A Comparison of the Dairy Industries in Canada and New Zealand

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Abstract

Dairy farmers in both Canada and New Zealand have done very well financially, but not for the same reasons. New Zealand dairy farmers, operating in a free and competitive market with no government subsidies, have become world cost leaders in the production of milk and have diversified along the value chain into the processing and marketing of dairy products. Through Fonterra, their dairy processing and marketing cooperative, they have captured 40% of the world dairy export market with branded New Zealand dairy products. As a result, New Zealand Dairy farmers have good incomes and have accumulated significant net worth, compared with the average net worth of all families in New Zealand. Their success can be attributed to good farm management and a willingness to take risks.

Dairy farmers in Canada have also done very well financially. However, Canadian dairy farmers have a supply management system that protects them from outside competition and provides cost-plus pricing. They are not cost leaders and (other than Quebec dairy farmers) have not invested in processing and marketing. As a result, there are significant differences between the New Zealand and Canadian dairy industries in term of average farm size, cost and production efficiencies and prices paid to dairy farmers for their milk. The large excess profits and net worth of Canadian dairy farmers has attracted the attention of consumer lobby groups who would like to dismantle Canada's supply management system.

Introduction

The Dairy industries in Canada and New Zealand are very different. Canada has a system of supply management which comes with very tightly controlled government regulations including production quotas and high import tariffs on dairy products. In New Zealand, the dairy industry is a free market, where anyone can produce milk and dairy products if they so choose. Does this

difference make dairy farmers better off financially in one country relative to the other? The main focus of this paper is to address the relative dairy industry financial performance in the two countries. Specifically, the research objectives are to compare 1) Canadian and New Zealand dairy farm revenues, expenses, and profits, 2) dairy farm size and production ratios, 3) milk and milksolids prices paid to producers, and 4) average dairy farm net worth to country average net worth for Canada and New Zealand.

Comparison of Dairy Industry Structures

Canadian Dairy Industry[1]

The Canadian supply management system began in 1970, founded on three pillars: matching supply to demand (production planning), pricing mechanisms, and predictable imports. How does it work? The first pillar is production planning, which is restricting the supply from what a free market system would otherwise produce and stabilizing production over time. The Canadian Dairy Commission, the supply management boards for each of the ten provinces and the ten provincial government representatives are all signatories to the National Milk Marketing Plan (NMMP). The NMMP sets the national Market Sharing Quota (MSQ) through a committee called the Canadian Milk Supply Management Committee (CMSMC), which determines how much milk each province can produce. Milk quotas are distributed amongst the provinces using a formula based on historical market share and population growth but there has been some inter-provincial tension. For example, the province of Quebec has 47.3% of the MSQ but only 25% of the Canadian population (Lippert 2001). Provincial milk marketing boards then allocate quotas to individual producers. Dairy producers are prohibited from selling milk outside of the provincial milk board's control. Initially there was no market for the exchange of quotas, then an informal market appeared for buying and selling quotas (renting of quota is forbidden). Since the provincial marketing boards owned the quotas, they began to run exchanges for buying and selling quotas in 1980. The Ontario Milk Board extracts a 10% commission on any quota sold to a non-family member. Quebec charges 7% except when the quota is purchased from another

[1] Much of the information on the Canadian Dairy Industry is from The Canadian Dairy Information Centre, The Canadian Dairy Commission and Agriculture and Agri-Food Canada.

province. Because of the profitability of the dairy industry, milk quotas have taken on a significant value.

The second pillar is pricing. Dairy producers sell all of their milk to their respective provincial marketing boards. Once a year, farm gate prices are reviewed in light of costs to produce milk, labour and investments and market indicators. The Canadian Dairy Commission (CDC) then sets prices to enable producers to cover costs without the need for additional government subsidies. The tight control on supply allows the CDC to employ monopoly pricing to ensure maximum profits for dairy boards and dairy farmers.

