial process of reduction was intended at providing greater familiarity with each case company as a stand-alone entity (Eisenhardt, 1988). During the composition phase of each of the case studies, unique patterns started to emerge, which facilitate the next phase – the cross-case analysis.

The case study companies were then grouped into sub-groups of threes, and the patterns identified during the within-case analysis were analysed for each sub-group. The sub-groups were organised based on similarities and differences of ownership structure, market orientation [domestic or international], regulatory environment, and volume of milk

processed (i.e. ranges of volume). Differences and similarities were listed for each company in the sub-groups. Another tactic adopted was the listing of the patterns emerging from within case analysis as dimensions, and the investigation of each case study company according to these dimensions at once. The result of all tactics adopted was a strong convergence in the patterns of actions, which constitute the foundation for Chapter 6 – Discussion.

Nine within-case studies were completed and cross analysed. Mintzberg and Waters (1985) suggested that an organisation' strategies can be depicted by observing what actions were taken over a period of time. This approach was implemented through the observation of case study companies actions as officially reported in their annual reports and websites. The determination of trends within the dairy processing industry and, of the overall strategic orientation of each company was primarily based in such official statements. Research institutions, such as Rabobank International and Leatherhead Food RA, and reports such as Europe's Dairy Industry and companies profile from Euromonitor Database provided considerable support material for a deeper understanding of the contextual environment of these companies.

This study has identified major trends within the dairy processing industry, based on the literature review and on the composition of each of the nine case study reports. General trends such as consolidation, rationalisation, internationalisation and increased focus on added-value strategies were observed in the actions taken and reported by the case study companies over time. These observations constitute the results of this research and are presented in Chapters Five and Six.

4.6 ETHICAL CONSIDERATIONS

As pointed out in the previous section, the extensive use of secondary data, in the form of published studies, companies' annual reports and other case studies, was favourable from an ethical point of view, since most of the information gathered for analysis was accessible

by the public. Therefore, issues concerning confidentiality and anonymity were largely avoided.

All eight interviews conducted were preceded by an introduction of the research and its main purposes and of the researcher and her objectives. It was made clear that for ethical considerations, documents were being extensively used for further analysis and those interviews were relevant for background building. All executives were comfortable with this approach.

The publication of research results can also constitute an issue of ethical dimensions. The researcher has clarified to contacts established in each company that this thesis will be available at the university library and might be used as reference for other research undertakings.

CHAPTER FIVE

WITHIN-CASE STUDIES

5.1 INTRODUCTION

The results of this research project are presented in two Chapters. Chapter Five comprises the nine individual case study reports, in alphabetical order, and Chapter Six provides the discussion on significant patterns emerging from observation of the real-life context of the case companies.

The within-case study analysis provided the researcher an understanding of each case company as stand-alone entity depicted in their contextual environment. The subheadings chosen to illustrate each company are:

- ***Country Facts***: Locational factors, market size and consumption of dairy products; population size and dairy products consumption were based on IDF Bulletin, 2002 and, dairy turnover was based on companies' annual reports, websites or Rabobank International report;

- ***Company at a glance***: A brief snapshot of each company, according to ownership structure, turnover (most recent data available), international sales, number of employees, number of members (for co-operatives), volume of milk processed in the home country and abroad, the core activity of the companies, core product (one or two segments were identified), number of dairy processing sites, number of subsidiaries or offices abroad, and main brand(s);

- ***Company overview***: A summary of the case study report;

- ***Company history and development***: A detailed overview (when possible) of mergers, acquisitions, strategic alliances and growth strategies adopted over the years;

- ***Operations and brands***: a description of the company's operational structure as well as the identification of strong brands;

- ***Key figures***: When possible a review period was adopted, otherwise latest figures were reported; the author chose to standardise only relevant figures at average annual exchange rates provide by the Federal Reserve Statistical Release (USA);

- ***Milk supply***: Aspects of milk collection, on-farm services, milk returns, and contracts were described; these issues are most addressed by co-operatives, and for Dean Foods and Parmalat little or no information were obtained.

The within case reports from each of the nine dairy processing companies are now presented in alphabetical order.

5.2 ARLA FOODS

Table 5.1 Country Facts – Sweden and Denmark, 2001

	Denmark	Sweden
Population	5.3 million	8.9 million
Milk deliveries	4.5 million tonnes	3.3 million tonnes
	Per capita consumption	
Liquid Milk	134.0 kg	123.0 kg
Cheese	14.8 kg	17.2 kg
Butter	1.6 kg	4.7 kg
Biggest dairy companies	***Dairy turnover (US$ billion)***	
Arla Foods, 2001	4.6 billion [1]	
Skannemejerier, 1999 (Sweden)	0.32 billion [2]	
Milko, 1999 (Sweden)	0.32 billion [2]	

[1] Company Annual Report; Euro 5.127 billion converted at the average annual exchange rate, 2001 of $1 Euro = US$ 0.8952 from the Federal Reserve Statistical Release (USA). [2] From Rabobank International, 'Dairy companies in the European Union', 2001; average annual exchange rate, 1999: $1 Euro = US$ 1.0653.

Table 5.2 Arla Foods at a glance

Ownership structure	Co-operative
Total turnover, 2001 (US$ billion)[1]	4.589
International sales	50% of group's turnover outside the home markets
Personnel	18,200 (52% in Denmark, 30% in Sweden, 18% overseas)
Number of supply members	14,909 (53% in Denmark and 47% in Sweden)
Total milk processed	7.2 million tonnes
Milk processed abroad	900 million litres in the UK
Core business area	Dairy products
Core product	Fresh dairy products (40% of sales)
Processing sites	Approximately 83
Subsidiaries abroad	Approximately 23
Main brand	*Arla, Lurpak, Three Cow, Buko, Dano/Milex*

[1] Financial year ends April, 2001

Company overview

Arla Foods is considered a phenomenon within the dairy processing industry because it is the result of the first cross-border merger agreement between dairy companies. The merger talks between the Danish MD Foods and the Swedish Arla Ekonomiska Förening were finalised in 1999, and the new entity started operating in 2000. Both MD Foods and Swedish Arla remain as legal entities, and Arla Foods is a joint venture under Danish co-operative law. Danish dairy farmers supply milk to MD Foods and Swedish dairy farmers supply milk to Arla Ekonomiska, both co-operatives then sell the milk to Arla Foods. All

plants and all employees have been transferred to Arla Foods. Plans to fully merge in 2002 failed due to differences in legislation between Denmark and Sweden.

Arla Foods is today the largest dairy processor in Europe in terms of milk intake, processing 7.2 million tonnes of milk a year (6% of total milk production in the European Union). According to Rabobank International, it ranks 11th in the world's top 20 dairy companies on a turnover basis, and it is the 3rd largest dairy co-operative in the world, based on volume of milk collected, behind Dairy Farmers of America from the United States and Fonterra from New Zealand.

The main reasons behind the merger were the need for scale and growth in the competitive European dairy sector, and the pace of consolidation of the food retail industry. The processing industry in Denmark and Sweden were already highly concentrated. Since the merger between MD Foods and Klover Maelk over 90% of the milk produced in Denmark were processed by MD Foods. And in Sweden, Arla Ekonomiska processed approximately 65% of the milk produced. The strategic path for these companies, who had previous close working relationships, was to merge their activities. The increased competition from large European dairy processors and pressures from an ever consolidating retail industry, propelled these two companies to overcome cultural differences arising from two nationalities and on differences of corporate culture arising from the two successful predecessor co-operatives.

Over the last two years Arla Foods has been consolidating functions and departments, and has established its business around eight divisions: Denmark, Sweden, UK, Europe, Overseas Division, Ingredients, Division Production and Division Members/Transport.

Arla Foods is a pan-regional co-operative, operating mainly in developed markets within Western Europe. The UK and Germany are the main foreign markets, accounting for 25% of overseas sales. Local processing operations in South America have been limited to Brazil and Argentina, where Arla Foods has joint ventures with local companies. The company also has operations in the Middle East, with strong presence in Saudi Arabia and

Egypt, and in the lucrative North American market, where in 1998 MD Foods established a production agreement with White Clover Dairy for product licensing.

Company history and development

The dairy sector in Denmark has a long history dating back to 1882, when the first dairy co-operative in the world was established in Hjedding. Since early on, two thirds of the Danish dairy production was exported, mainly in the form of butter to the UK. By 1930's cheese production was also significant and the Danish Dairy Board overlook overseas sales. There were over 1,500 small dairy co-operatives in Denmark, and merger activity took place after WWII. By 1963, Germany, then the main export destination for Danish cheese, became part of the Common European Market, and community preference, introduced by the Common Agricultural Policy, urged the Danish Dairy Board to explore new markets as Denmark was not part of the common market. Market expansion focused in the Middle East, Asia (mainly Japan) and United States. By 1970, merger activity was still taking place, and five co-operatives merged to form 'Mejeriselskabet Danmark' (Dairy Company Denmark), which was renamed to MD Foods in 1989. During all these years other co-operatives have amalgamated into MD Foods. Since 1999, when Kover Maelk also merged with MD, the co-operative processes 90% of the milk produced in the country.

By 1973, when Denmark joined the European Union, export subsidies were still attractive and MD Foods opted to further explore markets outside Western Europe. Since late eighties, in the light of GATT, and more recently, WTO negotiations proposing further reductions to export subsidies, MD Foods has started to shift its focus from exports of commodity products to markets outside the European block, to production of value-added products within the European Union.

In 1986, MD established a supply agreement with the Brazilian company Vigor forming a joint venture called Dan Vigor, marketing products under the 'Danubio' brand. In 1990, MD acquired the UK's fifth largest dairy company and has achieved strong position in that market, with 15% market share, behind Dairy Crest and Express Dairies. In 1998 it entered the U.S. market through the production agreement with White Clover Dairy. In late 1990's

MD entered the African and Middle East market through the company's dairy activities in Saudi Arabia, which are now carried out by Danya Foods, a subsidiary of Arla Foods.

Swedish Arla Ekonomiska Förening had a strong domestic orientation, processing 65% of the milk produced in Sweden and exporting about 15% of its production. Since the 1930's the Swedish dairy processing industry has been divided in one large company (Arla) and two smaller ones (Skanemejerier and Milko). When Sweden joined the European Union in 1997, Dutch, German and Danish dairy companies started to explore the Swedish market. Given that Sweden was previously heavily protected, import products were cheaper than national products, and Arla faced strong competition. Arla already had a joint venture – Scandairy – with MD Foods, to develop and market functional dairy products in Europe. Merger talks initiated in 1999, and the historic corporate merger between MD Foods and Arla Ekonomiska came into effect in April 2000.

Arla Foods has almost completed three financial years (ends in April), and has focused its strength on getting a new and unified corporate culture established amongst its almost 15,000 members across two countries. It seems that three years on from the merger, the process of harmonisation, particularly within the areas of production and ownership structure, has been satisfactory handled (Arla Annual Report, 2001). Arla Foods is expected to expand its overseas operations and alliances even further in the coming years. Further cooperation on export markets between Arla Foods and other Scandinavian dairy companies is likely.

Strategic alliances and joint ventures in overseas markets have taken place as part of the company's growth strategy. Examples of such initiatives are: joint venture with the Greek food company, Delta Selections, to produce feta based on sheep and goat's milk; new investments in Argentina through the joint venture with Sancor to source whey and produce whey protein concentrate to export markets; and the joint venture with Fonterra in the UK to market *Lurpak* and *Anchor* butter in UK and later in other parts of Europe.

Operations and brands

The company operates under eight divisions:

- Sweden Division: the former Arla now operates under the name of Arla Foods' Sweden Division.
- Denmark Division
- UK Division: Arla Foods UK plc
- Europe Division: operates primarily in Germany, the Netherlands, Belgium, Poland, Finland, Norway, the Baltic States, Italy, Spain, France and Greece.
- Overseas Division: operates primarily in North America, Latin America (Brazil and Argentina), the Middle East, Asia (Japan) and Eastern Europe (Russia – although the Moscow office has been withdrawn and the operations are managed from headquarters).
- Arla Foods Ingredients: consists of retail packed whole milk powders and milk based food ingredients to the international food industry.
- Production Division: with its 42 plants, the division is responsible for production of cheese, butter and spreads in Sweden and Denmark.
- Members' Division: responsible for liasing with members in their capacity as owners and milk suppliers (Arla Annual Report, 2001).

Arla Foods is expanding further in the UK, where it has built a new distribution facility near Leeds, and has started building a new dairy processing plant to replace an old factory. The distribution facility supplies the UK market with *Lurpak* butter, liquid milk, yoghurts and in the future, cheese. Investments were also made at its plant in Essex for the production of the new line of Cravendale PurFiltre milk.

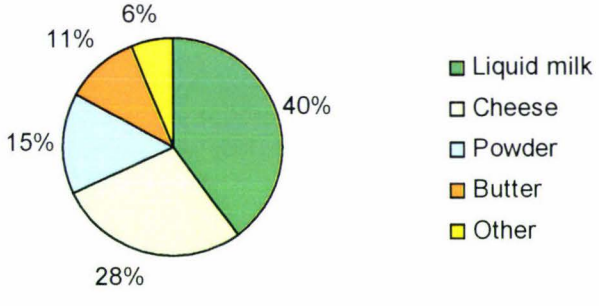
In 2001, Arla Foods announced a restructuring plan within its Ingredients and Production Divisions. About 700 jobs are to be lost and as many as 17 processing sites are to be closed, while others are being expanded and modernised. The company has increased specialisation within its processing facilities and believes it will deliver more efficiency for the group's financial performance.

Arla umbrella brand covers several segments of dairy products, such as cream, butter, cheese yoghurt and fromage frais in Sweden and Denmark. Cheese is exported under the *Arla, Rosenborg, Buko* and *Three Cow* brands, while butter is exported under *Lurpak* brand. While *Arla* cheeses are exported to a great number of countries in all continents, it has not yet developed into a global brand.

Key Figures

Accounting for 40% of turnover in 2001, fresh dairy products are Arla Foods' largest product area and the most important markets for this sector are the home markets and the UK. Cheese had a share of just over 25% of total turnover, and is mainly exported to Germany and other countries of the European Union. Saudi Arabia, Japan and United States also constitute relevant export markets (Figures 5.1 and 5.2).

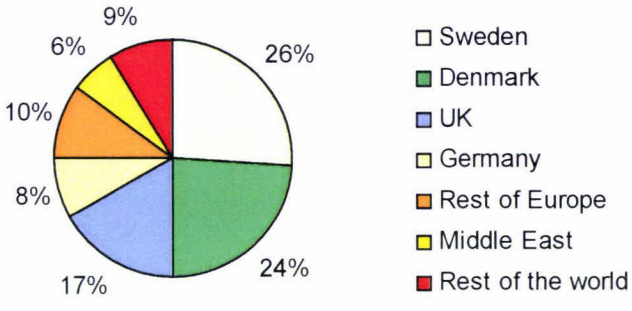
Figure 5.1 Arla Foods' sales by product segment, 2001



Source: Arla Annual Report, 2001

Jens Bigum, group's managing director recently stated that "we were well aware that a cross-border merger would raise complex issues and the benefits accruing from such mergers would take longer to appear. However, the year has demonstrated that the benefits from the merger are clearly exceeding the disadvantages" (Arla Foods Annual Report, 2001).

Figure 5.2 Arla Foods' sales by markets, 2001



Source: Arla Annual Report, 2001.

Milk supply

Arla Foods is co-operatively owned by its almost 15,000 member suppliers, 53% of which are in Denmark and 47% in Sweden[15]. In 2001, the company collected and processed 6.2 million tonnes of milk from members and over 900 million kg from non-members in the UK. Arla Foods has approximately 83 processing sites, 43 in Denmark, 34 in Sweden and 6 in the UK.

The milk price received by Swedish dairy farmers use to be different from that received by Danish farmers. The reason for that was the domestic orientation of Arla Ekonomiska, able to achieve higher market prices for its suppliers due to governmental regulation. Contrarily, MD's international focus, with 63.7% of turnover being earned overseas, meant more competitive prices and reduced payout. With the merger, the companies agreed to maintain such scheme for three years, and believes that due to increased competition in the domestic market, Swedish prices would have approached Danish's prices by the end of the agreed period (Van Bekkum, 2001).

[15] Numbers have dropped by almost 10%, representing a reduction of 1,267 members for 2001/02 season (Personal Communication, 2003).

The new pricing model is a weighted average of the milk price paid by Europe's five largest dairy co-operatives, Sodiaal (France), Campina and Friesland Coberco (the Netherlands), Nordmilch and Humana Milchunion (Germany). Arla Foods' aim is to be 5% above the average milk price of these co-operatives. Last season's milk price (ends April) was US$ 0.3438/kg of standard milk with 4.2% fat and 3.4% protein[16], approximately 7% above the average.

The co-operative has an open and free membership policy and guarantees collection for members for an undetermined period. It directly provides technical assistance on milk production and on-farm issues. The company has recently increased the minimum milk intake per stop (every second day) by 100%, which squeezed out inefficient farming operations in Denmark and raised media concerns over concentration of the Danish dairy processing sector.

[16] Exchange rate of 1 USD = 7.5954 DKK (Personal Communication, 2003).

5.3 DAIRY CREST

Table 5.3 Country Facts – Great Britain, 2001

Population	59.5 million
Milk deliveries	14.5 million tonnes
Per capita consumption	
Liquid Milk	112.7 kg
Cheese	9.7 kg
Butter	3.3 kg
Biggest dairy companies	***Dairy turnover (US$ billion)***
Dairy Crest, 2001	1.88 [1]
Express Dairies, 2001	1.46 [2]
Wiseman, 2001	0.48 [2]

[1] Group turnover = 1,307 million GBP converted at the average annual exchange rate, 2001 of 1 pound = US$ 1.4396 from the Bank of England. [2] From "Europe's Dairy Industry, 2001/02", by B. Wilson, pp. 103-105; values converted at the same exchange rate aforementioned.

Table 5.4 Dairy Crest at a glance

Ownership Structure	Public (32.2% shares held by dairy farmers)
Dairy turnover 2001 (US$ billion)[1]	1.88 (GBP 1,307 million)
International sales	-
Personnel	7,790 employees
Total milk processed	3 million tonnes
Milk processed abroad	None
Core business area	Dairy products
Core product	Liquid milk and cheese
Processing sites	15
Subsidiaries abroad	None
Main brand	*Clover, Cathedral City, Frijj*

[1] Financial year ends March, 2001

Company overview

Dairy Crest is the largest dairy processor in the UK since late 2000, when it acquired all the dairy businesses of Uniq – former Unigate – except yoghurts and desserts. The company has invested in acquisitions and takeovers since 1979, when it bought 19 butter and cheese creameries from Unigate, action that established the company as more than a processor of surplus milk collected by the Milk Marketing Board[17].

[17] Major recent developments in the UK dairy sector are summarised in Appendix 3.

Dairy Crest processes about 3 million tonnes of milk a year (over 20% of the country's milk supply) through 15 processing sites within the UK, employing almost 8,000 people in its activities. About 48% of the milk processed are destined to the liquid milk market, 32% for the cheese sector and 20% into commodity butter/powder and ingredients. The company ranks 7th in the European Union in terms of volume of milk processed and its turnover in 2001 amounted to approximately US$ 1.88 billion (GBP 1.307 billion).

Company history and development

Dairy Crest was initially the surplus milk disposal of the Milk Marketing Board, and it was first established as a separate division in 1981, following the acquisition of 19 creameries from Unigate in 1979. It finally became a limited liability company in 1987. In 1991 the company signed up an important joint venture with Yoplait, establishing Yoplait Dairy Crest Limited, in which it holds a 49% stake. The joint venture has exclusive distribution rights in the UK for Yoplait branded fresh dairy products. In 1998 Yoplait Dairy Crest bought fresh dairy products' manufacturer Raines and Balsidon Foods. Sodiaal has recently renewed its contract with Dairy Crest until 2012.

In 1994, following the deregulation of the dairy sector, Dairy Crest was relieved from its role as the buyer of last resort surplus raw milk, and it was able to purchase only the amount of milk necessary to meet businesses requirements. Due to government's 'suggestion' Dairy Crest was to be floated as a public company, as opposed to become part of Milk Marque – the central co-operative that replaced the Milk Marketing Board (Wilson, 2001). And so it happened in 1996, when the company was floated at a market valuation of GBP 216 million, allocating 77 million shares to milk producers (70%). Today milk producers' shareholding in the company has decreased to 32.2% or 39.7 million shares.

The company has since expanded domestically through acquisitions. Between 1997 and 1999 it acquired Anglia Dairies, Longs Dairies, and Millway Foods Limited. These acquisitions strengthened the company's position in the Stilton cheese market and consolidated its position as the main supplier to doorstep, catering and retail in East Anglia.

But the company's major investment happened in 2000 with the acquisition of Unigate's dairy and cheese businesses. Dairy Crest became the largest UK dairy processing company with even stronger market position in the doorstep liquid milk business. In March 2001, it acquired the shares of Somerset & Wilts Dairy Limited, gaining a substantial share in the organic milk market. More recently, in October 2002, the company announced the acquisition of St. Ivel Spreads. St. Ivel has a strong portfolio of well-known brands in every major sector of the UK spreads market, and Dairy Crest management team believes that such acquisition is consistent with a strategy that tend to focus on building the branded and value added segment.

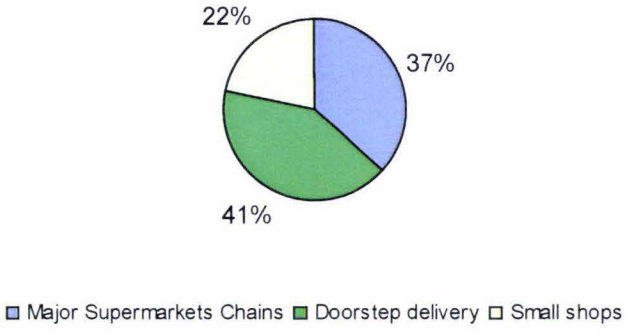
The company has followed extensive rationalisation plans, especially since the acquisition of Unigate's businesses, and has closed six plants in total. Manufacturing operations were relocated and other plants were expanded. The restructuring plan completed by the end of 2002.

Operations and brands

Dairy Crest reports its operational results according to two divisions: Consumer Foods and Food Service. Consumer Foods responds for the company's business with retailers, the Yoplait and the Cotteswold joint ventures. The turnover of this division increased by 59%, thanks to recent acquisitions and strategic alliances. It encompasses dairy spreads, cheese, fresh dairy products and liquid products sectors and accounted for just over 60% of the company's total turnover.

Liquid milk is the main operation, and 48% of the milk collected is processed for the liquid market, totalling about 1,400 million litres a year distributed through two main channels (Figure 5.3). The company now ranks second in this segment with a 23% share, behind Express Dairies with 30%, Arla Foods UK plc, and Wiseman accounting for 14% each.

Figure 5.3 Dairy Crest milk distribution channels, 2001



Source: "Europe's Dairy Industry 2001/02", by B. Wilson, 2001, p. 107.

Frijj is a well-known brand within the flavoured milk sector and has shown considerable market share growth over the past year, remaining the leader brand in the sector with over 70% of the market (Dairy Crest Annual Report, 2001).

The acquisition of Unigate's retail liquid milk business in 2000 was a significant move towards achieving necessary industry consolidation. The acquisition more than doubled Dairy Crest's existing retail liquid milk activities, which places the company in a better position against the consolidating food retail industry in England and Wales (Dairy Crest Annual Report, 2001).

Cheese production accounts for about 32% of the milk purchased amounting to 96,000 tonnes of the product processed through five sites – Davidstow, Aspatria, Haverfordwest, Hartington and Wexford, in Ireland producing about 10,000 tonnes. Other two sites are responsible for cheese packing. The cheese business is focused largely on Cheddar cheese, where the company has established a strong position in the expanding mature line of this segment. The company also manufacture Stilton cheese and other blue cheeses, as well as of some traditional Territorial cheese varieties.

Cathedral City, one of the main brands, is developing from a strong regional brand to a well-known national brand. Other brands in the cheese segment include *Davidstow* and *Wexford.* Five dairy manufacturers accounted for 70% of the total cheese production - Dairy Crest, The Cheese Company (part of Glanbia from Ireland), ACC, Golden Vale and Caledonian. Industrial cheese sector has grown steadily in recent years driven by the expanding fast food and pizza industries. Dairy Crest has not invested in this segment and major players are foreign owned Glanbia and Dansco (Canada) (Wilson, 2001).

The production of butter amounts to 50,000 tonnes, and *Clover* and *Country Life* brands enjoy strong market presence, with Arla's *Lurpak* brand and Fonterra's *Anchor* brand also competing for the declining yellow fats market. The acquisition of St. Ivel Spreads and its brands – *Utterly Butterly*, *St Ivel Gold* and *Vitalite* – will strengthen Dairy Crest's position in the dairy-spreads sector.

Fresh products are manufactured, distributed and marketed under the joint venture between Dairy Crest and Sodiaal, Yoplait Dairy Crest. The company has reported an increasingly competitive environment in the fresh products sector, mainly due to good performance of retailers' private label products.

The Food Services Division includes Dairy Crest's doorstep milk delivery and the ingredients operations. With the acquisition of Unigate's dairy operations, the Food Services turnover increased by 74% and accounted for 40% of the company's total turnover. The household delivery market accounts for 28% of the fresh liquid market in the UK, and Dairy Crest delivered milk to 1.8 million homes in 2001. Nevertheless, this segment is declining at just over 12% a year, and Dairy Crest's sales volume reduced by around 10% from previous year (Dairy Crest Annual Report, 2001).

Dairy Crest has enforced over the years its focus on "driving profitable growth and shareholder value through added value and branded business" (Drummond Hall – Chief Executive, Company website, 2002). Under this strategy the company tends to direct its raw milk supply to those products and markets with most attractive returns. Therefore, the

strategy is to use the ingredients business to manage any variability in raw milk supply and variable market demand conditions.

Key figures

Since the acquisition of Unigate's dairy and cheese business in 2000, Dairy Crest almost doubled its total turnover, from GBP 794 million in 2000 to GBP 1,366 in 2002, a growth of 72% (Table 5.5 and Figure 5.4).

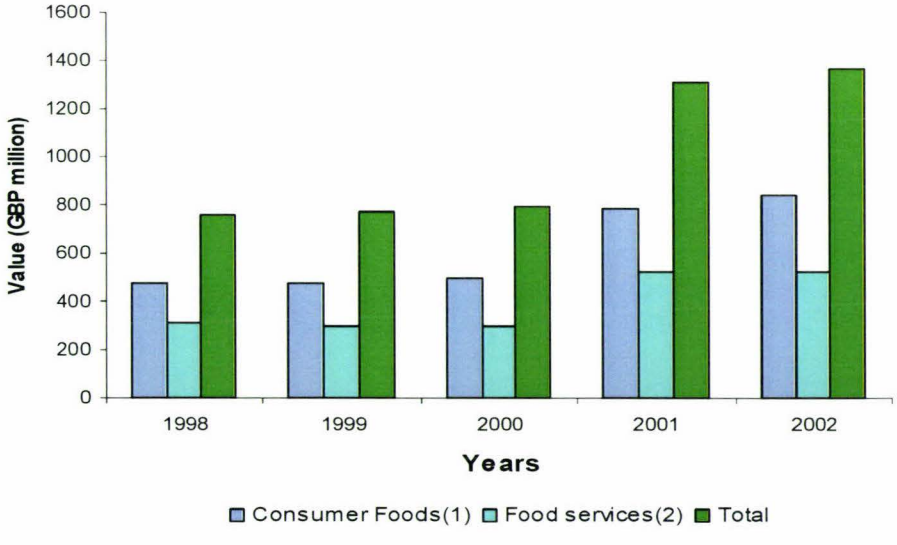
Table 5.5 Dairy Crest's 5 year financial review

Turnover by segment (million GBP)	**1998**	**1999**	**2000**	**2001**	**2002**
Consumer Foods(1)	475	479	494	785	841
Food services(2)	313	295	300	522	525
Total	**758**	**774**	**794**	**1,307**	**1,366**

(1) Consumer Foods includes all retail sales (liquid milk to supermarkets, cheese and spreads). (2) Food Service includes everything else, including doorstep milk delivery and food ingredients.

Source: Dairy Crest Annual Report, 2001.

Figure 5.4 Dairy Crest Turnover by segment, 1998-2002.



Source: Dairy Crest Annual Report, 2001.

Recent acquisitions have strengthened the company's focus on value added and branded business, with a turnover growth of GBP 347 million from year 2000 to 2002. The Consumer Foods business (all retail sales - liquid milk to supermarkets, cheese and spreads) responds today for over 61% of the group's turnover, and has shown operating profit of GBP 63 million compared to GBP 30 million of Food Service. Food Service still comprises significant part of the businesses for Dairy Crest, especially in southern half of the country including London, East Anglia, South Wales and the Far West counties of Cornwall and Devon.

Milk supply

Dairy Crest sources about 47% of its three billion litres of raw milk direct form contracted farms, with the balance being bought from supply co-operatives or other sources. The company recognises the difficult times that dairy farming sector in the UK is facing, and has attempted to work closely with major retailers to achieve price increases across a range of products, particularly fresh milk and cheese, which are passed on to producers.

The company has a Farm Services Team and farm auditors, responsible for providing farmers technical assistance on production matters. In addition the company has re-issued the Dairy Crest Farm Quality Assurance Scheme, which embraces the National Dairy Farm Assured Scheme.

5.4 DEAN FOODS

Table 5.6 Country Facts – USA, 2001

Population	286 million
Milk production	74.4 million tonnes
Per capita consumption	
Milk/milk products	88.4 kg [1]
Cheese	14.6 kg [1]
Butter	2.0 kg [2]
Biggest dairy companies	***Dairy turnover 2000 (US$ billion)***
Dean Foods (Dairy Group Sales, 2001)	8.0
Dairy Farmers of America	7.9
Kraft Foods	6.3

[1] From Economic Research Service/USDA – Agricultural Outlook/June-July 2002. [2] From IDF Bulletin, No 378/2002

Table 5.7 Dean Foods at a glance

Ownership structure	Public
Total sales, 2001 (US billion) [1]	10.4 billion
Dairy sales 2001 (US$ billion) [2]	8.0 billion
International sales	5% (Spain)
Personnel	Over 30,000
Total milk processed	7.6 million tonnes
Milk processed abroad	300 million litres in Spain
Core business area	Dairy products
Core product	Liquid milk/milk beverages
Total processing sites	129 plants
Dairy processing sites	94 plants (+ 3 in Spain)
Subsidiaries abroad	Leche Celta (Spain, company acquired)
Main brand	*Dean's, Borden, Milk Chug*

[1] Estimated according to Dairy Group' sales share of 77%.
[2] Financial year ends December, 2001

Company overview

The 'new' Dean Foods was created in December 2001, when the two largest American dairy companies merged – the 'old' Dean Foods was acquired by Suiza Foods. The group is now the largest U.S. dairy manufacturer, and second largest dairy company in the world on a turnover basis. Dean Foods incorporated two strong dairy businesses, given that prior to the merger, dairy turnover accounted for 79% and 85% of Dean's and of Suiza's total turnover respectively (Euromonitor, 2001). The dairy division of the group – Dairy Group

– accounted for 77% of total sales during the first nine months of 2002 (ended in September), and is regarded as "the foundation of [the] our company" (Pete Schenkel, President of Dean Dairy Group, Dean Foods Annual Report, 2001, p. 4).

Although the company's main focus is still dairy products, the two legacy companies have pursued diversification over the years. The company has operations in the growing soymilk sector through its shareholding in White Wave and Suiza's *Sun Soy* brand. It also manufactures powdered coffee, sauces, chilled dips, puddings, and nutritional beverages and is the largest U.S. manufacturer of pickles, producing relishes, peppers and olives.

The 'merged' Dean Foods enjoy a coast-to-coast coverage of the United States, and has achieved considerable scale to be the manufacturer of choice of large retailers throughout the country, like Wal-Mart.

The predecessor companies had established extensive working relationships over the years, such as Suiza's participation in the consortium venture involving six other dairy operators within the United States, and it's working relationship with Dairy Farmers of America. Dean Foods also had well-established working agreements, for example, with Nestlé for the use of the latter's confectionery Crunch as ice cream flavouring, and the co-marketing joint venture with Land O'Lakes. Most of these agreements were maintained and even extended after the merger. The new Dean Foods is a major customer of the bargaining and processing co-operative DFA, which sells some 20% of the milk it collects on the spot market.

The merger between Dean Foods and Suiza Foods in late 2001 reflected the growth strategy pursued by Gregg Engles, chief executive of Suiza Foods, over the years. Suiza acquired some 40 dairy businesses since 1996, establishing the company as the U.S. largest dairy processing company. The 'old' Dean Foods also grew aggressively through acquisitions, acquiring over 30 companies since 1962. The competitive environment posited by the consolidating food retail industry and the need to expand coverage of the national territory propelled Suiza Foods to make a bid for Dean Foods in April 2001.

Company history and development

Table 5.8 A brief history of the 'old' Dean Foods

1925	Samuel Dean engages in the dairy activity by purchasing an evaporated milk processing facility in Illinois
1927	New company name – Dean Evaporated Milk Company – further purchases of dairy plants
1951	Headquarted in Chicago, where the company would operate until the merger in December 2001
1961	First public offering
1962	First non-dairy acquisition, a pickle company
1963	The company is now called Dean Foods Company, reflecting the company's diversification strategy
1981	After acquisitions nation-wide, Dean Foods is listed on the New York Stock Exchange
1990-99	24 dairy and non-dairy acquisitions
April 2001	Dean announces plans to merge with Suiza Foods
Dec 2001	The merger is complete and the new company is called Dean Foods

Table 5.9 A brief history of Suiza Foods Corporation

1988	Gregg Engles purchases a commercial ice business
1993	Engles makes his first dairy acquisition with the purchase of Suiza Dairy in Puerto Rico. Additional dairy acquisitions follow
1995	Suiza Foods Corporation is created and based in Dallas
1996	Suiza Foods makes its first public offering of stock and is listed on the NASDAQ
1997	Suiza Foods makes its second public offering and moves to NYES. Suiza also merges with the Morningstar Group, Inc. expanding Suiza's branded and value-added product line
1998	Suiza sells its ice operations
1993-99	22 acquisitions and 2 joint ventures
2000	Acquisition of Leche Celta in Spain
April 2001	Suiza announces plans to acquire Dean Foods, a leading supplier of dairy and specialty food products
Dec 2001	The transaction with Dean Foods is complete and Suiza changes its name to Dean Foods Company

Source: www.deanfoods.com, 2003

As both companies acquired other businesses nation-wide, rationalisation and streamline plans were implemented, with numerous plant closures and staff dismissals. By 2000 Suiza operated 82 plants and had over 18,000 employees, while Dean Foods had 59 plants and a workforce of 13,600 people. By the end of 2002 the 'new' Dean Foods operated 129 processing facilities, of which 94 specialised in dairy foods, and had over 30,000 employees. Since the merger, the company has closed six Dairy Group's processing plants, one plant operated by Morningstar Division and two plants operated by the Specialty Foods Division. Between 1999 and 2001, 718 people were dismissed as a result of plant closures.

Operations and brands

Since integrating the activities of the two companies, Dean Foods now has five operating divisions: Dairy Group, Morningstar Foods, White Wave, Specialty Foods and International.

- Dairy Group: dairy processing is still the core operation of the company and is the largest division, operating 94 plants in 34 states, consisting of a nation-wide chain of local and regional dairy plants. It processes and markets a wide range of dairy products – liquid milk, creams, cottage cheese, yoghurt, ice-cream – branded or private-label. The Dairy Group operates its business in a generally decentralised manner, organised by geographical region, the Northeast, Southeast, Southwest and the Midwest regions.
- Morningstar Foods: manufactures and distributes long-life dairy products, refrigerated and frozen specialty products, such as coffee creamers, whipping creams, aerosol whipped creams, extended shelf-life milk, milk based beverages and a variety of cultured dairy products. The division operates through 13 processing plants.
- White Wave: when the 'old' Dean's minority shareholding in White Wave became property of Suiza, White Wave filed suit against both companies, arguing that Suiza was its largest competitor in the soymilk sector through the *Sun Soy* brand. Nevertheless, White Wave is today part of the 'new' Dean Foods and operates as an independent division, with three plants and registered growth of 74% over the year 2000 in a market value of over US$ 300 million at retail.

- Specialty Foods: the largest pickles processor and marketers in the country; also produces relishes, peppers, olives, syrups, puddings, sauces, and weight loss and nutritional beverages for retail, foodservice, and industrial markets, primarily under private labels.
- International: Suiza Foods acquired Leche Celta, the fourth largest dairy processor in Spain, in February 2000. The company processes over 300 million litres of milk and operates 3 processing facilities in northern Spain, producing a variety of dairy products, juices and fruit juices. Dean Foods' presence in international markets is very modest and its strategic focus is still the United States.

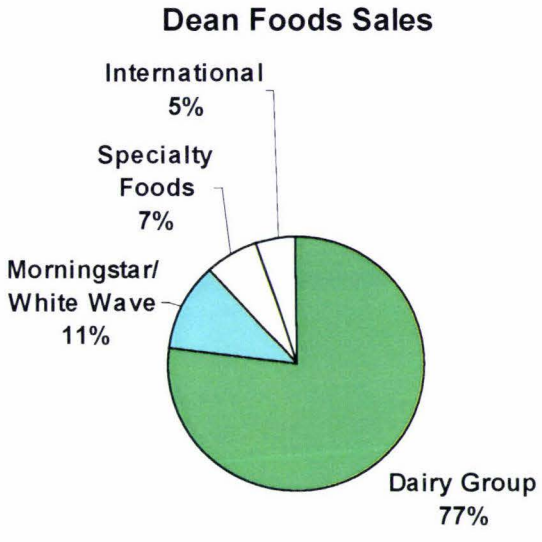
Dean Foods has established brands and recognises the value of regional as well as national brands. The umbrella brand *Dean's* is a good example of the strong regional perception of the group's brand portfolio. *Dean's* is a regional market leader in the Midwest and Ohio. The 'old' Dean Foods' acquisitions programme maintained and exploited existing regional brands such as *McArthur* and *T G Lee* in Florida; *Barbers*, *Coburg*, *Mayfield* and *Purity* in the Southeast and *Gandy's* and *Price's* in Texas. *Milk Chugs* is a strong brand that has reached 68% penetration of major U.S. metropolitan centres in 2000. The company also produces a number of ESL (Extended Shelf Life) products under licence, including *Carnation* and *NesQuik* for Nestlé. It also has marketing agreements for a range of *Land O'Lakes* products, as well as *Hersheys'* flavoured milk drinks. Other strong brands of national reach include *Borden*, *Land O' Lakes* (milk), *Pet* and *Kidsmilk*.

Key figures

As 2002 was the first operational year for the merged Dean Foods, the results presented in this section reflect the first nine months of operation, ended in September 2002.

Dairy businesses continues to be the stronghold of the company and accounted for 77% of the group's total sales and 70% of the company's total operating income. Morningstar and White Wave combined responded for 11% of sales, and Specialty Foods accounted for 7% of total sales but 13% of total operating income (Figure 5.5).

Figure 5.5 Dean Foods' sales (nine months ended September, 2002).



Source: www.deanfoods.com, 2003

Milk Supply

Dean Foods purchases its raw material from independent farmers and from farmer's co-operatives. Its primary milk supplier is Dairy Farmers of America (DFA) co-operative. Over the years, Dean Foods have entered into a series of milk supply contracts with DFA designed to ensure a reliable source of milk supply to their processing plants. In December 2001, the group amended the supply agreements with DFA in order to achieve greater flexibility in the procurement of raw milk. The primary modification was the reduction of the termination notice period from one year to 60 days.

The federal government through federal market orders and price support programs regulates milk prices in the United States. Individual States and other governments also develop their own regulation mechanisms. The federal government and several state agencies establish minimum prices that processing companies must pay to producers. These prices are calculated by economic formulas based on supply and demand, and vary by region and by type of product manufactured. For example, Class I butterfat and skim milk

prices are required to be paid for raw milk that is processed into fluid milk products, and Class II skim milk prices are required to paid for raw milk that is processed into products such as cottage cheese, creams, ice-cream and sour cream. These prices vary monthly and some states have opted out of the federal pricing system.

5.5 FONTERRA CO-OPERATIVE GROUP

Table 5.10 Country Facts – New Zealand, 2001

Population	3.8 million
Milk production	13.3 million tonnes
Milk deliveries	12.9 million tonnes
Per capita consumption	
Milk/milk products	98.7 kg
Cheese	7.3 kg
Butter	5.7 kg
Biggest dairy companies	***Dairy turnover 2001/02 (US$ billion)***
Fonterra Co-operative Group	6.5
Tatua Dairies	0.94

Table 5.11 Fonterra at a glance

Ownership structure	Co-operative
Total turnover 2001/02 (US billion)[1]	6.5 (NZ$ 13.9)
International sales	95%
Personnel	Over 20,000
Member suppliers	13,000
Total milk processed	13 billion tonnes
Milk processed abroad	151,000 tonnes
Core business area	Dairy products
Core product	Milk powders, butter
Processing sites	64 (35 abroad)
Subsidiaries abroad	76
Main brand	*Anchor, Anlene, Mainland*

[1] Financial year ends May, 2002

Company overview

Fonterra Co-operative Group is the newly established dairy co-operative in New Zealand and its first financial year ended in May 2002. The new entity is the result of the merger between the two largest dairy processing co-operatives – New Zealand Dairy Group and Kiwi Dairies – and the marketing arm of the dairy industry – New Zealand Dairy Board (NZDB). The co-operative became effective in June 2001, when over 80% of shareholders voted to support the merger, which was subsequently approved by the Commerce Commission of New Zealand.

Fonterra processed over 95% of the milk produced in New Zealand in 2001/2002 season, a total amount of over 13 billion litres or 1.1 billion kg of milksolids. Over 13,000 New Zealand dairy farmers own the co-operative, which processes the milk collected from the member-suppliers through 29 manufacturing sites within New Zealand (Fonterra Annual Report, 2002).

Fonterra exports about 95% of its production, which accounts for between one quarter and one fifth of the export earnings of the country and about 7% of its GDP. The group is the country's largest business, directly employing over 20,000 people worldwide (50% in New Zealand) with a turnover of NZ$ 13.9 billion (US$ 6.5 billion) in the 2001/02 season.

The export orientation of the New Zealand dairy sector dates back to 1840's, when small quantities of cheese and butter were exported to Australia and, few years later to the United Kingdom in greater quantities. The first refrigerated shipment to England dates back to 1882, and ever since New Zealand's focus has been exports of dairy products (NZDB, 1999a).

New Zealand's efficient dairy farming systems, small domestic market and favourable climate conditions, have allowed the dairy sector to expand far in excess of domestic consumption since early years. Fonterra has inherited the long history of export orientation of the nation's dairy sector. Such orientation and further internationalisation of the company constitute not a strategic choice but the only alternative for the company to expand further, both in the past and in current days.

The group's closest export destination is Australia, which it considers an extension of its home market, and in which it plays a major role, with shareholdings in various dairy companies. South East Asia is another key export destination, and has also been referred to as home market extension (Fonterra Annual Report, 2002).

New Zealand Milk Products (NZMP) is Fonterra's ingredients business and accounts for 56% of the group's turnover. NZMP was a stand alone business unit since 1998, when the

NZDB initiated a comprehensive restructuring plan, but has recently being reincorporated into Fonterra's structure.

New Zealand Milk is the fast moving consumer goods part of the business and accounts for 40% of the group's turnover. The other 4% of turnover are accounted for by Fonterra Enterprises, including RD1, a farming retail business; Fencepost.com, on-line farm services; Fonterra Research Centre and Vialactia Biosciences, which is responsible for biotechnology research.

The international trade of dairy products is still a small fraction of the world's dairy products market, accounting for only 5 to 7% of the total traded. Dairy farming and dairy processing are strongly routed in national boundaries and although there are merging patterns in food consumption, taste is strongly influenced by national cultures. Agricultural subsidies, quotas, protectionism and other political issues are the subjects of intense national and international debate. New Zealand accounts for only 3% of the world's milk production, and yet Fonterra, including its participation in Australian businesses, is responsible for almost 40% of what is internationally traded (Personal Communication, 2002).

Fonterra is the world's largest exporter of dairy products, the forth largest dairy company in the world on a turnover basis and the second largest dairy co-operative on volume of milk collected and processed. The company is particularly active in the Australian, Asian and South American consumer goods market, and in the North American ingredients market.

Company history and development

The company's history and development is deeply linked to the history and characteristics of New Zealand and the influence of government on the dairy sector over the years. These aspects were previously introduced in Section 3.2 *History of the dairy processing industry in New Zealand*.

Fonterra Co-operative Group is a result of the consolidation trend that has been affecting dairy sectors worldwide, and perhaps more intensely New Zealand over the years. The numbers of dairy processing companies peaked at 540 in 1920. Thirty years later there were 206 dairy companies, and by 1980 there were only 80 companies operating (Garrik et al., 2001). By 2001 there were only four remaining dairy processing companies, namely Kiwi Dairies, New Zealand Dairy Group, Tatua Dairies and Westland.

The amalgamation that lead to the formation of Fonterra was an option identified by the McKinsey Consulting Group, following a study conducted by management and consultants in late 1990's. "MergeCo [Fonterra] was the recommended option for the industry, but was always subject to agreement between industry participants on the commercial terms of such a merger" (McKinsey Report's Summary, 1999, p. 2). According to the report's summary "A successful growth strategy for New Zealand Dairy Industry is important not only to dairy farmers and the companies and organisations that serve them, but to New Zealand as a whole" (McKinsey Report's Summary, 1999, p. 1).