The third pillar is import control over dairy products. The whole effort to restrict supply and raise prices would fail if consumers could simply buy imported dairy products at lower prices. Therefore, the supply management system also has the power to impose three import controls: import prohibition, specific limited levels of imports, and tariffs. Lippert (2001) provides data on Canadian tariffs on dairy products (Table 1). The high tariffs illustrate the degree to which Canadian retail dairy prices exceed world prices for dairy products. Lippert (2001) also states that "Canadian farm gate milk prices are 135 percent higher than the world reference price set by New Zealand". New Zealand prices are used because they are considered the least distorted by government interventions, or the prices you would expect in a free market for dairy products.

Table 1: Canadian Tariffs on Selected Dairy Products

Product	Tariff	Product	Tariff
Milk	241%	Yogurt	238%
Cheddar Cheese	246%	Ice Cream	277%
Butter	298%	Skim Milk Powder	202%

Source: Lippert (2001)

In summary, the supply of milk is tightly controlled by the government and dairy producers through a bureaucracy of milk control boards. This allows the CDC to use monopoly pricing to maximize profits for dairy producers. To ensure that external competition does not depress prices, dairy producers, through their government boards, are allowed to impose tariffs that effectively make imported dairy products too expensive to compete in the Canadian market.

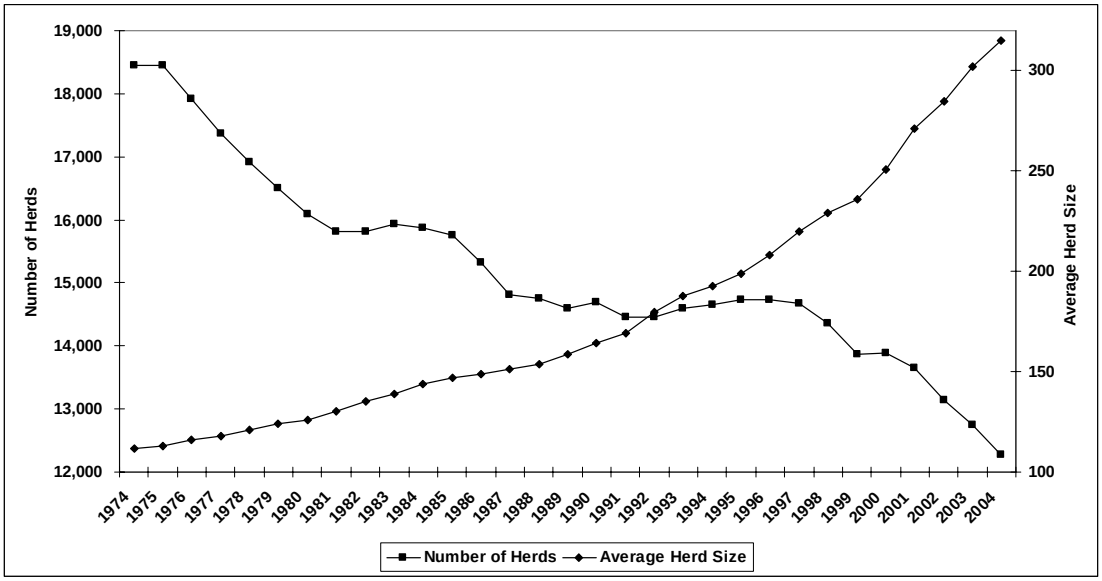
The next stage in the value chain is the dairy processing sector. In 2005 there were 459 processing plants in Canada (IDF 2004). Of these, 297 were registered with the Canadian Federal Inspection Agency, which allows them to sell dairy products outside of their respective provinces. The majority of the plants are located in Ontario and Quebec, where most of Canada's dairy producers are located. Over the past 40 years, the processing sector has undergone significant rationalization due to competitive pressures which has seen the number of processing plants decline to its current number, down from 1,413 plants in 1965. Today, the processing sector is dominated by three companies that process 70% of the milk in Canada. Saputo Inc. is the largest processor, with 38% market share for cheese and 20% for fluid milk. Saputo is also the fifth largest dairy processor in the United States and third largest in Argentina. Saputo operates 28 plants in Canada with an annual processing capacity of 2.5 billion litres of milk. Agropur Cooperative is Canada's largest dairy co-op (4800 farmer members in Quebec), with 25% market share for fluid milk and 18% for cheese. They have a joint venture with Saputo called Ultima Foods, which holds a 30% market share for yogurt. Agropur operates 20 plants in Canada and has annual capacity of 2.3 billion litres of milk. The third large dairy processor is Parmalat Canada Ltd., a subsidiary of Parmalat Finanzaria SpA in Italy. Parmalat operates 19 plants with annual capacity of 1.65 billion litres of milk. They have a 25% market share in fluid milk, 12% in cheese and 21% in yogurt. Other significant companies include Kraft Foods (23% market share for cheese), Nestle and Unilever (ice cream market shares of 28% and 23%, respectively) and Danone Canada Inc. (30% market share for yogurt). To summarize, the Canadian dairy processing industry is dominated