The two largest dairy processing companies and the NZDB were already aware of discontinuities in the dairy value system and of inefficiencies in the link between consumers and manufacturers (Personal Communication, 2001). Various studies were questioning the validity of a single statutory marketing board and its real benefits for the sector (Dobson, 1990, 2001; Akoorie & Scott-Kennel, 1999).

The apparent need for scale and full integration of the marketing, research and development, and processing activities, and the consolidation wave among competing dairy processors overseas and among food retailers, propelled the New Zealand Dairy Group and Kiwi Dairies to initiate merger talks in late 1999.

The merger took place and vote in June 2001 when over 80% of suppliers of the two companies agreed to the merger. The statutory powers of the NZDB were removed and the dairy sector in New Zealand was deregulated. All marketing activities and expertise of the NZDB were incorporated into the new entity. The two other dairy co-operatives, Tatua

Dairies and Westland, opted not to merge with Fonterra. Today there are three dairy co-operatives and 16 smaller dairy processors in the country. Recently, Tatua and Westland have engaged in working relationship talks, but merger between the two is a discarded option for the moment.

Fonterra has been active in establishing joint ventures and partnerships worldwide, which perhaps signalises that an integrated structure was also an option of choice for overseas partners. One of the most important deals is Fonterra and Nestlé's 50:50 alliance - Dairy Partners Americas -, which will initially focus on branded chilled products, liquid milk (UHT) and milk management in North, Central and South America. The joint venture started operating in early 2003 in Brazil, Paraguay and Argentina and expects to exceed $ 1 billion in sales. Table 5.12 summarises all recent joint venture and alliances activities involving Fonterra Group.

Table 5.12 Recent joint ventures and strategic alliances

Date	Company involved	Operation
Aug 2001	Dairy America	Export agreement for skim milk powder involving some of the US's biggest dairy companies; Fonterra is in charge of sales of about 70% of US milk powder exports
Dec 2001	La Mesa and Eugenia	Acquisition; establishment of a strong position in Mexico - the second largest dairy market in Latin America
Dec 2001	Arla Foods	JV that brings together strong butter brands – *Anchor* and *Lurpak* – in the UK; 75% owned by Arla
Mar 2002	Nestlé	JV (50/50)– Dairy Partners Americas in North, Central and South America for branded chilled products and liquid milk, milk powders and milk processing
Mar 2002	Britannia Industries	JV (49/49)– Britannia New Zealand Foods Ltd – in India to market butter, cheese, dairy whiteners, ghee and liquid milks
Mar 2002	Dairy Farmers of America	JV DairiConcepts intensified with the refit of a plant in New Mexico to expand the production of milk protein concentrate and other ingredients
May 2002	Bonlac Foods of Australia	The merger of the consumer foods products operations of the two companies in Australia and in New Zealand, creating Australasian Food Holdings Ltd

Operations and brands

In October last year Fonterra announced a reorganisation plan to reduce duplication and costs and to create an integrated structure, incorporating NZMP, the ingredients business of

the group, into the operations of the corporate centre. Functions such as NZMP's Finance, Human Resources, Strategy and Merger and Acquisitions report directly to corporate centre and the Managing Director position has been replaced by Chief Operating Officer.

NZMP processed over 13 billion litres of milk supplied by Fonterra's shareholders during 2001/02 season into over 1.7 million tonnes of dairy products. It has 39 offices spread over five continents and markets its dairy ingredients in more than 140 countries. Among NZMP's main customers are leading food companies such as Nestlé, Kraft, Danone and New Zealand Milk. NZMP enjoys an integrated global supply chain, providing customers worldwide with timely supply of dairy ingredients.

The main products manufactured for export by NZMP are whole milk powder, skim milk powder, cheese, butter, whey, protein products, lactose and many other milk components. Adopting first class fractionation technology, NZMP has been able to produce highly specialised dairy ingredients, such as whey protein isolate and milk protein concentrate. Agreements between Fonterra and Dairy America to export skim milk powder, and between Fonterra and DFA to manufacture milk protein concentrate, have strengthened the group's position in the lucrative U.S. market (the company's single largest market).

New Zealand Milk accounted for about 40% of the group's total revenues, generating US$ 2.61 billion. It is responsible for marketing and sales of consumer products and foodservice business and operates through a global network of operating firms. It has developed strong "high profile global brands in its portfolio" (Fonterra Annual Report, 2002, p. 26) such as *Anchor, Anlene, Fernleaf* and *Chesdale*, and strong regional brands such as *Soprole* in Chile, *Mainland, Peters and Brownes* and *Bega* in Australia, and *Tararua, Mainland, Meadowfresh* and *Tip Top* in New Zealand. The operating unit owns and operates plants in Latin America and Asia, where it is responsible for packing bulky dairy products and non-dairy products into branded consumer goods.

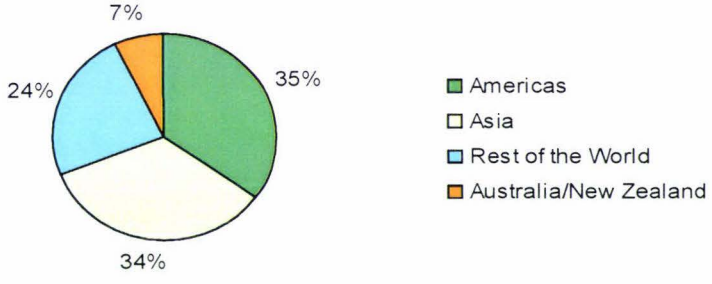
New Zealand Milk was actively involved in many of the merger activity during last year. The amalgamation of the Australian and New Zealand consumer good business – Mainland

Products (NZ), Peters and Brownes and Tip Top – created Australasian Food Holdings Limited. The acquisition of La Mesa and Eugenia cheese and spreads businesses, places Fonterra as the market leader in the cheese sector in Mexico.

Key figures

The total revenue of US$ 6.5 billion was a record for the group, which compares to US$ 4.15[18] billion the year before. The growth in total revenue is attributed mainly to mergers and acquisitions over the last year. New Zealand Milk's revenue increased by more than 50% from 2000/01 to 2001/02, while NZMP had a more 'modest' growth (compared to New Zealand Milk) of 23%. Figures 5.6 and 5.7 illustrate sales for the 2001/02 season.

Figure 5.6 NZMP revenues by geographical region, 2001/02.



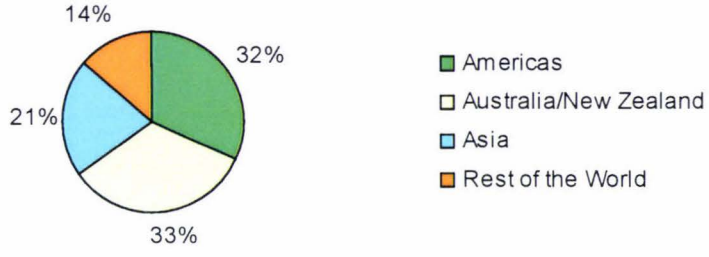
Note: excludes sales to New Zealand Milk.

Source: Fonterra Annual Report, 2002, p. 23.

Fonterra's largest single market is the United States, which alone generated revenues of US$ 467 million or 7% of group's turnover. Asia is Fonterra's largest export destination in volume basis – 579,000 tonnes of products exported. For New Zealand Milk, the latest consolidation in the Australasian market represents a stronger home market for consumer products, with AFHL (Australasian Food Holdings Limited) playing a leading role in the region. South East Asia has recently been referred to as home market for the New Zealand dairy giant.

[18] Turnover of NZ$ 9.9 billion converted at the average annual exchange rate for 2001 of 1 NZ$ = US$ 0.4202 (Federal Reserve Bank, USA)

Figure 5.7 New Zealand Milk revenues by geographical region, 2001/02



Source: Fonterra Annual Report, 2002, p. 27.

At the end of 2002, Fonterra completed its strategy review, known as Project Galileo. The study identified the core capabilities of the company, and set future directions. Among others, Project Galileo re-stated the relevance of being the lowest cost commodity supplier in the world, as well as recognised the group's role in leading price and inventories worldwide. Focus will be directed to the expanding foodservice sector as well as to developing countries such as India, China, South America, specially Brazil, Argentina, Uruguay and Chile, and Eastern Europe, in terms of expanding milk supply, demand, exports and expertise in dairy production.

Milk supply

Fonterra achieved a record payout of US$ 0.18/kg of milk (NZ$ 5.33) during the 2001/02 season, up 12.5% from the 1999/00 season, reflecting strong commodity prices during the first half of the year. The payout is calculated and reported on a milksolids basis since 1993, with an average of 4.5% fat and 3.5% protein content per kilogram of milk.

Since the amalgamation between Kiwi Dairies, New Zealand Dairy Group, and the incorporation of the NZDB's functions, Fonterra's payout is uniform to all milk suppliers, apart from premium paid to farmers who produce liquid milk for domestic consumption all

year around, called winter milk. Organic production and certification of organic farms is under study this season, hence the payout is still the same for these farms.

Fonterra does not get directly involved with on-farm production matters, apart from its internet farming services, Fencepost.com, but it works closely with other entities who provide farm consultancy and research. DairyInsight, a co-operatively owned entity has been created to co-ordinate dairy industry good activities, such as disease control, herd testing and extension. Dexcel is the organisation responsible for dairy research, extension and education for dairy farmers, while Livestock Improvement Corporation oversees artificial breeding and herd testing.

Fonterra's strategic plan reveals the company's concern to maintain the lowest cost milk producer status. It aims to assist farmers to achieve productivity gains of 3% in the coming years. The productivity figure also encompasses improvements in product and process development, supply chain management and reduction of manufacturing costs.

Fonterra is committed to the collection of all members' milk, and although it renews contracts with its suppliers annually, it recognises the long-term obligation to collect and process the milk supplied. It is an open co-operative, with no restrictions to increasing milk collection volume, apart from some minimum volume figures that apply for some regions. Members entering the activity or increasing production pay an entry fee according to the value of the company's shares, assessed yearly by a firm determined by the Board of Directors. The 'fair value share' for last season was NZ$ 3.85, and the forecast for the 2003/04 season is NZ$ 3.95. Members exiting dairy farming can either sell their shares at 'fair value' to the co-operative or they can incorporate the shares in the farm sale price.

5.6 FRIESLAND COBERCO DAIRY FOODS

Table 5.13 Country Facts – The Netherlands, 2001

Population	15.9 million
Milk deliveries	10.6 million tonnes
Per capita consumption	
Liquid Milk	101.6 kg
Cheese	14.7 kg
Butter	3.3 kg
Biggest dairy companies	***Dairy turnover 2000 (US$ billion)***
Friesland Coberco	3.8
Campina	3.5

Table 5.14 Friesland Coberco Dairy Foods at a glance

Ownership structure	Co-operative
Net sales, 2001 (US$ billion)	3.91 billion (Euro 4.37 billion)
International sales	58%
Personnel	16,700 (11,000 work outside The Netherlands)
Number of member suppliers	13,300
Total milk processed	5.2 million tonnes
Milk processed abroad	300 thousand tonnes (Belgium and Germany)
Core business area	Dairy products
Core product	Cheese
Processing sites	35 (13 outside the Netherlands)
Subsidiaries abroad	94 sales offices
Main brand	*Dutch Lady, Frico*

Company overview

Friesland Coberco Dairy Foods (FCDF) is the largest dairy processor in the Netherlands, in terms of milk deliveries, number of suppliers and turnover. The company was formed in late 1997, following the merger between four Dutch co-operatives: Coberco, Friesland Dairy Foods, Twee Provincien and De Zuid-Oost-Hoek. The 1997 merger was the culmination of a series of previous mergers that were taking place in the fast consolidating Dutch dairy sector.

De Zeven Provincien UA, a co-operative with more than 13,000 Dutch dairy farmers wholly own the operating company Friesland Coberco Dairy Foods Holding NV. The operating company owns all shares in Friesland Coberco Dairy Foods B.V. – comprising of

all Dutch and European activities – and in Friesland International B.V. – which concentrates all foreign activities (Wilson, 2001; Rabobank International, 2001b).

FCDF's throughput of 5.2 million tonnes of milk in 2000 represents 48% of total Dutch milk deliveries. The second largest dairy manufacturer – Campina – processed 3.6 million tonnes or 33% of the total. These milk volumes combined accounted for over 81% of all milk deliveries in the country, which illustrates the high level of concentration of the Dutch dairy processing sector.

The company's main activity is cheese processing and marketing, which accounted for 26% of net sales in 2001 and 50% of all milk collected. The strategic plan in place focuses on processing all milk into value-added products, currently some 55%. The second most important division is Friesland Consumer Products, accounting for 16% of the group's net sales. It mainly sells long-life dairy products in Greece, the Middle East, Nigeria, West Africa and Colombia as well as in a selected number of export markets in Europe, Africa, Latin America and Asia (Japan).

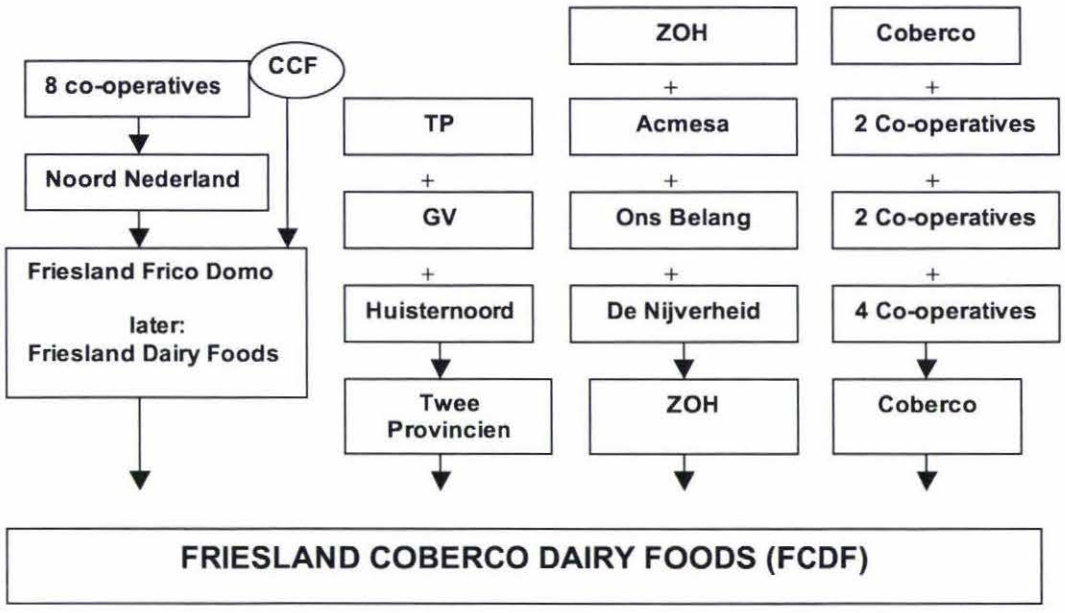
Company history and development

Friesland Coberco Dairy Foods is a young company with a long history. It roots back to 1894, but a long list of mergers and takeovers over the years has brought about the large organisation of today. Figure 5.8 illustrates the process of mergers and acquisitions in the Netherlands over the years.

The merger in 1997, capitalised on recent developments in the European dairy market:

- reduction in European Union price support;
- fiercer competition in the European market;
- increasing concentration of the food retail industry, and
- continued pressure on milk price paid to members.

Figure 5.8 Mergers in the Dutch dairy sector



Source: 'Will Global Dairy Company be a true co-operative?' p. 32, Rabobank International, 2001c.

In 1999 Friesland Coberco Dairy Foods took over Zuivelfabriek De Kievit in Meppel, Netherlands, a company active in the food and drink industry producing and marketing high quality ingredients, semi-manufactures and creamers. Also in 1999 it acquired the remaining shares of its operation in Thailand – Foremost Friesland – listed on the Bangkok exchange. In the following year it acquired control of the commercial activities of DSM Bakery Ingredients, a company active in the confectionery sector in the Netherlands, Belgium and France.

In 2001, the company acquired Nutricia Dairy & Drinks Group from Numico N.V., which represented an increase of 400 million Euro in turnover a year and 4,400 employees. Nutricia produce mainly liquid milk based products in Benelux, Germany and Hungary while other subsidiaries operate in England, Romania, Czech Republic and Slovakia. FCDF has restructured its divisions and the new division – Friesland Dairy and Drinks Group – has incorporated Nutricia's businesses. The new division also incorporates Riedel in the Netherlands and Belgium, Hoogesteger Fresh Specialist (fresh juices and salads) and

Friesland Deutschland (Germany), and the sales organisations, Friesland Hungaria, and Friesland Czech Republic.

Operations and brands

Within the company, different product and market activities are incorporated in independent divisions, and each operating company is responsible for its own research and development, production and sales operation.

- Frico Cheese: develops, produces, matures, markets and sells a wide range of traditional Dutch cheeses and specialty cheeses; major brand: *Frico.*
- Friesland Consumer Products: develops, produces, markets and sells mainly long-life dairy products – condensed long-life milk, coffee enrichers, powdered milk and baby foods - in Greece, the Middle East, Nigeria, West Africa and Colombia, as well as in some other export markets in Europe, Africa, Latin America and Asia; major brand: *Dutch Lady and Bella Holandesa.*
- Friesland Dairy & Drinks Group: in Central Europe (Czech Republic, Slovak Republic, Hungary and Romania) this organisation concentrates on the development, production, marketing and sale of fresh dairy products; in the Netherlands and Belgium it sells fruit juices, milk-based drinks and sports drinks; in Germany it sells long-life dairy products and milk-based drinks; and the UK it sells milk-based drinks; major brands: *Appelsientje, Chocomel/Cecemel, Fristi, Nutroma.*
- Friesland Asia Pacific: through its local companies, the subsidiary produces, markets and sells a variety of dairy products in Indonesia, Thailand, Malaysia, Vietnam, Singapore, Hong Kong, China and Guam; major brands: *Dutch Lady, Frisian Flag, Foremost, Yo-Most.*
- Friesche Vlag: responsible for production and sales of standard dairy products, milk-based drinks, desserts, dairy products used in cooking and coffee enrichers in the Netherlands; major brand: Friesche Vlag.
- Friesland Madibic Food Service: products for the professional and foodservice markets such as bakeries, fast-food chains, and the hotel and catering industry.

- Borculo Domo Ingredients: develops, produces and markets ingredients and semi-finished products based on whey and other dairy components. Borculo are the largest whey processor in the world, converting some 3,600 million litres of whey annually into whey powder, lactose and other derivatives. These ingredients are supplied to food, nutrition, animal feed and pharmaceutical industries.
- Kievit: specialises in the development, production, marketing and worldwide sale of spray-dried ingredients, semi-finished products and creamers.
- Friesland Coberco Butter Products: responsible for processing at the lowest possible cost, the seasonally fluctuating volumes of milk and cream not used by other operating companies.

Key figures

Cheese production is the most important activity for Friesland Coberco, with Frico Cheese division processing over 55% of the milk intake and producing over 420,000 tonnes of cheese. The company plans to have a total of ten operational Frico factories responsible for carrying out maturing as far as possible in these locations, with further processing and packing taking place elsewhere.

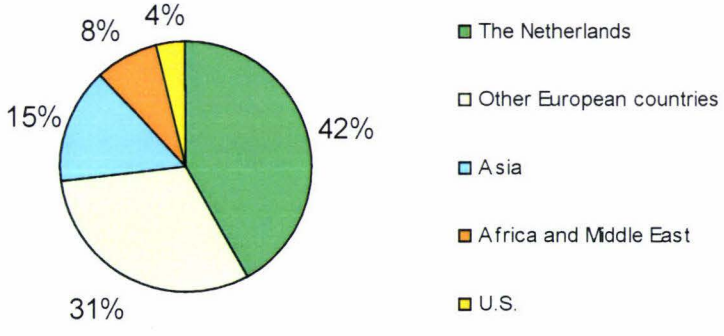
Table 5.15 Friesland Coberco's results by division, 2001

Division	Net Sales (US$ million)	Share of Total Net Sales	Number of employees
Frico Cheese	1,132	26%	2,237
Friesland Consumer Products	705	16%	4,230
Friesland Dairy & Drinks Group	635	14%	5,170
Friesland Asia Pacific	592	13%	4,230
Friesche Vlag	335	7%	651
Friesland Madibic Food Service	273	6%	498
Borculo Domo Ingredients	260	5%	712
Friesland Coberco Butter Products	325	7%	201
Kievit	93	2%	155

Source: www.fcdf.com, 2002.

About one third of the company's total turnover was accounted for by quality brands. The current strategy pursued by FCDF is to decrease the amount of milk processed into no-name cheese and other products.

Figure 5.9 Friesland Coberco' sales by geographical region, 2001



Source: www.fcdf.com, 2002

Milk supply

An interesting feature of Friesland Coberco is the listing of two types of shares to farmers – A and B shares. The former represents the total asset value of the company, and are held collectively by the co-operative, while the later are held by the co-operative but are certified to individual farmers in a variety of ways. As the dividend paid by unit equity invested on 'B' shares is double than that paid out on 'A' shares, the co-operative's aim is to increase its capital base by stimulating farmers to further invest in the co-operative.

FCDF collected and processed almost 5.2 million tonnes of milk from over 13,000 farmers-members. It operates some 22 production facilities in the Netherlands and 13 elsewhere and has adopted an intensive rationalisation of its cheese plants in the Netherlands. The number of member/suppliers has been stable since 1998 when the company adopted a closed membership policy, and only migrating farmers are entitled to apply for membership, with

the payment of a considerable entry fee based on additional manufacturing costs. Concurrently, the non-renewal of a number of external milk deliveries contracts – especially in Germany - reduced milk intake by about 300 million kg (Van Bekkum, 2001).

Since 1994, Friesland Dairy Foods adopted a system of fixing milk prices for members by using an index of the milk prices paid out by five other large North-Western European co-ops: Belgomilk, Campina, Humana Milchunion, Nordmilch and MD Foods. The formula is based on a weighted average of milk prices paid by the other co-operatives and it was maintained after the merger in 1997. Arguably, milk prices are unexciting since it is market-based as opposed to result-linked, but the system is impartial (Wilson, 2001).

The company participates in the 'Chain quality milk', a national dairy program supported by the Dutch Dairy Board and strongly promoted among FCDF member suppliers. FCDF also regulates milk quality aspects such as cell count and bacterial number. De Zeven Provincien U.A. co-operative is responsible for providing on-farm assistance and it does so through farm consultants.

5.7 LACTALIS SA

Table 5.16 Country Facts – France, 2001

Population	59.5 million
Milk deliveries [1]	23.1 million tonnes
Per capita consumption	
Liquid Milk	92.6 kg
Cheese	24.3 kg
Butter	8.2 kg
Biggest dairy companies	***Dairy turnover, 2000 (US$ billion)*** [2]
Danone	6.2
Lactalis (2001)	4.9
Bongrain	3.6
Sodiaal	2.5

[1] Cows' milk delivered to dairy processing companies. [2] From 'Dairy Companies in the European Union', Rabobank International, 2001.

Table 5.17 Lactalis at a glance

Ownership structure	Private
Total sales (2001) [1]	4.93 US billion (5.5 billion Euro)
International sales	1.96 US billion (2.2 billion Euro)
Personnel	15,700 employees (3,000 overseas)
Total milk processed	7 million tonnes
Milk processed abroad	2.2 million tonnes
Core activity	Cheese
Cheese production	520,000 tonnes
Processing sites	65 in France; 13 abroad
Subsidiaries abroad	14
Main brand	*Président*

1 Company Annual Report, converted at the annual average exchange rate, 2001 of 1 Euro = US$ 0.8952 (Federal Reserve Statistical Release, USA).

Company overview

Groupe Lactalis operated under the family name Besnier from 1933, when it was established, until January 1999, when due to international expansion, the company decided to change to a name that could be pronounced in all languages. Lactalis remains a family-owned and privately held company headquarted in Laval, France.

The company is one of the largest dairy processors in the European Union, processing just over 7 million tonnes of milk in 2001, including 6.8 million tonnes of cow's milk, 160

thousand tonnes of sheep's milk and 59 thousand tonnes of goat's milk (Lactalis Annual Report, 2001). In France, Lactalis processed about 20% of the national milk production – about 4.8 billion litres and involved almost 25,000 producers (Personal Communication, 2003).

The strategy pursued over the last few years focused on expanding overseas sales, and in 2001, 41% of the company's turnover of US$ 4.9 billion were accounted for by international sales. And yet, 2001 was a year of consolidation of activities, absence of any external expansion and withdrawal from non-strategic areas for Lactalis (Lactalis Annual Report, 2001).

The group employs 15,700 staff, including 3,000 abroad, working in 65 processing facilities in France and 13 offshore, including manufacturing units in Belgium, Luxembourg, Spain and the in the United States. With a large proportion of Lactalis' sales in France, the company is to a great extend influenced by developments in the domestic market (Euromonitor, 2001). The market for dairy products in most countries of the European Union is considered mature and complex, with shifting consumption patterns and increased demand for healthy and flexible products. France is no exception and in fact French consumers are amongst the most sophisticated in the region.

Lactalis has, therefore, invested heavily in value-added activities and brand recognition. '*Président*' cheese and '*Lactel*' liquid and flavoured milk are among strong brands in Europe, and regarding strategic orientation of the company, Emmanuel Besnier, chairman of the supervisory board stated, *"We are enhancing our policy of achieving the profitability of our activities around the value provided by brand names* (Lactalis Annual Report, 2001).

Company history and development

Andre Besnier collected the first 33 litres of milk to be processed in the region of Normandie, France in 1933. Twenty-two years later, Michel Besnier inherited his father's legacy, collecting and processing already 7 million litres of milk per year and employing 50

people. By 1968 Besnier, already investing in research and development and product innovation, mastered the process of pasteurization for Camembert cheeses. The entrepreneurial characteristic of the company and of its founder grew stronger and in 1969, at the peak of technological innovations, Besnier launched the first batch of UHT milk. The immediate success of its products combined with an audacious marketing strategy lead the company to successful alliances, joint ventures and acquisitions over the years. In 1981 the group established an alliance with group Belmont from the United States, and in 1985 it took over Claudel Roustang, one of Nestlé's subsidiaries in France.

Two important brands were acquired in 1988 – *Lactel* and *B'A* – which allowed the company to strengthen its presence in the fluid milk and fresh products markets. The UHT and bottling technology advanced and by 1990 group Lactalis launched the UHT in recyclable plastic bottles. Also in the early 1990's the company acquired the French Group Bridel – a manufacturer and wholesaler of milk products, especially cheese and butter since 1848 – significantly increasing its market share. In 1992 Nestlé sold a 58% stake in the Caves De Roquefort Company to Besnier. More recently the company has invested in further international expansion, through investments in Poland, Ukraine, Italy and United States. Table 5.18 illustrates the growth strategy through takeovers, alliances and mergers adopted by Lactalis over the years.

More recently Lactalis entered the veal market, with the establishment of an strategic alliance with Collet, a French veal producer with annual capacity of approximately 25,000 tonnes of meat or 203,000 calves a year. Also in 2000 Lactalis sold its fruit juice business – Bric-Fruit – alleging that the company is now refocusing on core-strategic areas.

Company operations and brands

The company is organised around its products and into nine independent divisions: Sorrento-Lactalis, Société, Président, Bridel, Lactalis Europe, Lactel, Tendraide-Collet, Lactalis Industry and Lactalis Food Service. The company neither publishes the breakdown of its sales per division nor per geographical area. Nevertheless, various sources

acknowledge Lactalis' strength in the cheese sector in France, Belgium, Spain and United States.

Table 5.18 Strategic alliances, mergers and acquisitions

Year	Company involved	Operation/Activity
1981	Belmont	Production of 'pate molles' (pastry) in the United States
1985	Claudel Roustang	One of Nestlé's subsidiaries in France
1988	Lactel and B'A	Acquisition of established brands in the French market – Lactel in the liquid milk sector and B'A in fresh products sector
1990	Laiteries Bridel SA	French manufacturer and wholesaler of dairy products
1990	Ato SA	Spanish cheese and milk producer
1991	Fromageries Girod	French cheese producer
1992	Cave de Roquefort	58% stake acquired from Nestlé
1992	Philipona	Cheese producer
1993	Fromagerie Bel SA	Bought 8% stake in this French cheese producer
1993	Unicolait	51% share; specializes in fresh dairy products, butter and Emmental cheese; strong exports
1994	Salprolait	Specialist in the preparation and packing of sliced cheese
1994	La Carbonique	Increased its shares from 10% to just over 20%
1995	Polenghi	Acquired cheese division of this Italian firm
1996	Marcilait	French cheese producer
1996	Polser	Polish cheese producer
1996	Laiterie de Nikolaiev	Joint venture with this Ukrainian company to produce butter and casein
1997	Vallee	French cheese producer
1997	Ulcanel	Acquired 51% stake in two Ulcanel dairy plants in northern France
1997	Ladhuie	French fresh dairy dessert producer
1998	Locatelli	Italian Mozzarella producer purchased from Nestlé
1999	Concord Marketing and Simplot Dairy Group	Takeover of this two US based cheese producers
2000	Fromageries Raguin and Fromagerie Matocq	French producers of cancoillotte sheeps milk cheese
2000	Société Rey-Rolland	French producer of Brie de Meaux

Source: www.lactalis.com, 2002; "*Europe's Dairy Industry, 2001/02*", by B. Wilson, 2001, (pp. 59-60); Euromonitor: Global Market Information Database, 2001.

The Sorrento-Lactalis division looks after the company's interests in the United States, mainly cheese. In 2000 the cheese output for the region was 190,000 tonnes, which placed Lactalis as the sixth largest cheesemaker in the country, producing mould-ripened and Italian-type cheeses such as Mozzarella, Ricotta and string cheeses. The division operates six processing plants and sales are made under the *Président* brand for speciality cheeses and *Sorrento* and *Precious* brands for Italian-type cheeses.

In 2001, three specialist cheese divisions, Société, Lanquetot and Valmont, merged to form one division, now called Société. This division is responsible for AOC cheese production, with one quarter of output being exported. *Société* and *Président* are considered global brands, and transmit the image of products with high quality standards. The company believes that strong brands guarantee better positioning against increasing powerful retailers and invests heavily in brand recognition and marketing strategies.

The Président Division with ten cheese factories and two butter plants is focused mainly on producing butter, hard cheese, soft-ripened cheese and semi-hard cheese. *Président* is a cross border umbrella brand, a true global brand sold in 123 countries, ranging from cheeses, butter and creamy and spreadable products. It is the leader in the soft (Camembert) and semi-hard (Emmental) cheeses segments and in the butter segment in France and other countries of the European Union. The brand has also been licensed in Egypt and Tunisia.

The Bridel Division is focused on cream, desserts, sauces, and retail packs of butter and cheese. French people are the biggest butter consumers in the European Union, and perhaps in the world, accounting for an average per capita of 8.2 Kg of butter a year. *Bridel* is a key player in the butter sector not only in France but also in other countries in Europe. Its renewed strength comes from the new lines – churned butter and butter with sea-salt -, from the introduction of new products – "easier to spread butter" -, and from strong positions achieved in the low-fat market.

In 2000 *Bridelight* and *Bridélice* were introduced as Bridel's sister brands. *Bridelight* represents the company's response to the shift in consumer demand towards healthier and

functional dairy products, in the form of low-fat desserts and butter and *Bridélice* is the brand for a new line of creams.

The Europe Division is responsible for Lactalis' processing plants in Spain, Belgium, Italy, Germany, Ukraine and Poland and sales offices in the UK and in Moscow (Euromonitor, 2001). Lactalis has a joint venture in Belgium with a local co-operative, processing 153 million litres of milk collected from farmers plus milk purchased on the open market from Germany. Lactalis is also a major operator in Spain, processing 170 million litres of milk and producing UHT milk, cheese and yoghurt (Wilson, 2001). Although only a slight share of the groups' sales comes from Eastern Europe, Lactalis is investing in countries with large dairy production, such as Ukraine and Poland. Two processing plants have been built in Ukraine through a 51% stake in a joint venture agreement. In Poland the move was more aggressive and Lactalis took an 83% stake in the cheese group Polser.

Lactel is the liquid milk division and *Lactel* brand is a major player in the regional UHT milk market. With market and gains for the liquid milk segment diminishing, Lactalis has developed speciality milks under the same brand, such as 'Bio', Omega 3 and Calcium reinforced milks, reduced lactose, bifidus milk and baby milk. In the organic milk market, *Lactel* occupies a dominant position with a 60% market share, in a sector seeing a 24% growth in annual sales (Lactalis Annual Report, 2001).

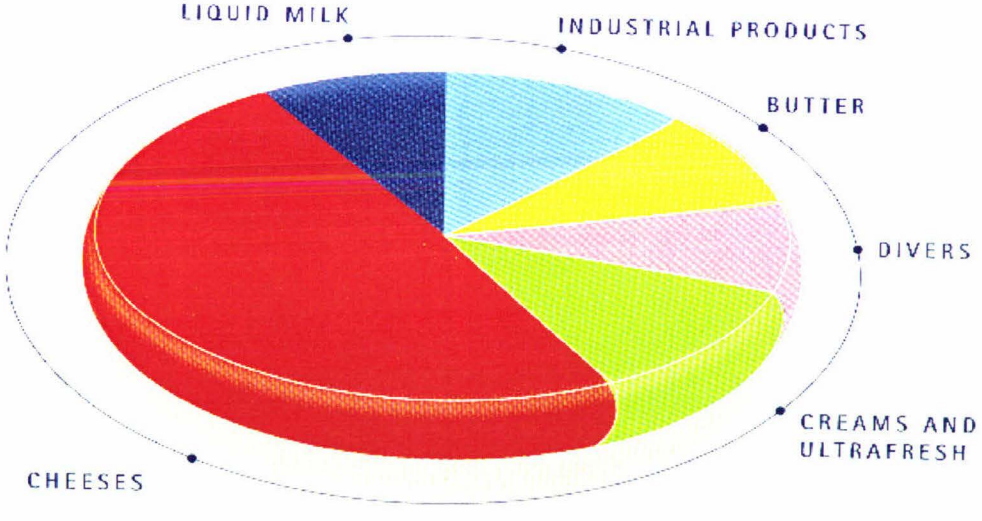
Lactalis Industry focuses on the needs of the industrial and food processing markets. The company produces the full range of milk powders, whey products, casein and caseinates and last year's dairy ingredient output reached 200,000 tonnes out of 590,000 tonnes of industrial products. BBA is the division of Lactalis Industry specialised in dairy ingredients and through 10 manufacturing sites it processed 2 million litres of milk in 2001 (Lactalis Annual Report, 2001). According to Rabobank International (2001a) most leading cheese manufacturers in Europe are increasingly targeting the dairy ingredients market, which is believed, to be growing as a result of the increasing use of formulated products by the food industry.

Lactalis Food Service is specialised in Emmental for sandwiches and Mozzarella for pizzas, among others specialised catering products and packs. Still the company's focus tends to be value-added consumer products sector.

Key figures

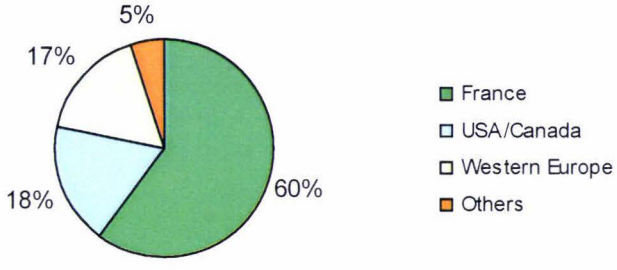
Although Lactalis SA does not publish its sales breakdown per product division, some general figures can be found in the company website and in the Annual Report. Figure 5.10 illustrates the sales breakdown based in dairy segment and Figure 5.11llustrates turnover breakdown in regions.

Figure 5.10 Lactalis sales by product segment, 2001



Source: Lactalis Annual Report, 2001, p. 3.

Figure 5.11 Lactalis turnover breakdown by countries, 2001



Source: Personal Communication, 2003

Lactalis is strategically investing in Eastern European countries, where dairy consumption is expected to grow more rapidly than in mature developed markets of Western Europe. Eastern Europe also offers lower cost base for milk production, collection and processing. Lactalis has neither made significant investments in Latin America nor in Asia, although some of its branded products, such as *Président* are exported to several countries within these regions.

Milk supply

Lactalis sources about 4.6 million tonnes of milk from almost 25,000 milk producers throughout France, including cow's milk, sheep's milk and goat's milk. Approximately 4.5 million tonnes of cow's milk were sourced from 20,000 farmers in 2001. Sheep's milk and goat's milk are mainly collected from the Southern and South Western parts of the country, and were supplied by 4,250 farmers. The average milk price paid by Lactalis in 2001 was between Euro 0.32 and 0.37/kg of milk (Personal Communication, 2003).

The French pricing agreement for milk allows for a cushioning of price variations. "The Lactalis Group is strongly in favour of the satisfactory functioning of this agreement. It should evolve as planned towards taking account of changes in consumer demand" (Lactalis Annual Report, 2001, p. 7). Nevertheless, according to Rabobank International (2001b), the French milk price index system still arouses controversy between suppliers

and processors. French farmers' union would be keen to develop support for the principle of milk price indexing and even try to introduce an index across the European Union. The price of milk at the farm gate in France rose by 4.5% over the year 2001, because of the quarterly delay existing between the observation of prices and their effects on production.

Lactalis has centralised some of its milk supply activities and strategies in France with the creation of the Milk Supply Department, which handles all issues relating to production, collection and logistics of milk transportation. Still, each division – Président, Lactel, Société, Lactalis Industry and Lactalis Food Service – independently performs collection and processing activities.

Lactalis provides general services to the producer and encourages the quest for quality among its suppliers. Some services offered are:

- technical assistance for milking rooms and machines;
- guidelines to improve animal health and general farming practices;
- herd record keeping;
- seasonal reports offered in the company web site;
- fertiliser recommendation;
- calve rearing mixed ratio, and
- general services to improve milk production and milk quality.

Since 1999, Lactalis' Milk Supply Division has been developing among its suppliers the theme "quality from farm to plate" and it has reinforced such a theme with the Group quality charter, "Ahead for the Future". A guide of good farming practices that provide the consumer with transparency and traceability. The certification provides guidance and rules in different levels of production: livestock identification; sanitary aspects of production; feed quality; animal welfare; environmental and citizenship concerns and milk quality. Such initiative requires both, the company and the producer, to observe legal obligations and regulations. The certification of producers is carried out by an independent firm and encouraged by Lactalis. More than 50% of the milk processed by the group was certified by the end of 2001.

5.8 MURRAY GOULBURN CO-OPERATIVE

Table 5.19 Country Facts – Australia, 2001

Population	19.3 million
Milk production	11 million tonnes
Per capita consumption	
Liquid Milk	106.8 kg
Cheese	12.3 kg
Butter	3.0 kg
Biggest dairy companies	***Dairy turnover (US$ million)***
Murray Goulburn, 2001/02	1,093 [1]
Dairy Farmers Group, 2000/01	671 [2]
Bonlac Foods, 2000/01	620 [3]
National Foods, 2000/01	516 [4]

[1] Financial year ended June 2002; Sales Revenue = A$ 2,012 million converted at the average annual exchange rate, 2002 (1A$ = US$ 0.5437) from the Federal Reserve Bank, USA.
[2] Financial year ended June 2001; Turnover = A$ 1,300 million. [3] Financial year ended Jun 2001; Turnover = A$ 1,200 million. [4] Financial year ended Jun 2001; Turnover = A$ 1,000 million. Figures converted at the average annual exchange rate, 2001 (1 A$ = US$ 0.5169) from the Federal Reserve Bank, USA.

Table 5.20 Murray Goulburn at a glance

Sales Revenue, 2002 (US$ billion)	1.093 (A$ 2.0 billion)
International sales	65% of sales originated from exports
Personnel	2,000
Member suppliers	3,508
Total milk processed	4.1 million tonnes
Milk processed abroad	None
Core business area	Dairy products
Core product	Dairy ingredients
Processing sites	7
Subsidiaries abroad	None
Main brand	*Devondale*

Company overview

Murray Goulburn has evolved to become Australia's largest dairy processor, processing over 4 million tonnes or 36.7% of total Australian milk production in 2002. The company is co-operatively owned by 3,508 dairy farmers from Victoria, the largest milk producing state in the country, and also from southern New South Wales and south eastern South Australia.

Group's sales revenue has been steadily increasing, at an average rate of 15% p.a. for the 1998 and 2002 period. It amounted to US$ 1,093 million in 2002 (A$ 2,012 million), of which 65% came from exports. Murray's main focus is specialised dairy ingredients for the domestic and international food processing industry. Its main brand in the domestic market is *Devondale*, with strong presence in the long life milk market.

Company history and development

Murray Goulburn Co-operative roots back to the 1950's when it was established by 14 dairy farmers under the name Murray Valley Co-operative Dairy Products and Trading Company Ltd. The name change came in the 1960's when the company started to expand locally, acquiring some 50 small dairy processors in the region. In 1972 it acquired the cream division of Devondale Cream Company and the *Devondale* brand was established.

Although the company has not recently engaged in mergers and acquisitions, apart from the acquisition of Kraft's cheese factory in Leitchville in 2001, it has been able to realise significant internal growth. For example, total sales increased by 82.9% over the 1994-1999 period, while milk supply increased by 43.3% (Van Bekkum, 2001).

Operations and brands

Murray Goulburn's operations are separated in Manufacturing, Exports, Domestic [retail and ingredients], Trading Stores and Field Services. Export sales of bulk dairy ingredients accounted for 65% of the group's sales revenues, with a volume of over 400,000 tonnes of dairy products exported. The main products exported are milk powders, butter and specialty ingredients, such as lactose and milk proteins. Meanwhile the Domestic Ingredients business achieved record sales of US$ 138 million, with cheese and specialty powders representing the main outputs. The group intends to develop a national supply chain for dairy ingredients.

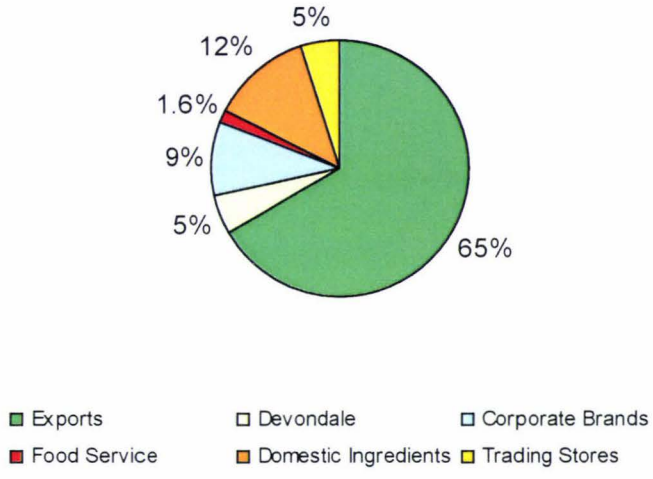
The manufactured milk sector accounts for 80% of the milk production in Australia and is dominated by Murray Goulburn and Bonlac Foods, the latter exporting about 50% of its output. Market and regulatory conditions in Europe and in the United States largely affect the performance of these companies in the ingredients segment.

At domestic level, the group operates in the retail business as well as in the ingredients businesses. Devondale Division is responsible for the marketing of consumer packaged foods, and is especially active in the long life liquid milk, cheese, cream and butter and spreads segments. *Devondale* acts as an umbrella brand for the group and had 18% market share of the long life milk sector in 2002. The market milk sector in Australia accounts for 20% of production, and is dominated by three companies – Dairy Farmers, National Foods and Parmalat. Nevertheless, Murray Goulburn has invested in branding and marketing activities to increase the company's presence in this segment. The retail business combined responded for 16% of the group's total sales. This figure includes Corporate Brands Division (private label products), with sales of US$ 103 million, and the Food Services Division, with sales of US$ 18 million. The Trading Stores Division is an essential part of the group's focus in providing suppliers with rural merchandise, farm requisites and hardware. Sales amounted to US$ 55.5 million.

Key figures

Australian dairy companies have historically evolved around specific segments of dairy products and specific markets. Companies that have tended to focus in the domestic market are especially well positioned in the consumer goods segment, while companies with considerable focus in international markets, such as Murray Goulburn, rely on the export of dairy ingredients. Australia accounts for about 15% of the international trade of dairy products, a very competitive segment of the market, since only 5-7% on average of the world milk production is traded internationally.

Figure 5.12 Murray Goulburn sales revenue by division, 2002.



Source: Murray Goulburn Annual Report, 2002.

The group's sales revenue have been steadily increasing since 1998, and from 2001 to 2002, it rose by 24% especially due to the acquisition of Kraft's cheese plant and the strategic alliance between the two companies. Operating profit have also increased by 24%, and export revenues have doubled from 1998 to 2002, from A$ 611 million to A$ 1,323 million.

Overall, the group has shown ability to cope with the new deregulated environment of the Australian dairy industry, investing in rationalisation and efficiency of its plants as well as in scale and alliances. Recent talks with Bonlac Foods about a possible merger, will strengthen further the group's position in international markets.

Milk supply

Murray Goulburn's 3,508 member suppliers received a record payout of A$ 8.20/kg of butterfat equivalent for the 2002 season. With an average of 4.1% of fat per kg of milk, farmers' payout was US$ 0.18/kg of milk. The pricing system follows a value determined

at the beginning of the season, with concurrent adjustments according to market expectations and a final adjustment reflecting annual performance.