by large corporations and one co-op, with overall market shares as follows: Saputo 25%, Agropur Co-op 23%, Parmalat 22%, all others 30%.

New Zealand Dairy Industry[2]

In sharp contrast to the Canadian dairy industry, there are no restrictions on New Zealand dairy farmers regarding production and to whom they can sell their milk. It is a free and competitive market for milk production. Milk production has increased significantly (2004/05 production is 2.6 times the 1974/75 production level) and Figure 1 illustrates that since 1974 the average herd size has increased while the number of dairy herds has decreased[3]. This is similar to what has been seen in competitive agricultural industries around the world as farms scale-up to achieve cost efficiencies. In comparison, Canada's total milk production increased by only 0.9% between 1974 and 2004[4].

Figure 1: Number of Herds and Average Herd Size in New Zealand (1974 – 2004)



[2] Much of the information about the New Zealand dairy industry was supplied by farm management specialists at Lincoln University, Christchurch, New Zealand. The following people were especially helpful: Marv Pangborn, Russell Cameron, and Professor Keith Woodford.

[3] Dairy Statistics 2004-2005. Livestock Improvement Corporation Limited, Hamilton, New Zealand.

[4] Agriculture and Agri-Food Canada: Canadian Milk Production from 1949/50 to 2004/05 (Total Milk Production in hectolitres).

Since 1935, the New Zealand processing sector has operated under a farmer owned cooperative structure. The New Zealand Dairy Board was created to oversee the industry and coordinate the marketing of dairy products but ownership of the board remained with the processing co-ops, which were in turn owned by the dairy farmers. The New Zealand dairy processing sector went through a rationalization period, where many small processors merged, amalgamated or were bought out, and larger processing companies with economies of size took over. In September, 2001, two major companies, NZ Dairy Group and Kiwi Co-operative Dairies, merged to form Fonterra Co-operative Group Ltd. At the same time, the New Zealand Dairy Board was discontinued. Fonterra represents 95% of the dairy industry and approximately 12,000 dairy farmers. The two other co-operatives representing about 5% of the industry are Westland and Tatua, with 370 and 126 farmer members, respectively.

New Zealand accounts for 2% of world dairy production but exports over 90% of all its products. Fonterra is New Zealand's largest company providing more than 20% of total exports and 7% of GDP. Fonterra has more than 150 subsidiary companies, undertaking marketing and distribution throughout the world. Employment in the New Zealand dairy processing industry has increased from 7,300 in 1994 to 8,900 in 2002[5]. Recent estimates indicate that New Zealand (virtually entirely through Fonterra) controls approximately 40% of world trade in dairy products. All of this has been achieved in an unregulated and free dairy industry, without government subsidies.