The co-operative's payout has been the highest among other Australian dairy co-operatives in the last years, which explains constant increases in milk supply. Entry conditions are mainly open, but there is an entry fee deducted from the first two years' milk price payments (Van Bekkum, 2001).

The Field Services Division activities focus around issues of on-farm quality, improving milk quality, herd yield and financial management. The company has developed two on-farm quality assurance programmes, MG Milkcare and MGF@RM. MG Milkcare programme paid A$ 15.7 million on premium to nearly 99% of MG suppliers over the past year. More than 90% of the total milk supply attracted a quality premium payment.

5.9 NORDMILCH GROUP

Table 5.21 Country Facts – Germany, 2001

Population	82.8 million
Milk deliveries	27 million tonnes
Per capita consumption	
Liquid Milk	90.2 kg
Cheese	21.6 kg
Butter	6.5 kg
Biggest dairy companies	***Dairy turnover (US$ billion)***
Nordmilch (2001) [1]	2.14
Tuffi Campina/Emzett Group	2.13 [2]
Humana Milchunion	1.70 [2]
A.Muller	1.38 [2]
Hochland	0.74 [2]

[1] From Company Annual Report, 2001; converted at the exchange rate of 1 German Mark = 0.5112 Euro, and average annual exchange rate of 1 Euro = US$ 0.8952. [2] From Rabobank International, 'Dairy companies in the European Union', 2001.

Table 5.22 Nordmilch at a glance

Ownership structure	Co-operative
Total turnover, 2001 (US$ billion) [1 2]	2.142 billion (Euro 2.39 billion)
International sales (% of turnover)	23%
Personnel	4,436
Number of member suppliers	12,453
Total milk processed	3.8 million tonnes
Milk processed abroad	-
Core business	Dairy products
Core product	Cheese and fresh products
Cheese production (tonnes)	94,758
Cheese sales volume (US$ million)	420
Processing sites	14
Subsidiaries abroad	-
Main brand	*Milram, Oldenburger*

[1] Total turnover is equal to dairy turnover; Nordmilch reports its financial figures in German Deutsche Marks, 1 DM = 0.511 Euro and average annual exchange rate of 1 Euro = US$ 0.8952.for the year 2001 [2] Year ends December, 2001.

Important developments and company overview

The structure of the German dairy sector differs significantly from its neighbouring and competing countries, because it is still very fragmented. Consolidation has only started to take place in the last few years. The largest 63 dairy operations (handling over 100 million Kg of milk a year) had a total output of just under 26 billion tonnes – almost the same as

the total German milk deliveries. There are about 144 thousand dairy farms and the average herd size is 31 cows, with a yield of 6,112 litres per cow. In addition, the government has been favourable in preserving the structure of dairy farming, maintaining the local focus. Altogether, plus the reunification of East and West Germany in 1990 contribute to a still relatively fragmented dairy processing sector (Wilson, 2001).

Nevertheless, rationalisation and concentration phenomena are taking place, and since 1996 the number of dairy processing companies are dropping. The collapse of the Russian market in1998, and tougher competition led to a rush of mergers and acquisitions, and the number of processors fell to 170.

The largest dairy processor in Germany was created in 1998 following the merger between Nordmilch eG, MZO, Hansano and Bremerland-Nordheide. The company is positioned in 20th place in the worldwide ranking of dairy companies on a turnover basis (IDF, 2002), and it is the fifth largest dairy company within the European Union based on volume of milk processed.

Nordmilch combined the forces of four major dairy co-operatives from the northern half of Germany and now operates particularly in the Northern West region. The decision to merge was made in face of fierce competition with other local and regional processors for milk supply and markets, in face of an increasingly concentrated food retailing industry, and search for scale and efficiency (Nordmilch Annual Report, 2000). The company now collects and processes about 14% of the nation's milk production through 14 processing facilities and has 12,453 member suppliers.

Since the merger, rationalisation and streamlining measures are being implemented. The company closed the year 2001 with 4,436 employees, a reduction of 156 employees compared to 4,592 in 1999, and with 14 processing sites compared to 20 in 1999 (Nordmilch Annual Report, 2000, 2001). The acceleration of dairy industry restructuring witnessed a large number of farmers abandoning the activity, as well as an increase in herd

size and yield per animal. As a result, Nordmilch's supply members decreased from 13,259 in 1999 to 12,453 in 2001.

The co-operative's main activities are production of cheese and fresh products. The main market is the sophisticated and demanding domestic market, accounting for 77% of total sales in 2001. Exports represented 23% of sales, of which 86% were intra-European and 14% to third countries, mainly Russia, the Middle East and other East European countries.

Company history and development

The merger between Nordmilch eG, Hansano, MZO and Bremerland-Nordheide was one of the first large mergers in the German dairy sector. Most of the dairy co-operatives and dairy companies act mainly at local market level. Analysts believe the sector will increasingly consolidate and large dairy companies as Nordmilch, Humana Milchunion and Tuffi-Campina will dominate the market for mainstream dairy products, and small producers and processors will increasingly dominate organic and other niche markets.

Prior to the merger, each individual company had strong regional brands, such as *Milram* (premium fresh products), *Oldenburger* (premium cheese), *Burlander* (cheese), *Hansano* (local fresh products), *Botterbloom* (ice-cream) *and Bunte Berte* (butter). Nordmilch has developed a corporate strategy to be carried out over the next few years that intends to strengthen core activities and brands such as *Milram* and *Oldenburger* at national levels and to maintain and develop further super-regional brands such as *Hansano* and *Burlander*.

Since January 2001, Nordmilch has had a co-operation agreement with Adelbyer Nordfriesland Milch, which became a merger agreement in January 2002, bringing an extra 325 million kg of milk supply to the group.

Operations and brands

Nordmilch's headquarters are located in Bremen, and the company processes milk through 14 facilities located mainly in the northern region of Germany. Research & development and marketing of dairy products are centralised within the headquarters, which is pushing forward a wide restructuring plan since the merger.

The marketing division currently focuses on development of national brands as well as strengthening of regional ones. Nordmilch has inherited a number of different brands from the legacy companies, and the challenge is to identify, maintain and develop further core products, brands and activities (Nordmilch Annual Report, 2001).

Milram and *Oldenburger* are increasingly becoming strong national brands in the premium fresh products and cheese sectors respectively. *Hansano* is a very strong regional brand and prior to the merger, the manufacturer held 2.3% share by value of the dairy products sector (Euromonitor, 2000b). Combining the shares that individual companies held before the merger, Nordmilch Group responds for at least 4.6% share by value of the whole German dairy sector, compared to the Dutch company Campina's 3.9% and Nestlé's subsidiary 3.6%. Nestlé's strong presence in Germany can be attributed to their dominant position in the condensed milk subsector, as Germans consume such product as a substitute for liquid milk.

The product range of Nordmilch is very extensive and includes:

- Liquid products – pasteurised and UHT milk, milk drinks, cream, coffee cream, condensed milk, evaporated milk, concentrates and sauces
- Fresh products – yoghurt, desserts and quark
- Butter
- Cheese – hard, semi-hard & Mozzarella
- Whey products – powders and concentrates
- Milk powders – cream, whole milk, skim milk and butter milk
- Other products – ice-cream and sterile products (Nordmilch Annual Report, 2001).

As Nordmilch implements restructuring plans and its new corporate strategy, more focus will be placed on consumer products with high added value. Research and development activities will focus in developing innovative products as a response to sophisticated consumer demands.

Key figures

Table 5.23 provides a review of Nordmilch's key figures for the 1998-2001 period. Figure 5.13 and 5.14 illustrate the co-operative's sales by product segment and by geographical region.

Table 5.23 Key figures, Nordmilch Group, 1998-2001

	1998	1999	2000	2001
Turnover (million Euro)	2,339	2,235	2,206	2,392
Turnover (US$ million)[1]	2,492	2,380	2,036	2,141
Exports (%)	25	28.4	26	23
Employees	4,587	4,592	4,446	4,436
Milk received (million kg)	4,132	4,132	3,967	3,894
Price paid out (pfennig/kg) [2]	59.02	55.04	57.75	63.38

[1] Average annual exchange rate of 1 Euro = US$ 0.8952 (2001); US$ 0.9232 (2000); US$ 1.0658 (1999).
[2] Average milk composition 3.7% fat and 3.4% protein.

Source: Nordmilch Annual Report, 2000, 2001.

With only modest growth in the last two seasons, Nordmilch is going through rationalisation and streamlining measures, to improve efficiency in the processing sites. Increased competition in the domestic market has also squeezed margins and profits. Germany is one of few countries in the European Union in which overseas dairy companies play major roles in the market.

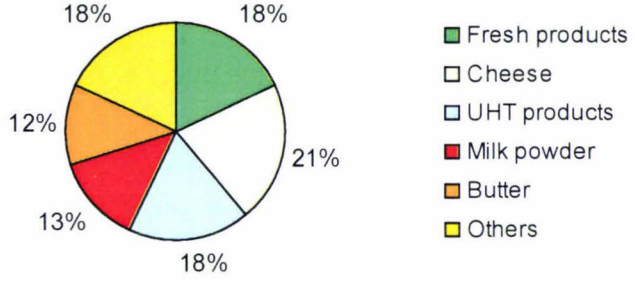
An increase of 9% in domestic sales from 2000 to 2001 was responsible for the marginal improvement in total sales. Cheese and fresh products are the main product segments for the company (Table 5.24 and Figure 5.13).

Table 5.24 Nordmilch' sales volume by markets (in million Euro)

	Domestic	E.U.	Third country*	Total
Fresh products	388.2	22.9	0.140	**410.2**
Cheese	359.3	94.9	15.2	**468.3**
UHT products	335.4	44.8	16.2	**395.7**
Milk powder	75.7	200.4	30.2	**306.2**
Butter	226.1	25.4	7.6	**258.6**
Others	326.7	70.5	0.717	**397.1**
Total	**1,711.7**	**458.0**	**70.0**	**2,236.3**

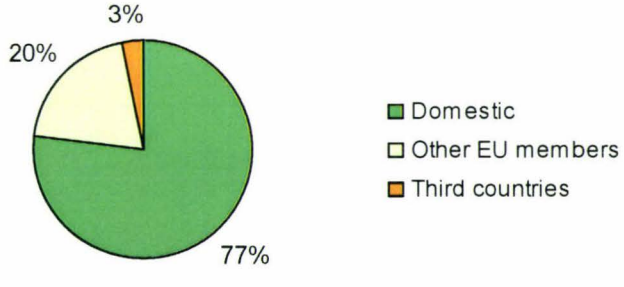
Source: Nordmilch Annual Report, 2001.

Figure 5.13 Nordmilch' sales by segment, 2001



Source: Nordmilch Annual Report, 2001.

Figure 5.14 Nordmilch' sales, geographical breakdown, 2001



Source: Nordmilch Annual Report, 2001.

Milk supply

Since the merger between Nordmilch Group and Adelbyer Nordfriesland Milch eG, the area of milk collection was expanded up to the Danish border and now the entire region of Northern Germany is covered by Nordmilch and all associated companies (Nordmilch, Annual Report, 2001).

Nordmilch is a registered co-operative society and milk is collected from 12,453 members, including 21 smaller dairy co-operatives, amounting to 3.2 million tonnes of milk, plus 533 thousand tonnes purchased on the spot market.

Nordmilch provides support to member-suppliers in the production stage through 'producer consultants'. These professionals give expert counsel and assistance in all issues regarding milk production and especially in the preparation of official documents to certify their milk quality. Since the outbreaks of FMD (Food and Mouth Disease) and BSE in Europe, German consumers are increasingly demanding traceability of products. Nordmilch encourages exemplary documentary evidence among its suppliers and believes that it is the most profitable investment in consumer confidence (Nordmilch Annual Report, 2001). The implementation of the standards of the quality assurance system has been encouraged by the company, and provides guidance from the production of animal feed through to milk harvesting. Producer milk prices have increased over the last few years, despite slight decreases in total turnover.

5.10 PARMALAT SPA (GROUP)

Table 5.25 Country Facts – Italy, 2001

Population	57.6 million
Milk deliveries	10.3 million tonnes
Per capita consumption	
Liquid Milk (2000)	87.2 kg
Cheese	21.4 kg
Butter	2.7 kg
Biggest dairy companies	***Dairy turnover (US$ billion)***
Parmalat (2001)	5.9 [1]
Galbani	1.38 [2]
Granorolo	0.426 [2]

[1] From Company Annual Report, combines Milk Business Division and Fresh Products Division; converted according to the annual average exchange rate for the year 2001 of 1 Euro = US$ 0.8952 from the Federal Reserve Statistical Release (USA). [2] From Rabobank International International, 'Dairy companies in the European Union', 2001; converted at the same exchange rate aforementioned.

Table 5.26 Parmalat at a glance

Ownership structure	Public
Total turnover, 2001 (US$ billion)	6.98 (Euro 7.8 billion)
Dairy turnover, 2001 (US$ billion)	5.90 (Euro 6.28 billion)
International sales (% of turnover)	67% outside Europe
Personnel	36,000 worldwide
Total milk processed	N/A
Milk processed abroad	N/A
Core business area	Dairy products – milk and fresh products
Core product	Liquid milk UHT – 57% of group's turnover
Processing sites	146
Subsidiaries abroad	86 in 30 countries (year 2000)
Main brand	*Parmalat*

Company overview

Parmalat was founded in 1961 in the region of Parma, Italy, and has in recent years rapidly expanded to become one of the leading global food/dairy companies, with interests in the European Union, North America, Latin America, Eastern Europe, Asia and Australia.

Parmalat was established and still remains controlled by the Tanzi family, who through a private company has 49.95% stake in the holding company, Parmalat Finanziaria SpA, which is listed on the Milan and Vienna Stock Exchanges (Parmalat Annual Report, 2000). Calisto Tanzi is the chairman and managing director of the company and has major influence on strategic decisions.

Parmalat pursued growth through acquisitions, and has grown from a large company operating in six countries in 1990 – Italy, Germany, France, Portugal, Spain and Brazil – to a large multinational, present in 30 countries only nine years later. The company started as a dairy manufacturer in the Parma region of Italy and has developed into a diversified company with interests in fruit juice, tomato products, baked goods, canned chilled and frozen foods, chocolate and sugar confectionery, and non-food activities such as publishing, broadcasting and aviation. In 2000 Parmalat comprised of 150 companies worldwide (Euromonitor, 2001).

Milk remains the core activity of the company and the Milk Business Division accounted for almost 57% of the group's turnover in 2001. Combined with the Fresh Products Division – yoghurt, desserts, ice-cream, margarine, cheeses and butter – this figure increases to almost 81% of total turnover coming from dairy products in 2001 (Parmalat Annual Report, 2001).

Company history and development

Calisto Tanzi inherited the company *Tanzi and Sons – Fresh Cuts and Preserve* from his father in 1961. Very early on the young entrepreneur decided to engage in other activities and started by building a small pasteurising plant in the town of Collecchio. The company created was called Parmalat – milk from Parma – and it produced the first branded milk in Italy. Ever since Parmalat has invested in brand development, product innovation and image.

By 1966 the company started producing and selling UHT milk – a revolution in the dairy sector, that extended the shelf life of milk from few days to six months without

refrigeration. The UHT technology would make Parmalat the leader in the liquid milks sector in Italy. Two other important developments in the 1970's would facilitate Parmalat's growth. Firstly, the legislation that restricted whole milk sale to specialised dairy shops was removed, and secondly the monopoly rights enjoyed by the Dairy Co-operative of Rome were removed, allowing Parmalat to quickly expand domestically.

By 1974, giving strong regional competition from other European companies, Calisto Tanzi decided it was time to internationalise, and Parmalat entered the Brazilian market to produce yoghurt, but soon after shifted to UHT production. The seventies were market by further expansion overseas – Germany and France – and product line diversification.

The long-term growth strategy pursued by Parmalat peaked in 1998, when the company acquired approximately 20 companies, all over the world. The internationalisation curve is remarkable and makes Parmalat one of the fastest growing companies within the food/dairy sector (Rabobank International, 2001a).

Today Parmalat is present in 30 countries, collecting, processing and marketing a wide range of dairy products, fruit juices, tomato products, bakery products, confectionery among others. Parmalat has evolved into one of the five truly multinational companies operating in the dairy sector. However, the burden of the debt created by such an aggressive growth strategy, has seen low profitability in key markets and not so favourable ratings by market analysts.

Operations and brands

Parmalat is owned by the holding company Parmalat Finanziaria, which in turn wholly owns two investment arms – Dalmata Srl and Parmalat Spa, These arms own majority stakes in all Parmalat's subsidiaries across the world, except by Boschi Luigi & Figli Spa (Italy), in which it holds a 49% stake.

Recently, the company adopted a restructuring and streamlining plan intended to delegate more autonomy to management of subsidiaries in key markets and to rationalise corporate

structure and trade network. Parmalat's subsidiaries adopt a national flavour in the countries where they operate as well as strong local marketing and acquisitions strategies, reflecting the vision of corporate management of a multinational company (not an Italian one), and the underlying philosophy of *"growth for competing"* (Parmalat Annual Report, 2000).

Some of the group's major subsidiaries are: Ault Food Ltd and Beatrice Foods Inc in Canada; Centralle del Latte di Genova and Giglio in Italy; Clinton Milk Co, Kinnet Dairies Inc, Sunnydale Farms Inc and Parmalat US Corp in the USA; Parmalat Argentina SA; Parmalat Brasil Ltda; Parmalat France SA; Parmalat Iberica SA and Pauls Ltd in Australia. It also has substantial presence in Venezuela, Colombia and South Africa.

As cited earlier, the company has vehemently pursued a strategy of expansion, both domestic and international, through acquisitions. Table 5.27 depicts the acquisitions' activity of the group since 1992. According to Annual Report (2000), the group believes to have completed the acquisitions programme, and now has a presence in all five continents. The new phase in which Parmalat will focus is underpinned by the introduction of new products, such as special milk products in the UHT line.

Table 5.27 Parmalat growth strategies through acquisitions

Year	Company acquired	Operation/Activity
2001	Quesos Nacionales CA	A Venezuelan cheese manufacturer
2001	Kraft's Milk Division in Brazil	The activities in Brazil are carried out by Gloria
2001	Citicorp's shareholding in Parmalat Canada were acquired	The subsidiary is now whole owned
2000	Dairytime Ltd	Acquisition of controlling interest in this English company (yoghurt sector)
	Nuprosa (dairy products) Helados Royne (ice cream)	Acquisition of entire shareholding of these two Spanish companies
	Streglio	Domestic expansion – chocolate
	MA Holdings	Penetration of branded bakery sector in the North American market
	Gala Italia Spa	Domestic expansion
	Netgrocer.com	A 22% stake in the American on-line grocer

Cont'd **Table 5.27 Parmalat growth strategies through acquisitions**

Year	Company acquired	Operation/Activity
1999	JV with Conaprole	Production base in Uruguay
	Eurolat spa, Centrale del Latte di Roma	Consolidation of domestic market
	Cirio	Increased market share to 40% of the liquid milk sector in Italy
1998	Batavia SA	Acquisition of established dairy processor in Brazil
	Belgorodo Dairy	Acquisition of 75% of the Russian company
	Bonnita Holdings Ltd	Entry into the South African market
	Cegled Tejipari RT	Acquisition in Eastern European market – Hungary
	Clesa	Acquired 51% of a large dairy manufacturer in Spain
	Centrale del Latte di Monza	Domestic consolidation
	Clinton Milk, Farmland Dairies Inc., Peelo Jersey Farms Inc., Welsh Farms Inc., Kinnet Dairies Inc., Sunnydale Farms Inc.	Establishment of a strong base in the US market
	Dairyfields Ltd, Pauls	Australia as an entry to Asia
	Union Ganderense SA Lactona	Strengthening position in South America – Argentina
1998	Processadora de Leche SA	Strengthening position in South America – Colombia
1997	Beatrice Foods	Acquired 75% stake in Canadian producer of milk, yogurt and juice
	Ault Foods	Acquired 71.3% stake in Canadian producer of cheese and butter
	Cooperativa Central de Laticinios do Parana	Acquired 51% of one of Brazil's largest dairies
1995	Indulac CA	Acquired Venezuelan dairy firm
1996	Haberfields	Acquired regional dairy in New South Wales, Australia
	Tianjin Dairy Ltd	Acquired Chinese dairy company
1994	Parmalat Produtos Alimentares	Acquired dairy plant in Mozambique
1993	Centro Latte Bovisio	Dairy trading company in Italy
	New Atlanta Dairies	Acquired US dairy firm
	Lactaria	Acquired Uruguayan dairy company
1992	Centrale Latte Genova, Panna Elena CPC, Centrale del Latte Brianza	Domestic expansion
	Fejertej – Hungary	Acquired 60% of this dairy company

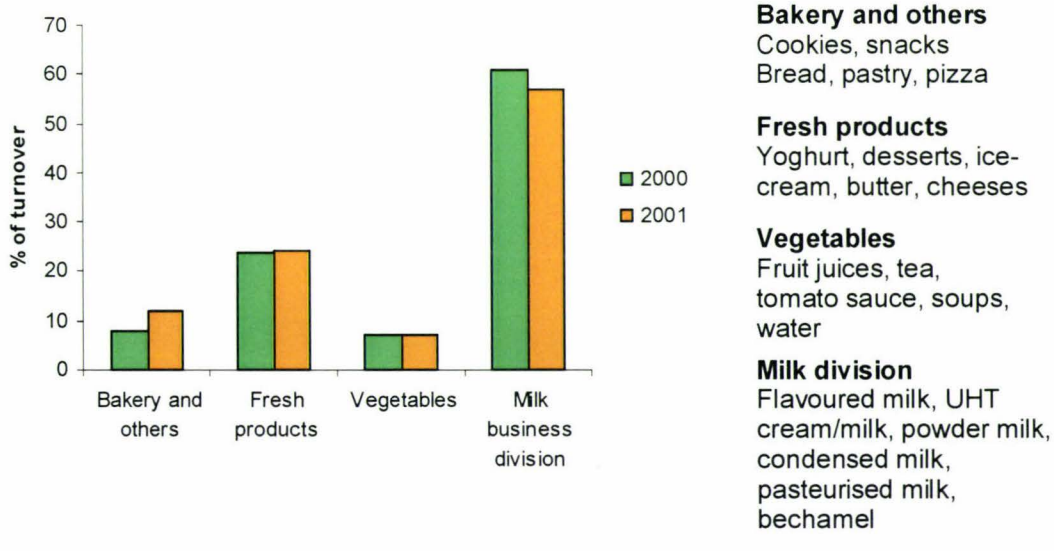
Source: various

Parmalat has strong brands in various markets where it operates, and within the dairy sectors the *Parmalat* umbrella brand is particularly powerful in South American countries, Italy and Spain. In the North American market *Beatrice* is a strong brand in the flavoured milk drinks market. Other dairy product's brands include: *Crème de Leche* (cream), *Knock-out*, *Yogofun* (drinking yoghurt), *Giglio* and *Mantequilla* (butter), *Mighty Nice*, *Milk Shake* (flavoured drinks), *Fromage frais* (flavoured yoghurt), *Delact*, *Dietalat*, *Plus*, *Primeros Pasos* (milk powder).

Key figures

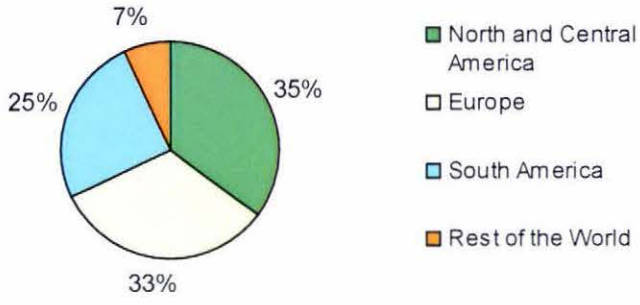
Parmalat Group publishes its annual results based on product division (Figure 5.15 and 5.16) and geographical breakdown (Figure 5.17) Although from year 2000 to 2001 the Vegetables Division did not show substantial growth, that hasn't been the case over the years. In the 1996-1999 period this division reported growth of 453% due to Parmalat's diversification, while the Milk Division reported a slow growth rate of 18% for the same period. Parmalat relatively enjoys a well-established milk business in the majority of the countries in which it is active and has adopted a long-term diversification strategy.

Figure 5.15 Parmalat sales by division as % of turnover, 2000-2001



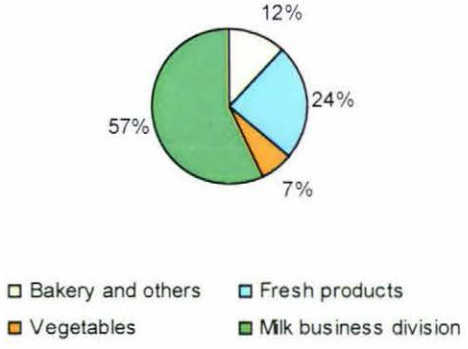
Source: Parmalat Annual Report, 2000; 2001

Figure 5.16 Parmalat sales by division, 2001



Source: Parmalat Annual Report, 2001

Figure 5.17 Parmalat sales by geographical division, 2001



Source: Parmalat Annual Report, 2001

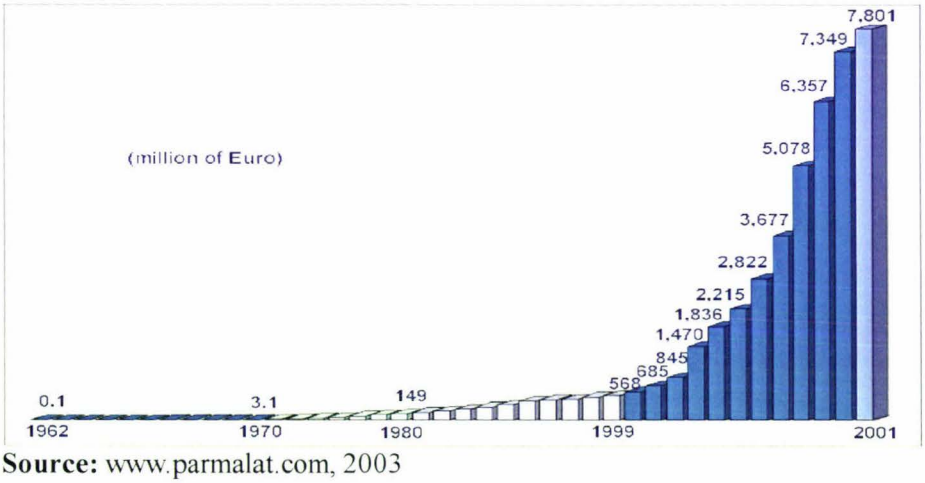
Italy continues to represent the strongest market for the company in Europe, where they enjoy market shares of 40.5% and 36.5% in the UHT and fresh milk segments respectively (Parmalat Annual Report, 2000).

Parmalat is also a strong household name in Canada, where it was one of the three leading food companies in 1999, despite a total share by value of the North American market of 1.9% (Euromonitor, 2001). In Latin America Parmalat is particularly well-placed in the Brazilian market, the largest market in the region, where the company has operated since 1974, and today holds almost 16% of the liquid market. Parmalat Brazil operates ten

processing plants and collects milk from more than 12,000 producers. UHT milk segment today leads the Brazilian market with a 44% share compared to pasteurised milk's 37% share (Vargas, 1999). Globally, Parmalat ranks second in the liquid milk sector, with a share of 4.3% by value of this sector.

One of the fastest growing companies within the food sector, Parmalat has a remarkable growth curve, based on the long term strategy of acquisitions and geographical expansion adopted by the company in the early 1990's, when domestic competition for the Italian market was getting fiercer and margins squeezed. Figure 5.18 illustrates the trend in Parmalat sales since its establishment.

Figure 5.18 Trend in Parmalat turnover, 1962-2001



Source: www.parmalat.com, 2003

CHAPTER SIX

CROSS-CASE DISCUSSION

6.1 INTRODUCTION

A cross-case analysis, based on the individual case study reports, is now presented. Relevant descriptive attributes identified during the composition of the individual cases are grouped into a single table (Table 6.1). This study adopted the model developed by Mintzberg and Waters (1982), in which the observation of a stream of actions and decisions will potentially reveal the strategic orientation of organisations.

Each of the relevant patterns that emerged from the cross-case analysis are listed and discussed in the next sub-sections as follows:

1. consolidation and concentration within the dairy processing industry;
2. internationalisation of large dairy processors;
3. increased emphasis on added-value strategies;
4. milk supply;
5. Increased processing capacity and plant specialisation;
6. Ownership structure influencing strategic orientation of firms, and
7. Concerns about food safety and environmental regulations,

In addition, Table 6.2 provides a SWOT analysis of the case study companies. This analysis is cross-sectional only and its main purpose is to provide a summary of observed strengths, weaknesses, opportunities and threats. Common threats faced by all case companies include: increasing power imbalance between food/dairy processors and food retailers, increased demand for substitutes of dairy products, notably soy products, and the possibility of war and associated consequences.

Table 6.1 Summary of case companies' descriptive attributes, 2001

	Arla Foods	Dairy Crest	Dean Foods	Fonterra *	FCDF	Lactalis	M. Goulburn *	Nordmilch	Parmalat
Year of establishment	2000	1996	2001	2001	1997	1933	1950	1999	1961
Headquarters	Denmark	UK	USA	New Zealand	The Netherlands	France	Australia	Germany	Italy
Domestic population	14.2 million	59.5 million	286 million	3.8 million	15.9 million	59.5 million	19.3 million	82.8 million	57.6 million
Ownership	Co-operative	Public	Public	Co-operative	Co-operative	Private	Co-operative	Co-operative	Public
No of member-suppliers	14,909	-	-	13,000	13,300	-	3,508	12,453	-
No of employees	18,200	7,790	31,000	20,000	16,700	15,700	2,000	4,436	36,000
Total milk processed (tonnes)	7.2 million	3 million	7.6 million	13.2 million	5.2 million	7 million	4.1 million	3.8 million	N/A
Milk sourced abroad (tonnes)	900,000	-	300,000	151,000	300,000	2.2 million	-	-	N/A
No of processing sites [1]	83	15	97	64	35	78	7	14	146 (incl. Non dairy)
Dairy Turnover, 2001 [2]	4,589	1,880	8,000	6500	3,910 (net sales)	4,930	1,093	2,142	6,980
International sales [3]	50%	7%	5%	95%	62%	40%	65%	23%	67% outside Europe
Main foreign markets [4]	UK, Germany	-	Spain	USA, SEA, Aust	Germany, SEA	USA and Canada	SEA	Western Europe	Can, SA, Aust
Core segment	Fresh dairy prod.	Liquid milk	Milk beverages	Milk powders	cheese	cheese	Milk powders	cheese	UHT milk
Operations [5]	Centralised	Centralised	Decentralised	centralised	decentralised	decentralised	Centralised	centralised	Decentralised
Main growth strategies [6]	M,JV	Ac, JV	Ac, Al	M, JV, Al	M, Ac	Ac	Internal growth, Ac	M, Al	Ac
Production linked support [7]	Yes	yes	yes	none	yes	yes	Phasing out	yes	Yes
Export subsidies	Yes	yes	yes	no	yes	yes	No	yes	Yes
Volume regulation	EU quota	EU quota	none	none	EU quota [8]	EU quota	None	EU quota	EU quota
On-farm services	Yes	yes	N/A	Indirect	no	yes	Yes	yes	Yes
Milk price, 2001 (US$/litre)	0.34	N/A	N/A	0.18	0.35	0.35	0.18 [10]	0.341	N/A

* Information refers to 2002 (ended May 2002 for Fonterra and June 2002 for MG) [1] No of processing sites includes milk processing facilities in the home country and recombining plants offshore

[2] (US$ million); Figures refer to Dairy Turnover, 2001 unless otherwise stated [3] International sales as % of Dairy Turnover, unless otherwise stated

[4] Aust = Australia; SEA = South East Asia (Thailand, Singapore, Philippines, Malaysia, Korea); Can = Canada; SA = South America

[5] Refer only to the operations by division and no to formal organisation structure [6] Main growth strategy adopted in recent years; M = Mergers; JV Joint Ventures; Ac = Acquisitions; Al = Alliances

[7] The European Commission has recently announced reforms to its agricultural policies, such as reduction of support prices, increased direct payment to farmers and increase in the quota system (+2%)

[8] Since 1998, FCDF adopts a closed membership policy, and company executives clearly states that increase in milk volumes is not welcome

[10] Price paid to producers in 2002 (A$ 8.20/kg of butter fat)

Table 6.2 SWOT analysis of case study companies

	Strengths	Weaknesses	Opportunities	Threats [1]
Arla Foods	• Strong positioning in the EU, specially Scandinavia, UK, Germany • Scale • Strong position in the liquid market segment • Cross-border merger initiative	• High milk cost • Quota system • Overly dependency on Scandinavian market	• Foothold in the Middle East, US and Latin America • Further consolidation in Scandinavia • Strong presence in the organic segment and snack foods	• Post merger issues • Milk supply • Declining liquid milk consumption in Sweden
Dairy Crest	• Value added focus • Dominant role in the UK market • National coverage	• High milk cost • Quota system • Reliance on domestic market	• International expansion into other EU markets	• Potential reduction in milk supply following crisis in UK farming industry • Declining doorstep consumption
Dean Foods	• Value added focus • License agreements with strong brands • Large domestic market • Protectionism • Direct store delivery system with nation wide coverage	• Over reliance on Dairy Farmers of America for milk supply • High milk costs • Substantial debts • Volatility in the cost of raw material	• International expansion • Large domestic market • Closeness to Latin America	• Post merger issues • Increased competition from multinationals entering the lucrative American market • Reduction in protectionism and tariffs • Loss of any of the license brands
Fonterra	• International focus • Scale • Low milk costs • Closeness to Asian markets • Alliances worldwide • Innovative capital structure	• Small domestic market • Reliance on international trade of commodity ingredients • Distance to markets • Seasonality of milk production • Growth has been production oriented	• Further international expansion • Explore value-added strategies • Strong platform in Australia • Foothold in Americas through JV with Nestlé • New round of international trade negotiations	• Post merger issues • Decline in milk supply if competitors enter NZ • Low cost milk producer status shifting quickly
FCDF	• Strong presence in the cheese segment • Strong market orientation • Innovative capital structure • Strong presence in Germany • Closed membership	• High milk costs	• Strong presence in Asia and Eastern Europe • Acquisition of the Numico's drinks segment	• Competition in the home market • Strong competition in Germany (the main foreign market) • Volatility of Asian economies

Table 6.2 *con't* SWOT analysis of case study companies

	Strengths	Weaknesses	Opportunities	Threats [1]
Lactalis	• Strong presence in the cheese segment, specially AOC cheeses • Scale • Managed as a family concern • National coverage	• High milk costs • Decentralised operations within France (possibly high costs) • Absence of expansion recently • Recent Food scandal • Over reliance on Président brand	• Good positioning in the US market • Further international expansion • Increased interest of French consumers for traditional and regional cheeses	• Strong national players: Danone, Bongrain and Sodiaal • Very high concentration of the retailing industry (Carrefour and Promodes)
Murray Goulburn	• Low cost milk • International orientation • Development of the specialty ingredients segment • Continuous internal growth • Closeness to Asian markets	• Seasonality of milk production • Moderate reliance on international trade • Distance from markets	• Further consolidation (talks with Bonlac Foods) • Increasing milk supply	• Competition for the home market from Fonterra • Multinationals entering Australia for low cost milk supply
Nordmilch	• National coverage • Strong regional brands • Large home market • Innovative product development	• Home market very fragmented	• Further consolidation	• Domestic competition from multinationals and other European dairy companies • Increased consumers' concerns over product quality and production
Parmalat	• Successful internationalisation programme • Strong brands • Rapid growth • Leading positioning in Italy • High investments in R&D • Leading position in the Brazilian market	• Reliance on UHT milk • High debt/equity ratio • Under performance in key markets • Under performance of key brands in the home market	• Presence in Eastern Europe, China, South and North America • Presence in Australia facilitating entry into Asia • Well placed in the trend towards functional foods • Strong distribution network • Production base in Uruguay	• Australian and Brazilian markets not performing well • Strong competition in other sub sectors where the company hasn't performed very well

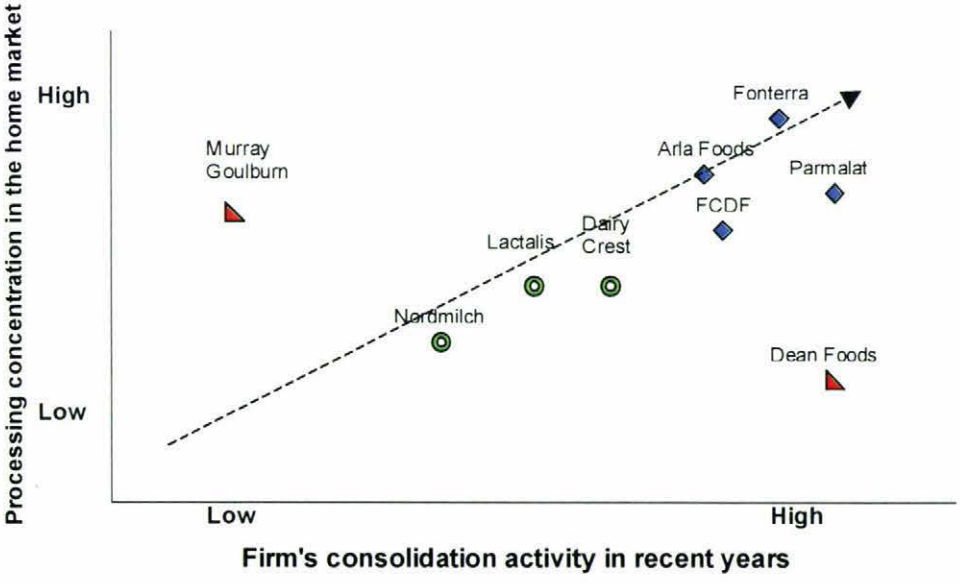
1 Common threats for European dairy processing companies include among others EU enlargement scheduled for 2004; expectation that WTO Doha round will impose further reductions in export subsidies, tariffs and protectionism.

6.2 CONSOLIDATION AND CONCENTRATION

Zwanenberg (2002) reported that dairy companies throughout the world had engaged in 620 mergers, acquisitions and alliances from January 1998 to July 2002. All of the case study companies engaged to a greater or lesser extent in various consolidation activities.

The relationship between the case study organisations' milk processing concentration in their home market and consolidation activities is portrayed in Figure 6.1. Consolidation activities include mergers, acquisitions and alliances realised in 2001 and 2002, as well as the particular merger that created some of these organisations. Processing concentration in the home market relates to the percentage of total milk production in the home country processed by the respective case company.

Figure 6.1 Graphic display of consolidation activity in relation to home country concentration in the milk processing industry.



The line depicts the converging trend among most of the case study companies towards increased consolidation activity and increased concentration in the dairy processing industry in their home country. The exceptions for this trend were Murray Goulburn and

Dean Foods. Murray Goulburn displayed the least amount of consolidation amongst the group studied. The co-operative has adopted an internal growth strategy, relying specially on increased milk supply through the attraction of new co-operative members. Nevertheless, in 2002, Murray acquired Kraft's cheese facility at Leitchville, which increased manufacturing capacity by almost 20%. The Australian dairy processing industry is medium to highly concentrated, with Murray Goulburn processing 37% of the milk produced in the country, and the three largest dairy co-operatives processing over 60% of that. Dean Foods emerged as the second largest dairy company in the world, since the merger between Suiza Foods and Dean Foods in 2001. Both legacy companies have engaged in numerous mergers and acquisitions activity over the years, especially Suiza Foods. The company grew through 22 successive acquisitions and two joint ventures between 1993 and 1999, to become the largest U.S. dairy processing and food company in 2000. The milk processing industry in the United States can be considered less concentrated than the home markets of Fonterra, Arla Foods and Murray Goulburn. Dean Foods alone processed 9% of the total milk production in its home country. The top two dairy processing companies processed about 35% of the total milk production in 2001, but this figure takes into consideration the volume collected by DFA (Dairy Farmers of America). It has been pointed out earlier in Chapter Four, Section 4.2.2 *Selection of multiple case studies,* that DFA processes only about 20% of the almost 20 million tonnes of milk collected.

Of all the case study companies Parmalat has engaged in the most number of acquisitions. Twenty 20 deals worldwide were completed in 1998 alone and more than 30 deals between 1998 and 2001, including joint ventures, remaining shareholding acquisitions and acquisition of majority shareholding in other companies both in Italy and overseas. Arla Foods also displayed considerable consolidation activity in a highly concentrated dairy processing industry. They now process approximately 79% of the total milk production of Sweden and Denmark combined.

Friesland Coberco Dairy Foods (FCDF), Lactalis, Nordmilch and Dairy Crest have also been active in consolidation processes, but to a lesser extent in recent years. FCDF

originated from a series of amalgamations between Dutch co-operatives over the years, and now the top two dairy processors process over 81% of all milk produced in the Netherlands. Lactalis acquired six companies between 1998 and 2000, two of them in the United States, where the company already enjoys considerable presence. Nordmilch, formed in 1999 following the merger between four dairy co-operatives, operates in a relatively fragmented dairy processing industry, and its main focus is to further consolidate at domestic level. Dairy Crest has almost doubled its milk processing capacity and revenues, following the acquisition of Unigate's dairy division in 2000 and more recently St. Ivel's spreads, both in the UK. The company clearly states in its annual reports that such acquisitions are in line with the value-added strategy pursued. Dairy Crest now processes about 20% of UK's total milk production.

The level of concentration in the dairy processing industry in New Zealand has no precedents elsewhere, apart maybe from Denmark. This concentration can be attributed to a constant search for processing efficiency, scale and the foreseeable removal of the sole export status of the NZDB (as it happened in 2001). The relatively small domestic market, rising cow numbers and production yields, the single seller status enjoyed by the NZDB from 1961 until 2001, and, arguably the ownership structure of the companies, have together contributed to a production driven industry.

Goldberg (1983) elaborated on the following motivating factors to explain merger and acquisition transactions within the food industry: size, growth, economies of scale, profitability, return on shares, profit variability, market share, market power, synergy, reduction in capacity, acquisition of specific products, strengthening management, power and prestige considerations for management, increased utilisation of resources, diversification, tax loopholes considerations, limiting competition (monopoly), increasing business in new territories, achievement of specific resources and broadening the customer base.

Every case company had distinct motivations for engagement in consolidation, posed by different contextual environments, both in their home market and offshore. The most common motivating factors among the case companies were:

- search for scale;
- increased competition in the home market;
- opportunities to enter new markets and/or segments, or to strengthen positioning in existing markets and/or segments ;
- diversification;
- search for increased milk supply, and
- consolidation of food retailers and their preference to deal with larger dairy processors.

Observation of the contextual environment revealed that it repeatedly had a major influence on the consolidaton process. For instance, Sweden's decision to join the EU in 1997, opening the country to other European companies, propelled Swedish Arla to consider, and later to implement a merger plan with MD Foods from Denmark. In another example, Parmalat widely refers to the increased competition in the Italian dairy sector as a motivating factor to expand overseas and later consolidate at the home market. The foreseeable removal of the single seller status of the NZDB and the deregulation of the dairy sector in New Zealand influenced industry executives to adopt a large and integrated organisation as the best option for the future of the industry.

Rogers (2001) uses the expression 'waves of consolidation' to describe merger and acquisition activity in the U.S. food processing industry. He proposes that the late 1990's and early years of the twenty-first century are witnessing the fifth merger wave. Marion and Kim (1991) studied manufacturing industries of producer goods and of consumer goods with low advertising in the United States. These authors concluded that the "merger mania" (p. 428) should be added as a major cause of increased concentration. Certainly, external forces, such as government regulation and Anti Trust Laws either restrain or facilitate the consolidation process. The consolidation wave is certainly observed in the nine case study companies.

Six out of the nine companies investigated were formed after 1996, and three of them were formed as early as 2000 and 2001. Only Lactalis, Parmalat and Murray Goulburn have been legal entities for a long period of time, as opposed to being the result of amalgamations over the years.

Public listed companies and privately held companies were more engaged in acquisitions, while co-operatives were particularly active in mergers in their domestic markets, and joint ventures and strategic alliances offshore. The next section will discuss internationalisation, the second pattern observed from the multiple case studies, and one that is deeply linked to consolidation and growth strategies.