Data

Various sources were used to provide information for the Canadian Dairy Industry, including Agriculture and Agri-Food Canada, the Canadian Dairy Information Centre, the Canadian Dairy Commission, Dairy Farmers of Canada, the International Dairy Federation, and the Fraser Institute. The main source of dairy farm financial information is a Statistics Canada publication entitled Farm Financial Survey (Statistics Canada 2005), which gathers

[5] New Zealand Ministry of Agriculture and Forestry Website.

revenue, expense, asset, liability, off-farm income and other data from Canadian dairy farmers. The first year of the survey was 1995 and the other years for which data is available are 1997, 1999, 2001, 2002, 2003 and 2004.

Information for the New Zealand dairy industry was provided by the Livestock Improvement Corporation and the New Zealand Ministry of Agriculture and Forestry (MAF). All of the dairy farm financial information came from annual MAF publications entitled Dairy Monitoring Report, which are available for the years 1999 to 2006. To compare data between Canada and New Zealand, the time period 1999 – 2004 was chosen, as that represented a period where most of the data was available for both countries, although the Farm Financial Survey data for Canada was unavailable for the year 2000. Where financial data is compared between the two countries, the average Canadian/New Zealand exchange rate is used for each year in the comparison.

Annual net worth data is accessible for dairy farms in both countries for the period 1999 – 2004 but country average net worth data is not readily available. Statistics Canada (Statistics Canada 1999) undertook a country-wide net worth survey in 1999 as did Statistics New Zealand (Statistics New Zealand 2001) in 2001. For comparative purposes, the 1999 mean net worth for Canadians and the 2001 mean net worth for New Zealanders are adjusted annually by the nominal GDP growth rate (because the comparison is with nominal dairy farm net worth) for each country, respectively, to get annual average country-wide net worth for the time period 1999 – 2004. Country average net worth is then compared to average dairy farm net worth for each year in the study period.

Results, Analysis and Discussion

Table 2 provides some basic dairy industry data for the two countries. New Zealand has almost four million cows compared to Canada's one million, but Canada has 17,000 dairy farms compared to 12,200 in New Zealand, which is reflected in the large difference in average herd size; 62 cows in Canada and 315 cows in New Zealand. This illustrates the impact of a competitive market in New Zealand compared to a state managed industry in Canada. Canada produces 42% more milksolids/cow (benefits of feeding grain) but an average

Canadian dairy farm produces only 29% of the milksolids production of an average New Zealand dairy farm. Canadian dairy farmers receive significantly higher prices for their milk and milksolids, averaging 2.0 – 2.5 times the prices received by New Zealand dairy farmers. This is one of the most obvious results of Canada's supply management system; Canadian dairy farmers do not have to compete in the world market because they operate in a protected market that ensures high milk prices.

Table 2: Dairy Industry Comparison for Canada and New Zealand (1999 – 2004)

Year	1999	2000	2001	2002	2003	2004
Canada						
Total Cows	1,156,700	1,103,400	1,091,000	1,083,900	1,065,300	1,054,900
Dairy Farms	21,561	20,624	19,411	18,673	17,931	16,970
Cows/farm	54	54	56	58	59	62
Milk Production (million Litres)	7,489	7,509	7,603	7,429	7,591	7,520
Milksolids (MS) (million kgs)	509	510	517	505	516	511
Milk kg/cow	6,474	6,805	6,969	6,854	7,126	7,129
Milk kg/farm	357,760	375,013	403,436	409,783	436,045	456,429
MS kg/cow	440	463	474	466	484	485
MS kg/farm	23,612	24,751	26,627	27,046	28,779	30,124
Price NZ$/kg MS	10.19	12.31	12.94	12.12	10.71	10.76