6.3 INTERNATIONALISATION

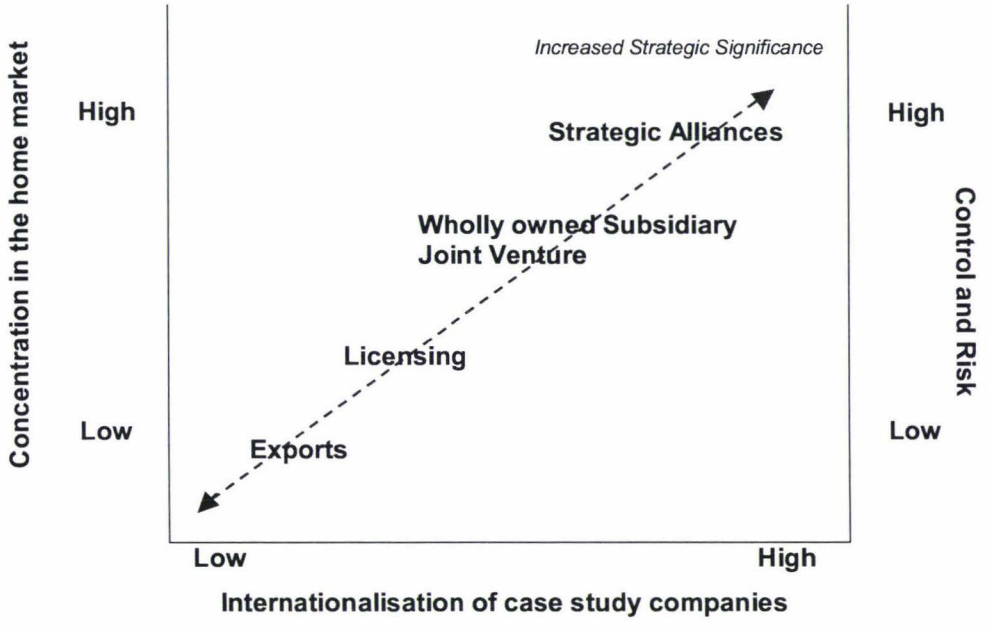
The food processing industry has predominantly been characterised as regional or national, but the observation of strategies adopted by the case companies reveal increased FDI (Foreign Direct Investment) activity in various parts of the dairy value system, including offshore milk production, and both primary and secondary processing.

Bartlett and Ghoshal (1987a) observed that multinational corporations within the consumer packaged goods industry adopted multidomestic strategies, in which pressures to be locally responsive to customer and consumer demands overcome pressures of integration and cost control. Traill (1997a) also characterised food industries as multidomestic. The perishable nature of milk, combined with large volumes and close ties between land, milk supply and weather conditions, compel dairy processing companies to maintain the 'domestic' orientation of their operations.

Zwanenberg (2002) reports that consolidation activities are becoming "increasingly international in nature" (p. 1). From the 620 mergers, acquisitions and alliances reported between January 1998 and July 2002, 43% were cross-border, 23% regional and 20% cross-continental. The internationalisation process exists on a continuum of low control /low risk to high control/high risk strategies. At the low end of the continuum are exports, licensing and franchises. FDI strategies [joint ventures and wholly owned subsidiaries]

have reasonably high control and certainly high risk. At the other end of the continuum are strategic alliances (Figure 6.2). Each case company followed specific routes to internationalisation, as revealed by the observation of their actions over time.

Figure 6.2 Relationship between home market concentration and internationalisation



The observation of current patterns of internationalisation reveals that most of the case study companies engage in various routes to internationalise, from exports to joint ventures, strategic alliances and wholly owned subsidiaries. But the companies that have pursued FDI strategies, like joint ventures, wholly owned subsidiaries, local processing and strategic alliances with overseas partners, invariably faced high levels of concentration in their domestic processing industry (Figure 6.1). The positive relationship between industry concentration and internationalisation of dairy processors also becomes apparent. Figure 6.2 attempts to portray the relationship between these two variables combined with control and risk associated with different internationalisation strategies.

In mature industries, such as the food industry, and consequently the dairy processing industry, slow growth rates compels companies to engage in consolidation and

internationalisation to pursue growth. The observation of the strategic orientation of the case companies support this view and further reveal some industry specific issues that lead to concentration and internationalisation, such as home market size, cost and volume of milk supply, home market competition and governmental regulations in agricultural related industries.

Arla Foods went a step further with this process, when it merged all the activities of two large dairy processors from neighbouring countries. Fifty-three percent of the co-operative members are in Denmark and 47% in Sweden. About 50% of its turnover is realised overseas, 35% within the home region of Western Europe, 6% in the Middle East and 9% in the rest of the world. Of the total milk volume processed by the group, about 12.6% is processed by Arla Foods UK plc, which employs about 13% of the group's total workforce. The co-operative has eight production facilities overseas, including those in Saudi Arabia, Greece, Brazil and Argentina, and two licensed production plants in the United States.

Dairy Crest, Dean Foods and to a lesser extent Nordmilch are still exploiting consolidation strategies within their home markets. Dairy Crest's latest acquisitions in the UK reveal the company' strategy to further consolidate in the domestic market. Dean Foods' only overseas incursion is an inheritance of Suiza Foods acquisition of Spanish dairy processor Leche Celta in 2000. Nordmilch realises about 23% of its turnover in overseas markets mainly through exports to other Western European countries. Processing concentration in the home markets of these firms is still relatively low.

Fonterra has 35 processing sites abroad, 50% of its workforce are overseas and about 95% of its turnover is realised from exports. Fonterra's internationalisation strategies include FDI through joint ventures, strategic alliances and wholly owned subsidiaries, but the predominant mode is still export. Since the merger of Kiwi Dairies, New Zealand Dairy Group and NZDB in June 2001, eight deals have been signed, including two acquisitions in Mexico, five joint ventures worldwide (Americas, India, USA, Australia and UK) and one export agreement in the United States.

Attributes of each of the nine case companies related to internationalisation strategies are presented in Table 6.3. The attributes chosen to illustrate such strategies are the percentage of workforce employed overseas, the percentage of the turnover realised overseas, and the number of processing facilities and of subsidiaries overseas.

Table 6.3 A selection of 'internationalisation attributes' of the case study dairy processing companies

Company	% of workforce overseas	% of turnover realised overseas	Processing facilities overseas	Subsidiaries overseas [1]
Arla Foods	17.5	50	16 [a]	23
Dairy Crest	0	7	-	-
Dean Foods	5	5	4	1
Fonterra	50	95	35	76
FCDF	55	62	21	94
Lactalis	19	40	13	14
Murray Goulburn	0	65	-	N/A
Nordmilch	0	23	-	-
Parmalat	83 [b]	67 [b]	101 [c]	86

[1] Includes sales offices * N/A- information not available
[a] Includes two licence production facilities
[b] These percentages relate to workforce and turnover outside Europe
[c] Food processing companies outside Italy

Murray Goulburn realised 65% of turnover from exports to overseas markets, notably Southeast Asia. The co-operative is the Port of Melbourne's largest customer (located in Victoria, home state for MG), exporting about 400,000 tonnes of dried dairy products, 75% of which in milk powders. Table 6.4 summarises the case study companies' main internationalisation mechanisms and their main foreign market focus.

The bulk of international sales realised by all European companies, except by Parmalat, remains within Western European countries, which, in many cases, are geographically contiguous, culturally related, enjoys the benefits of a common market, and a reasonably protected contextual environment. Intra- trade in the European Union accounted for 35%

of Arla's overseas sales, 40% of Dairy Crest's, 31% of Friesland Coberco's, 16.8% of Lactalis' and 86% of Nordmilch's overseas sales.

Table 6.4 Case study companies' internationalisation mechanisms and main foreign market focus

Company	Internationalisation mechanisms	Main foreign markets
Arla Foods	Significant exports; local processing through wholly owned subsidiary (UK); joint ventures (UK, Brazil, Argentina, Greece); cross-border merger	UK, Germany, Middle East, Asia to less extent
Dairy Crest	Modest exports	Western Europe
Dean Foods	Wholly owned subsidiary	Spain
Fonterra	Exports; joint ventures; local processing in Chile, Mexico, Australia; strategic alliances	USA, South East Asia, Australia, South America
Friesland Coberco	Exports; wholly owned subsidiaries with local processing in Asia; joint ventures	Germany, South East Asia, Middle East
Lactalis	Significant exports; license of brands, wholly owned subsidiaries and local processing (US, Belgium, Italy, Spain, Poland)	Western Europe, USA and Canada
Murray Goulburn	Exports	South East and North Asia
Nordmilch	Exports	Western Europe
Parmalat	Local processing through wholly owned subsidiaries	Spain, Canada, Brazil, Venezuela, Colombia, South Africa and Australia

6.4 VALUE-ADDED STRATEGIES

The companies involved in the current research are increasingly exploring value-added strategies within the dairy processing industry. A selection of these strategies being pursued by the case study companies is presented in Table 6.5.

Value-added strategies could be observed in the production of highly specialised dairy ingredients, produced mainly by Fonterra, Murray Goulburn and Arla Foods. For example, the production of specialised food ingredients accounts for almost 80% of Murray Goulburn's total revenue. The co-operative invests about 0.15% of its turnover in R&D. A new division has recently been created – MG Nutritionals – to further develop the milk protein segment.

Fonterra's value-added strategies state a desire to shift the business from the vagaries of the commodity cycle, given locational limitations and extreme peak production. The pursuit of an added-value strategy should increase the value of the company, increase shareholders' return, and offer greater stability to milk prices. The co-operative has indicated that the aspiration to focus on consumer goods business is constrained by the small size of the home market, which would explain Fonterra's latest incursions into Australia. However, Craig Norgate (Fonterra's CEO) has stated that quality bulk ingredients will remain the core business in the foreseeable future. They still account for about 80% of product sales (Company Statement, Fonterra website, 2002). The co-operative's recent strategic review recognises the importance to continue as the world's lowest cost supplier of commodity dairy products. A position seemingly at odds with its competitors.

Parmalat focuses on the achievement of quality through research and innovation. The group has pioneered the branding of liquid milk in Italy and later in numerous other markets. R&D investments amount to about 5% of group's turnover in an industry where the average is 1% (Congrilait, 2002). For Parmalat, quality only has a purpose if it is perceived, emphasising the role of branding for the group.

Table 6.5 Strategy, goals or vision, exemplified by corporate initiative of the case study dairy processing companies

Company	Statement	Statement as published and example
Arla Foods	Objective and vision	"To maintain and develop Arla's position as an innovative global supplier of added value, milk-based ingredients for leading food producers throughout the world"; "to be a leader in creating value for all stakeholders"
	Recent Example	PurFiltre™ liquid milk was launched in London in 2001 under *Cravendale* brand; a fresh liquid milk where 99.7% of the bacteria are removed via filtration as opposed to 97% through pasteurisation
Dairy Crest	Strategy	"to establish Dairy Crest as the UK's leading branding and added value dairy company, whilst being the lowest cost operator in commodity processing"
	Recent example	Acquisition of St. Ivel Spreads business in 2002, increasing the proportion of the group's profits from added value activities
Dean Foods	Strategy	"To invest in and build upon our growth platform, including beverage enhancers, food enhancers, single-serve dairy-based refrigerated beverages, and functional beverages. Innovation will be key to growing our sales and our profitability over time".
	Recent example	Agreement with Procter & Gamble to launch and market chilled coffee drink made from Folgers coffee and low fat milk – *Folgers and Jakada;* introduction of *Hershey's* ® single-serve milk-shakes
Fonterra	Vision and strategy[1]	"To lead in dairy"; "to be the leading specialty milk components innovator and solutions provider; "to be the leading consumer nutritional milks marketer".
	Recent example	One example of new product development is DR10™, a probiotic bacteria (beneficial health effects) launched by New Zealand Milk.
FCDF	Strategy	"Improving the quality of sales and profitability by increasing the proportion of total sales attributable to differentiated branded products"
	Recent example	Acquisition of Nutricia Dairy & Drinks Group from Numico in the end of 2001
Lactalis	Strategy	"To achieve the profitability of our business around the added value provided by brand names"
	Recent example	Production of 26 out of 31 PDO (Protected Denomination of Origin) cheeses produced in France; launch of reduce fat spread butter – *Bridelight*
Murray Goulburn	Vision and strategy	"To be the first choice supplier of customised dairy based products to our chosen market"; "To provide a secure and reliable supply of high quality food ingredients"
	Example	Acquisition of former Kraft cheese manufacturing facility at Leitchville
Nordmilch	Marketing Strategy	"To position Nordmilch as a supplier of high-quality premium brands, broadening the range of products in all market segments"
	Example	Development of umbrella brands such as *Milram, Oldenburger* and *Botterbloom*
Parmalat	Goal and philosophy	"To produce high quality milk and food products"; "To grow in order to compete"
	Recent example	Natura Premium was launched in Brazil in 2002; a long life liquid milk produced at a lower temperature than conventional UHT milk, allowing for better taste and same shelf life of 4 months.

[1] These are the fourth and fifth strategic orientations to be pursued by Fonterra according to a recent strategic review.

Dean Foods mainly focuses on fresh dairy products segment and milk beverages. In 2001, approximately two thirds of the dairy products manufactured and marketed by Dean's Dairy Group was under proprietary or licensed local and regional brand names. Arla Foods approximate R&D expenditure is 0.6% of turnover, but this figure does not account for product development carried out by individual departments (Personal Communication, 2003).

FCDF is among the European dairy co-operatives that have more clearly stated their intention to shift from dairy ingredients and commodity segments. Nutricia Dairy & Drink Group's acquisition strongly supports this strategy. The corporate R&D expenditure amounted to about 0.35% of turnover in 1999, but it does not include individual R&D expenditure of operating companies within FCDF[19]. The majority of expenditure on market research, innovation, advertising and promotion goes on 21 key drive brands identified by the company, seven of them aimed at international markets and fourteen marketed regionally and nationally. Sales of products under these brands accounted for 35% of total sales, a contribution significantly above average contribution from other sales. The long-term objective of the company is to become less and less dependent on standard dairy products.

Hamm and Grinnell (1983) reported that food manufacturers of advertised brands tend to increase product development, advertising and sales promotion efforts. Cotterill (2001), and Gracia and Albisu (2001) support the view that branding is a powerful tool available to food manufacturers in the competitive environment of the food industries. This study has observed that large dairy processors are increasingly investing in branding, product development, process development, services and the development of business relationship with customers.

[19] Corporate R&D may include technical services and product support activities, and a total figure for the group's R&D is not available, but it is substantially higher than 0.35% and increasing (Personal Communication, 2003).

6.5 CONCERN ABOUT MILK SUPPLY

The global consumption of dairy products is forecast to increase at an average annual rate of 1-2%, ranging from 3 to 4% in Latin America to 1% in Western Europe, North America and Oceania. This expected growth is not uniform amongst the various dairy products segments. Fresh products segment is expected to grow at 5% per annum, whole milk powder at 3-4%, skim milk powder at 2-3%, cheese and liquid milk at 2% and butter consumption is expected to decrease further at an average annual rate of –0.5%. Meanwhile, milk production is expected to increase at annual rates of 1-2% at most.

As discussed in Section 3.1, New Zealand, the United States and Australia are responsible, to great a extent, for increases in world milk supply, while growth in Latin America, Eastern Europe and Asia is influenced by the unstable economic environment of these regions. The quota system in place in the European Union since 1984 has stabilised milk supply and prevented substantial growth in member countries.

Fonterra, Murray Goulburn and Dean Foods have fewer concerns regarding volume of milk supply over the next few years. Murray Goulburn has recorded milk intake growth of 20% from 2001 to 2002. Although this increase is attributed to the acquisition of Kraft's cheese plant in 2001, from 1997 to 2001 the average growth in milk supply was an impressive 10% per annum[20]. In its first year of operation Fonterra has registered an increase of 6% in total volume of milk processed[21], and from 1997 to 2001, the now extinct NZDB reported an average increase of 5.5% per annum of total milk solids processed by manufacturers (NZDB, 2000, 2001). Dean Food's only apparent concern about guaranteed milk supply refers to the company's reliance on the co-operative DFA (Dairy Farmers of America) as the primary supplier of raw material.

[20] In the short term, Murray Goulburn might face a decline in milk volumes, given the severe drought in Australia, notably in Victoria, which will affect 2002/2003 production figures

[21] The co-operative has, nevertheless, acknowledged the possibility of facing a loss of supply if an overseas competitor strategically decides to source milk from New Zealand.

The European quota system has maintained milk production in EU member countries reasonably stable over the years, and only small increases to the quota system have been allowed since 1984[22]. European companies have had to adjust to this regulated milk supply, and they have done so by investing in high value segments of the dairy market, reducing over time the amount of milk that is processed into commodity segments. A threat (or opportunity) faced by European companies relates to the forthcoming enlargement of the common market, with the entrance of Poland, Hungary, the Czech Republic, Estonia and Slovenia. Milk production will increase by 15%, with an 11% rise in delivery to processing plants, while population will expand by 17% (Rabobank International, 2001). The quota system has been beneficial to European dairy processors to date, compelling them to maximise returns on every litre of milk processed by turning most of it into value-added products. The enlargement of the European Union poses a real threat to the stability of milk supply and a complicating factor on the applicability of the current quota system.

The only example among the case companies of using FDI specifically for milk supply was provided by Arla Foods. Arla entered a joint venture with Sancor in Argentina to locally source whey and to manufacture whey protein concentrate (Personal Communication, 2003). With this exception FDI strategies adopted by large dairy processors among the case study reflect the characteristics of the raw material, such as perishability, volume, and production. The 'domestic' orientation of dairy processing has enable these large companies to overcome government regulations such as tariffs and export quotas.

The shortfall between the expected demand of dairy products demand and milk production is perceived as an opportunity by most dairy processors, as opposed to concern over milk supply. Most of the case companies have identified, and pursued over the years expansion into Latin America, Asia, Eastern Europe, Middle East and North Africa, as these regions are expected to enjoy increases in the income of middle classes of the population, consequently increasing the potential consumption of dairy products. These regions are also

[22] One of the most recent reforms to the EU agricultural policy, announced in February 2003, allows to an expressive 2% increase in quota allowances.

capable of producing milk at much lower costs than most industrialised countries, but dairy farming systems and milk quality standards still need to be improved.

6.6 INCREASED SCALE AND SPECIALISATION OF PROCESSING PLANTS

Consolidation in the home market can be strongly related to search for scale and increased productivity both in processing capacity and in milk supply. General ongoing trends in world dairy farming are a decrease in the number of herds, increasing herd size, growth in production yield per cow and improvements in the fat and protein contents of milk. Adoption of a wide range of technologies has enabled farmers to expand their scale of production. For example, in New Zealand production has doubled since 1975 and the number of farms has dropped by 15% over the last 20 years (NZDB, 1999b). In Australia, milk production has increased by almost 95% over the last 20 years and the number of farms has fallen by 35%.

At the same time, consolidation of the dairy processing industry results in increased processing capacity, specialisation of processing plants and further technological advances. All case study companies have increased their processing capacity, especially in their home markets, mainly through mergers and acquisitions. Friesland Coberco is the only company adopting a closed membership policy and clearly pursuing a 'no more milk' policy, which strongly reflects the current market-driven strategies of the company.

Following increases in processing capacity, the case study companies have adopted rationalisation and streamlining plans. All of them, except by Fonterra[23] and Murray Goulburn, have reported plant closures in the last few years, with considerable employee redundancies. Restructuring plans were usually adopted soon after a major merger or acquisition. Table 6.6 identifies one major acquisition or merger for each case company and the associated number of processing plant closures.

[23] Fonterra has engaged in one major restructuring plan since the merger, which encompasses the incorporation of the group's stand alone ingredients business (NZMP) into the corporate structure. About 450 jobs are to be lost, including 200 relocations.

Table 6.6 Summary of processing plant closures among case study companies following a selected merger or acquisition

Company	Major change	Year	No of recent plant closures
Arla Foods	Merger between Arla and MD Foods	2000	17
Dairy Crest	Acquisition of Unigate's dairy business	2000	6
Dean Foods	Merger between Suiza Foods and Dean Foods	2001	9
Fonterra	Merger between NZDB, Kiwi Dairies and New Zealand Dairy Group	2001	0
FCDF	Merger between Friesland Dairy Foods, Twee Provincien, ZOH and Coberco	1997	9
Lactalis	Acquisition of two US cheese producers	1999	3
Murray Goulburn	Acquisition of Kraft cheese plant	2001	0
Nordmilch	Merger between Normilch eG, Hansano, MZO and Bremerland-Nordheide	1999	6
Parmalat	Acquisition of Kraft milk division in Brazil	2001	3

All the case study companies have invested in the specialisation of processing plants to produce fewer product lines, instead of the characteristic multi-function processing sites of earlier years. For example, FCDF's organisational structure favours the development of specialised processing plants within each operational division. Frico Cheese operated ten cheese-processing plants, and each one of them tended to specialise in few specific product lines within the cheese segment. Similarly, Lactalis' operational division in product groups has enforced processing plant specialisation. Arla Foods divides its processing operations in four product segments, butter, cheese, fresh products and ingredients.

In summary, all the case companies have pursued economies of scale, increasing processing capacity, and promoting plant specialisation and expansion. Technological developments, both in product and process innovations, in dairy processing have being very significant and have supported the trend towards plant specialisation.

6.7 INFLUENCES OF OWNERSHIP STRUCTURE

From the data set of nine companies, five are co-operatives, three are publicly listed companies[24] and one is privately owned. Public and private companies source just enough milk, with some flexibility, to manufacture products within the higher value-added end of the market. However, co-operatives must accept and process all milk supplied by their members, which requires regular investments in tangible fixed assets to keep up processing capacity with delivery volumes. Given the large volumes supplied and slow growth in consumption, only part of the milk can be processed into value-added products with the reminder being converted into commodity products. The consequence is a reduced average return per unit of milk.

Nevertheless, the role of co-operatives in the dairy processing industry is significant and these organisations have survived longer in dairying because of perishability, volume and production systems that demand company structures committed to daily collection and processing of raw material. The level of investment demanded by dairy farming is substantial and given that milk production cannot be easily adjusted to fluctuations in market demand, it is logical that dairy farmers across the world have tended to favour a structure that protects them from these uncertainties.

Of the world's top 20 dairy companies on a turnover basis, eight are co-operatives (Figure 3.1, p. 42). In addition, one third of all merger, acquisitions and alliances deals between January 1998 and July 2002 were accounted for by co-operatives (Table 6.7). Co-operatives are particularly active in deals within their domestic markets, accounting for two thirds of the transactions in the review period. However, they appear to be less active in regional deals and even less in cross-continental ones. Perhaps the co-operative's financial structure constrains cross-border growth or the managerial attention span is limited to the local market. Nevertheless, Fonterra, Arla Foods and Friesland Coberco have pursued cross-border deals in recent years. While Murray Goulburn and Nordmilch have focused on their domestic markets.

Table 6.7 Mergers, acquisitions and alliances in the dairy processing industry, January 1998 – July 2002

	All dairy Companies	Co-operatives
Total number of deals	620	213
Domestic	57%	66%
Regional	23%	23%
Cross-continental	20%	11%
	100%	100%

Source: "Internationalisation: Consequences for co-operatives and non-co-operatives", A. Zwanenberg, 2002, *Conference proceedings of Congrilait, Paris, September 24-27.*

The dilemma faced by co-operatives relates to the pressure to return higher milk prices to their members than market returns justify. The consequence being limited funds to re-invest, to diversify, or to acquire new businesses. So far, Arla Foods, Fonterra, Friesland Coberco, Murray Goulburn and Nordmilch have been able to successfully operate in the dairy sector. Consolidation in the home markets of these co-operatives is a response to pressures from competition and to changes in the wider business environment. However, size is not necessarily synonymous with efficiency. Appendix 5 describes some of the main characteristics of the co-operatives being studied.

The question (and dilemma) of flexible ownership structures, partnerships and external equity arrangements will continue and deserves a study of its own[25]. Among the case study co-operatives, there was no apparent capital constraint to further growth and expansion. Fonterra for example, has entered in a partnership with Nestlé plc; while Arla Foods UK's subsidiary is a plc company. Nevertheless, a common trend emerging from the data set is the strength of publicly listed and private companies in the innovative branded and heavily marketed consumer products segment.

[24] Although Parmalat is a public listed company on the Milan Stock Exchange, the Tanzi family holds 49.95% of the company's shares.

[25] For a discussion regarding internationalisation issues faced by agricultural co-operatives in New Zealand see Donoso (2002) and Van Bekkum (2001).

6.8 ENVIRONMENTAL AND FOOD SAFETY ISSUES

The outbreaks of Foot and Mouth Disease and Mad Cow Disease in numerous countries in 2001, especially within Europe, have increased consumer's concerns over food safety and food safety mechanisms in place. These concerns and the associated demands placed on the food industry have affected all food processors. Food safety mechanisms are increasingly taking place in all links of the dairy value system, from all on-farm milk-harvesting operations to milk processing and effluent disposal.

Across all the case study companies, control procedures and quality assurance systems in processing plants have been recently upgraded, which reveals companies' responses to market demand and government regulations.

Murray Goulburn, through the introduction of MG Milkcare and MGf@rm[26] among its suppliers has established on-farm quality assurance programs. Lactalis, Nordmilch and Dairy Crest have mechanisms in place to audit and certify their milk producers. Lactalis has created a Food Safety Committee since an incident of cheese contamination in 1999. The Committee reviews potential risks and initiates any safety measures. FCDF developed a market-focused quality guarantee system covering all aspects of milk production, from safe and careful milk production, animal health welfare to protection of natural resources and the environment.

Fonterra Research Centre has developed a similar environmental quality system – Market Focused Programme - to assist shareholders in meeting their environmental obligations. Environmental and animal welfare guidelines have been established to ensure that New Zealand on-farm practices do not endanger export markets, given the country's clean, green image among overseas customers. Wastewater treatment and greenhouse gas emissions are among topics been addressed. Technological advances in the processing industry and the

[26] This is the co-operative's internet site for suppliers providing general farm information, such as quality results, production data, income data, and performance comparisons.

development of a market for whey products have allowed companies to use whey, previously seen as waste, as the raw material for highly specialised ingredients.

6.9 SUMMARY

The major trends emerging from the strategic orientation of the case study companies have been identified and discussed. Rationalisation, concentration and internationalisation are particularly significant trends affecting these companies. While the intrinsic characteristics of dairy production, and of the raw material itself, prevent the industry from 'globalising', internationalisation of large dairy processors is notable. Arla Foods, Fonterra, Friesland Coberco, Lactalis, Murray Goulburn and Parmalat already realise more than 50% of their turnover from overseas operations. Parmalat and Fonterra realise more than 80% of their sales in international markets. Internationalisation strategies pursued by each company are different, but it tends to follow a continuum of low control and low risks to high control and risks, with associated increase in strategic significance and supposedly wealth.

Concentration and consolidation of the industry also leads to scale and associated economies, increased processing capacity and processing plant specialisation. The search for rationalisation and costs reduction has dominated the industry worldwide. All case study companies adopted streamlining plans following mergers and acquisitions with consequent plant closures and workforce reduction.

Official research agencies reveal that demand for dairy products is forecast to grow more rapidly than world milk production. Overall, case companies have been able to secure their milk supply, especially through consolidation in the home market.

The consumer is now recognised as the most powerful link in the food value system, and as such they have driven dairy processors to pursue product and process innovation, as well as increase food safety mechanisms and environmental concern.

CHAPTER SEVEN

CONCLUSIONS

7.1 GENERAL CONCLUSIONS

The primary motivation of this research was the desire to develop a greater understanding of the fast changing international environment currently faced by the New Zealand 'dairy industry'. The dairy industry is of extreme significance to New Zealand; accounting for 44% of the country's agricultural exports; contributing 7% of its GDP; and, between 20-25% of its export earnings. The long-term success of New Zealand's largest dairy processor and largest business organisation, the Fonterra Co-operative Group is therefore, of indisputable relevance.

An investigation of strategy pursued by organisations within the food industry demanded an understanding of the major links in the global food value system. Significant structural changes worldwide are reshaping this system. These structural issues were identified and the impact on adjoining organisations, notably processors and retailers, was discussed. Successful organisations in this value system must respond to the complex set of relationships between producers, processors, retailers and consumers.

This research was designed to identify and understand the strategies of a group of international dairy processors and the major trends emerging from the observation of their actions over time. The exploratory nature of the study prevented the initial elaboration of propositions, instead patterns of actions and decisions were observed to emerge from the case study companies. The contextual environment in which these organisations are embedded, and their history, proved to be extremely significant. Therefore, entire case study reports were developed in detail and reported as research results (Chapter Five). The sense making of patterns of actions emerging would not be complete without a thorough appreciation of each case study company.

This study reveals the following major trends emerging from the entire group of case study companies:

- Consolidation and concentration activities: Concentration in the dairy processing industry in home markets is positively related to observed mergers and acquisitions activity pursued by each case company. Internationalisation is the next growth strategy pursued where home markets are already highly concentrated.

- Internationalisation: Large dairy processors seem to be increasingly pursuing internationalisation strategies through various mechanisms, notably strategic alliances, joint ventures, and offshore acquisitions. The intrinsic characteristics of milk production and processing may prevent the industry from developing a truly 'global' structure, but at this time rapid internationalisation of dairy processing companies has been observed.

- Value-added strategies: The pursuit of added-value strategies takes different forms, from branding and imaging, to process innovation and strategic alliances. Food and dairy processors recognise the growing 'power' imbalance between them and adjoining food retailers. In response, they have identified various value-added strategies as essential tools for maintaining competitive positioning in their respective food value systems.

- Milk supply: This study reveals that to date, case companies have managed to secure the supply of raw material for their processing activities, and that the continuity of milk supply does not seem to constitute an immediate threat. The phenomena of consolidation, concentration and internationalisation are directly related to growth strategies, not directly related to milk supply.

- Scale and specialisation of dairy processing plants: The amalgamation of dairy processors has resulted in an increasing process capacity, at times well in excess of

milk supply. Therefore, rationalisation plans are implemented soon after a merger or acquisition, as processors continue to seek economies of scale.

- Ownership structure: Large dairy co-operative companies' growth and internationalisation are not constrained by their financial structure, but publicly listed and private companies enjoy the benefits of having a milk supply adjusted to market demand. The co-operative structure, therefore, should not prevent companies from pursuing market-driven strategies as opposed to production-driven ones.

- Environmental and food safety: Consumer power in the food value system is evident, and food processors, food retailers and national governments alike are responding to an increasing array of demands from consumers. The adoption of environmentally friendly production and processing practices, and food safety mechanisms are not the exception but the rule in the global food value system.

7.2 IMPLICATIONS FOR FONTERRA CO-OPERATIVE GROUP

The broad exploration of strategies pursued by the group of international dairy processors reveal important trends within the food value system. As the motivation for this study was to develop a greater understanding of the environment faced by New Zealand's largest dairy processor – Fonterra – a final task is to offer them insights and make suggestions.

1. Consolidation and concentration of the dairy processing industry in New Zealand has reached a culmination point. Fonterra's continued ability to internationalise beyond exporting their current commodity dairy products will be essential for further growth and both international and domestic competitiveness.

2. The long-term decline of world commodity prices is well documented. Fonterra should be focused on further developing added-value strategies and niche markets. The company is well placed worldwide, and its international reach through subsidiaries, alliances, and joint ventures in key markets *should* signal a departure from the producer

goods cycle. Fonterra's excellence in research and development both in product innovation and process innovation provides support for the long-term pursuit of added-value strategies, as well as further development of the consumer goods business.

3. Total milk supply does not seem to represent an issue for Fonterra at this stage, but the continuity of supply of dairy products to customers worldwide is an issue considering the seasonality of New Zealand's dairy production system. Strategies in place to secure the continuous supply of milk [and dairy products] must be further explored in order to better position the company in their relationship with increasingly powerful customers [food processors and food retailers]. The challenge ahead of Fonterra relates more to a change from *production-led* to *market-driven* growth. Fonterra's future threat to its milk supply and long-term performance will come from suppliers' dissatisfaction with their milk returns. Both international and domestic dairy processors are likely to compete with Fonterra for comparatively low cost and high quality milk from New Zealand to supply consumer goods and niche markets worldwide.

4. Investment in processing capacity has been evident for decades in New Zealand. This phenomena has been accompanied by substantial technological advancement in every link of the dairy value system, from production factors, to product development and process innovation. New Zealand is at the forefront of these advances, but continued investment in processing capacity – to meet the seasonal production peak - may jeopardise the company's profitability and shareholders' return.

5. The 'clean and green' image of New Zealand dairy products should be maintained in overseas markets as it constitutes an important source of differentiation. Fonterra's initiatives towards environmentally friendly production and processing practices and food safety mechanisms are crucial in gaining the preference of sophisticated and powerful consumers worldwide.

As a co-operatively owned dairy company, Fonterra is faced by conflicting demands on their discretionary profits. This managerial dilemma posits real challenges for the company,

and one of the most relevant concerns lies with its ability to return sustainable value to shareholder/suppliers, and at the same time to pursue growth through further added-value strategies and internationalisation.

7.3 LIMITATIONS OF THIS STUDY

The use of secondary data as evidence has limitations. For example, documents are generated with different purposes from those of external research, access to data can be limited, and usually insufficient information about how the data was collected can increase the risks of both bias and precision. Nevertheless, this source has proven to be adequate for this research, providing valuable insights and the basis for conclusions and further inquiry.

Apart from Fonterra, where four executives were interviewed, only one contact was established in the other case study companies. Although these contributions have been invaluable, having the case study report reviewed by more than one person would have increased the reliability of the entire research. The triangulation between various sources of evidence, as well as primary and secondary data, would have enhanced the overall quality of this study. However, despite those reservations the degree of congruence between personal comments, stated strategies, and reported outcomes can be considered high.

Given that three of the case study companies were created as early as 2000 and 2001, and another three since 1996, only a cross-sectional analysis of current strategy pursued was possible. A longitudinal study, while preferable in terms of potential inferences, would have been constrained by the amalgamation process that is taking place in the global dairy processing industry.

The study would have also benefited from investigations of business relationship between food processors and food retailers, particularly from the retailer's point of view, and to a lesser extent between food processors and milk suppliers. The elaboration of the relationships between adjoining organisations in detail would have ensured that the responses identified among the dairy processing industry were attributed to the correct source.

7.4 DIRECTIONS FOR FUTURE RESEARCH

One study can neither address all issues that influence organisations' strategic decisions nor investigate all the components of the contextual environment in which they operate. Each organisation is a complex and unique set of interrelations, therefore, it is worthwhile to consider some general directions for future research.

From the strategic management perspective the process of 'tracking strategies down' (Mintzberg, 1987) provides the research community with a rich understanding of the process of strategy formation in organisations within the food industry. The selection of organisations with longer periods of history or an investigation that includes legacy companies, in the case of recently created organisations, would make a longitudinal study possible. The identification of strategies through the observation of actions over time reveals periods of change and/or stability, and such a 'strategic history' will potentially illustrate the process of strategy formation, as opposed to implementation, in mature industries.

From the food industry perspective further investigation of the consolidation, concentration, and internationalisation phenomena will elucidate how these trends are affecting the long-term competitiveness of organisations in mature environments. In addition, the international business literature can provide models to further analyse internationalisation strategies, processes, and consequences both for the home country and for the host country.

The New Zealand dairy processing industry can benefit from further investigation of the competitiveness of its major organisations in offshore markets, since there lies all the growth potential of the entire sector. An investigation of the viability of further internationalisation mechanisms, such as primary and secondary dairy processing, and its potential to increase shareholders' wealth is worthwhile. In addition, agricultural co-operatives provide a rich environment to analyse the management dilemma regarding

investment, real market returns and raw material price. Finally, further research is needed to investigate the organisational efficiencies achieved by Fonterra's integrated structure.

Organisational performance is rather a complex variable to measure, but if performance of co-operatives can be measured by shareholders' return, Fonterra must pursue strategies that will reduce the variability of the commodity cycle.

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APPENDICES

APPENDIX 1: WORLD DAIRY SUMMIT, AUCKLAND, NEW ZEALAND, 2001

Programme Overview for IDF World Dairy Summit 2001

DAY	BUSINESS MEETINGS – CARLTON	CONFERENCES	SOCIAL FUNCTIONS	TECHNICAL TOURS	SIGHTSEEING & ACTIVITIES
Friday 6 October	09.00-12.30 FSSG Preparatory Meeting 09.00-12.30 MSSG Preparatory Meeting 10.00-17.00 NC Secretaries Meeting		18.00-20.00 NC Secretaries Cocktails (By invitation only)		
Saturday 7 October	08.30-12.30 FSSG Plenary 08.30-12.30 Management Committee 14.00-16.40 - MSSG Plenary 1645-18.30 - PCC Preparatory Meeting		19.00-23.30 Maritime Dinner		Tour A1 - Golf at Gulf Harbour Country Club
Sunday 8 October	08.00-15.30 PCC Plenary Session 16.00-18.00 General Assembly & Council		17.30-20.00 Conference Welcome Reception		Tour A2 - Golf at Gulf Harbour Country Club Tour B – Match Racing on 50ft Monohull Yachts Tour C- Wilderness Experience Tour D - Auckland City Highlights
Monday 9 October		09.00-10.00 Opening Ceremony 10.30-13.00 Dairy Leaders Forum 14.00-17.25 Policy, Economics & Marketing	16.30-18.30 Wine Tasting 19.30-22.30 Farmers Dinner		Tour E Visit to Waiheke Island
Tuesday 0 October		08.30-17.30 Policy, Economics & Marketing 09.15-17.15 Animal Health Carlton 09.00-16.30 Nutrition 16.30-18.00 Poster Session (Wine & Cheese)	07.30-09.00 Breakfast 16.30-18.30 Beer Tasting	Tour One A Fonterra Group Factories Tour Two NZ Dairy Foods Ltd	Tour F Fashion Boutiques & Art Galleries Walking Tour Tour G Art Out West Trail
/ednesday 1 October		08.15-11.45 Farming 12.00-18.00 Great NZ Grass Safari 08.30-17.00 Emerging Techno-logies Carlton 09.00-17.00 Nutrition	07.30-09.00 Breakfast 19.30-01.00 Summit Dinner	Tour One B Fonterra Group Factories	Tour H Wine Tour and Lunch
Thursday November		Carlton 09.00-12.00 Nutrition		Tour Three Farm Research Centres of NZ Tour Four A Farm Focus Tour Five South Island Dairy Development	Tour A3 Golf at Gulf Harbour Country Club Tour J Auckland Regional Council Botanic Garden
Friday November				Tour Six Lactose NZ & NZMP Whareroa Tour Four B Farm Focus	Tour A4 Golf at Gulf Harbour Country Club Tour K Highlights of East Auckland & Sheep Farm Visit Tour L Waitomo Glow-worm Caves & Rotorua
Saturday November			Corporate Golf at Gulf Harbour Country Club		Tour M Overnight Tour to Bay of Islands
Sunday November					
Monday November				Tour Seven NZDRI 75th Jubilee Celebrations	
Tuesday November					

APPENDIX 2: CONGRILAIT, PARIS, FRANCE, 2002

GENERAL PLANNING

Tuesday 24 September

Morning

Grand Amphitheatre — OPENING CEREMONY

Afternoon

Amphitheater Bordeaux
Dairy Policies and Economics

Welcome Reception

Wednesday 25 September

Morning

Room 242 AB
Food, Body and Health according to culture

Room 252 AB
Milk Production

Amphitheater Bleu
Science and Technology

Room 352 AB
Benefit of "live": Fermented Milk

Amphitheater Havane
Dairy Products, Nutrition and Health

Amphitheater Bordeaux
Internationalization of Dairy companies

Afternoon

"France, Land of a 1000 Cheeses"

Thursday 26 September

Morning

Room 242 AB
Communication

Room 252 AB
Consumption

Amphitheater Bleu
Dairy Products, Nutrition and Health

Room 352 AB
Tracers and Sensors

Amphitheater Havane
Benefits of "live" : Cheeses

Amphitheater Bordeaux
Food Safety

Afternoon

Closing Reception

Friday 27 September

Morning

Room 252 AB
Global Retailing

Room 352 AB
PDO

Afternoon

Level 2

Level 3

APPENDIX 3: RECENT DEVELOPMENTS IN THE UK DAIRY SECTOR.

Since late 1994, the UK dairy industry has been through deep changes including deregulation and the collapse of the Milk Marketing Board's successor, the Milk Marque. The first significant upheaval occurred at the end of 1994 when the marketing boards established in 1933 were abolished as part of the process of deregulation. The immediate result was an increase in raw material milk prices, an effect that wouldn't last long as the British pound strengthened against the Euro, introduced in other countries of the European Union between 2001 and 2002, favouring cheap imports into Britain.

More recently, the Milk Marque, which was responsible for reselling raw milk from its members to dairy processors, collapsed due to a conclusion reached by the Monopolies Commission that the entity was exercising a "monopoly power against the public interest" (Wilson, 2001, p. 93).

Analysts believe that the dairy sector in the UK failed to establish a new balance following the abolition of the Milk Marketing Board, and by 2000 with the ever declining milk prices, UK dairy farm incomes had fallen by 72% over the 1995 – October 2000 period. With dairy farmers exiting the activity, the country experienced a decline in milk production of 3% (Rabobank International, 2001).

The ultimate result of the deregulation was a major shakeout in the UK dairy processing industry. Large companies announced, and carried out, extensive rationalisation plans with some large operations getting out of dairy activity entirely. The former processing arm of the Milk Marketing Board – Dairy Crest – was floated on the London Stock Exchange in August 1996. Medium sized companies went into receivership, and small and other medium sized companies sold out their dairy interests altogether.

Since 1998 dairy farmers in the United Kingdom have experienced declining prices for their milk, a situation that started to change in late 2000, when large processors and large retailers became increasingly concerned with the declining number of dairy farms, cow

numbers and milk supply, and started taking action. Retailers requested a surcharge from their suppliers on the litre price of fresh milk demanding the additional amount to go "straight into the farmer's pockets" (Rabobank International, 2001, p. 25).

APPENDIX 4: RECENT DEVELOPMENTS IN THE AUSTRALIAN DAIRY SECTOR

Deregulation has been an important issue in the Australian dairy industry debate. Dairy processing has been amongst the most heavily regulated industries in Australia and many of these regulations have had a considerable impact on the efficiency of the industry. For example, there have been restrictions on the ability of processors to source raw milk from across State borders and prices received for a wide range of products were pooled across suppliers and markets (Doucouliagos & Hone, 2000). Federal and State government had different regulations and support scheme for milk producers, depending on the segment supplied - manufacturing or fresh liquid milk.

Over the last 15 years both Federal and State regulations have been steadily rolled back, exposing dairy processors and dairy farmers to market forces. By June 2000, the support for manufacturing milk prices was completely phased out. And by October 2000, a plan for a national approach to the deregulation of the liquid milk sector started to be implemented in all states. As part of the deregulation process, all states have repealed legislation controlling pricing and sourcing of drinking milk.

The main outcomes of these changes have been the amalgamation of dairy processors, rationalisation of production and marketing arrangements and increased investments on the sector. These actions represent the responses of the industry to a new set of threats and opportunities (Doucouliagos & Hone, 2000).

Dairy processors expanded quickly since State regulations on milk sourcing were removed. There were 18 major milk manufacturing/processing companies in Australia in 2000 most of which co-operatives, with the largest three representing over 60% of the milk intake. These large firms developed by engaging in various mergers and acquisitions over the years, particularly since the deregulation of the manufacturing sector.

Australian dairy farmers enjoy a low cost milk producer status, and the country has been targeted by various multinationals. For example, 10 of the top 20 dairy companies in the

world have a presence in Australia, through joint ventures, strategic alliances, licensing and franchise agreements or whole owned subsidiaries.

The changing environment of the Australian dairy sector during the last decade have propelled dairy processors to search for efficiency, markets and guaranteed milk supply. Murray Goulburn Co-operative has established itself as the largest Australian dairy manufacturer through mergers and acquisitions. Today the company processes over 36% of the country's milk production, with exports value of over US$ 700 million.

Analysts believe further rationalisation will take place within the next few years and only two or three large dairy processors will dominate the market for dairy products (Euromonitor, 2000a). For instance, in 2002 Murray Goulburn acquired Kraft's cheese facility at Leitchville, increasing manufacturing capacity by almost 20%. In January 2003 the company initiated merger talks with the also co-operatively owned Bonlac Foods.

APPENDIX 5: CASE STUDY CO-OPERATIVES

Table A5.1 Main characteristics of case study co-operatives

	Arla Foods	Fonterra	FCDF	Murray Goulburn	Nordmilch
No of members	14,909	13,000	13,300	3,508	12,453
Volume of milk supplied by members (million litres)	6,200	13,200	5,200	4,100	3,800
Average milk supplied per member (litres)	416,000	1,015,000	390,000	1,169,000	305,000
Size distribution	N/A	Biggest 20%: 41% of milk Smallest 50%: 31% of milk	Biggest 20%: 35% of milk; smallest 50%: 30% of milk	Biggest 20%: 50-60% of milk	N/A
Voting rights	One member one vote	One vote per 1,000 kg milk solids	One member one vote	One member one vote	N/A
Entry conditions	Open and free, except signing an agreement for possible losses	Open, subject to the purchase of shares proportional to deliveries; no sharemilkers	Closed membership since 1998	Open, but there is an entry fee deducted form first two years	Open
Entry capital contribution	No capital contribution	Fair value share (2003: NZ$ 3.85) and peak notes	Fee based upon additional costs (19.25 euro/100 kg)	A$ 0.3 cents/litre over annual delivery for 2 years	N/A
Exit notice period	3 months before end of financial year	3 before end of season	3 months before end of financial year	None	N/A
Exit payment	none	Fair value share; peak notes	B shares must be sold to other members	None	N/A
Non-member milk related activities	Packaging, fruit juices, foreign processing	Rural retail stores	Fruit juices, organic milk, foreign processing	Rural retail stores	None
Delivery agreement	Danish farmers must deliver 80% of production	Co-op must accept all milk delivered; members can supply 20% of production to other processor	All members delivery all milk and co-op must accept	All members delivery all milk and co-op must accept	All members delivery all milk and co-op must accept
Volume regulation	EU quota	none	EU quota; closed membership	None	EU quota
Milk pricing procedure	Market-based formula averaging producer prices paid by other 4 co-ops	Opening price; adjustments; residual payment	Market-based formula averaging producer prices paid by other 5 co-ops	Opening price; adjustments; residual payment	N/A