Year	1999	2000	2001	2002	2003	2004
New Zealand						
Total Cows	3,269,362	3,485,883	3,692,703	3,740,637	3,851,302	3,867,659
Dairy Farms	13,861	13,892	13,649	13,140	12,751	12,271
Cows/farm	236	251	271	285	302	315
Milk Production (million Litres)	11,630	12,925	13,607	13,906	14,599	14,103
Milksolids (MS) (million kgs)	981	1,096	1,152	1,191	1,254	1,213
Milk kg/cow	3,557	3,708	3,685	3,718	3,791	3,646
Milk kg/farm	864,216	958,303	1,026,831	1,090,044	1,179,278	1,183,774
MS kg/cow	300	314	312	318	326	314
MS kg/farm	70,774	78,894	84,402	90,639	98,345	98,851
Price NZ$/kg MS	3.78	5.01	5.35	3.66	4.25	4.58

Table 3 compares assets and liabilities for average dairy farms in Canada and New Zealand for the period 1999 to 2004. Dairy farms in Canada employ more land on average than in New Zealand, however approximately 65% of Canadian dairy farm land is crop land[6] while New Zealand uses an all-grass farming system. There is a significant difference in land values, averaging $1,200/ha in Canada and increasing from $11,000/ha to $19,000/ha from 1999 to 2004 in New Zealand. However, this appears to be simply a difference in where profits are capitalized. In Canada land values are low but dairy quota values are very high, which implies that the excess profits due to supply management have been capitalized into the dairy quota values, whereas in New Zealand the profitability of dairy farms has been capitalized into land. In Canada, average herd size in 2004 is only 62 cows, compared to 315 cows in New Zealand. This also reflects the differences in the industry structures. In the competitive dairy industry in New Zealand, farmers have had to get larger to

[6] It is unknown from the data how much Canadian dairy farm crop land is used to supply feed and how much is used to grow cash crops.

reduce average costs of production and increase profits. In Canada, dairy farmers have the luxury of cost plus pricing in the supply management system so there has been no urgency to achieve cost efficiencies through economies of size.

Table 3: Assets and Liabilities for the Average Dairy Farm in Canada and New Zealand ((NZ $) 1999 - 2004

Year	1999	2000	2001	2002	2003	2004
Canada						
Total Land (ha)	157	163	169	172	166	163
Land Value $/ha	898	N/A	1,250	1,156	1,183	1,201
Herd Size	54	54	56	58	59	62
			Average per farm			
Land & Bldgs	679,268		1,022,231	945,619	938,728	908,171
Plant & Mach	227,767		351,657	302,623	280,633	300,478
Stock (Herd)	155,139		265,499	220,885	154,404	135,687
Quota/Shares[7]	887,767		1,272,979	1,330,507	1,335,279	1,435,830
Total Assets	1,949,942		2,912366	2,799,635	2,709,044	2,780,166
Total Debt	402,292		666,576	663,832	687,498	716,222
Net Worth	1,547,649		2,245,790	2,135,803	2,021,546	2,063,943
Debt Ratio	21%		23%	24%	25%	26%

[7] For Canada, this represents the market value of the milk quota. For New Zealand, this represents the value of co-op shares (1999, 2000) and 'fair value' of Fonterra shares, beginning in 2001.

Year	1999	2000	2001	2002	2003	2004
New Zealand						
Total Land (ha)	72	80	74	72	82	84
Land Value $/ha	10,759	10,740	13,959	14,658	16,585	18,666
Herd Size	236	251	271	285	302	315
			Average per farm			
Land & Bldgs	1,135,452	1,115,516	1,396,923	1,728,338	2,190,995	2,487,326
Plant & Mach	67,806	62,229	85,107	101,526	115,037	117,101
Stock (Herd)	201,689	252,745	342,690	276,514	295,824	378,225
Quota/Shares[8]	200,513	200,513	300,770	398,892	556,737	582,790
Total Assets	1,605,460	1,631,003	2,125,490	2,505,270	3,158,593	3,565,442
Total Debt	490,707	424,801	468,030	624,550	870,996	883,563
Net Worth	1,114,753	1,206,202	1,657,460	1,880,720	2,287,597	2,681,879
Debt Ratio	31%	26%	22%	25%	28%	25%

In both countries, the value of assets and net worth are high, with reasonable and comparable levels of debt. However, there is a significant difference in the make-up of the assets and net worth. In New Zealand, assets and net worth are based mainly on land values, which are high due to the current and expected future profitability of dairy farming – milk production as well as processing and marketing through Fonterra. If world milk prices do not collapse, dairy farms continue to improve efficiencies and Fonterra continues to grow, then New Zealand dairy farm profits are likely to continue to grow[9]. However, in Canada assets and net worth largely reflect quota values. Milk production is not growing and dairy farm profits are not based on world prices or being cost leaders. Rather, Canadian dairy farm profits are based on the supply management system, and without it there would be no quota values. Obviously, supply management does not fit well with free trade and Canada relies very heavily on trade. How long will it be before Canada is forced to give up its

[8] In 1999 and 2000, New Zealand dairy farmers had co-op processing shares with an average value of $1.50 and capital notes with an average value of $.50. In 2001 Fonterra began with a 'fair value share' worth approximately $3.00.

[9] There are, of course many other risks and uncertainties associated with future profitability in the New Zealand dairy industry, not the least of which is uncertainty associated with exchange rates.

supply management system and what will happen to asset and net worth values at that time? The difference is stark: New Zealand has built a sustainable and world competitive dairy industry (production as well as processing and marketing) while the milk production sector of the Canadian dairy industry is based on an outdated supply management system that could collapse under pressure from the WTO or Canada's major trading partners.

Table 4 shows a comparison of average dairy farm revenues, expenses and profitability. Interestingly, average per farm gross revenues, expenses, net profit and EBITDA are all similar between the two countries, despite the much larger farms in New Zealand. The explanation lies in the analysis of revenues, expenses and profits per unit of output. Per kg of milksolids, Canadian revenues, expenses and profits are all about three times the New Zealand levels. Canadian expenses per unit of output are higher as they have smaller farms (fewer economies of size) and because grain is more expensive to feed than pasture. Canadian revenues are greater because the supply management system provides farmers with higher prices for milk. Hence, regardless of how high costs are in Canada, milk prices can be set at a level that will provide profits to dairy farmers, as long as consumers are willing to pay. However, if prices are set too high, consumption will decline and supply will have to be restricted to maintain prices at current levels. Canada's average expense per kg of milksolids is far above the world competitive price which implies that the current structure of the dairy industry in Canada is simply not viable in a free and open market and would require significant changes to survive in a free trade world.

Table 4: Comparison of Revenues, Expenses and Profits for Dairy Farms in Canada and New Zealand (NZ $) 1999 – 2004

Year	1999	2000	2001	2002	2003	2004
Canada			**Average per farm**			
Dairy Products	246,422		367,286	346,669	338,999	352,753
Cattle	30,525		44,835	36,790	28,084	17,409
Programs[10]	14,029		21,650	11,481	9,325	15,995
Other	33,722		39,504	39,020	34,373	36,594
Gross Revenues	324,697		473,276	433,960	410,782	422,751
Cash Expenses[11]	215,276		324,817	309,546	296,942	295,584
Cash Surplus	109,421		148,459	124,414	113,840	127,167
Depreciation[12]	11,388		17,583	15,131	14,032	15,024
Net Profit	98,032		130,876	109,283	99,808	112,143
Labour & Mgt[13]	48,499		60,124	58,996	65,090	65,802
EBITDA	60,921		88,335	65,418	48,750	61,365
$ Per kg MS:						
Dairy Prod Rev	10.44		13.79	12.82	11.78	11.71
Gross Revenue	13.75		17.77	16.05	14.27	14.03
Cash Expenses	9.12		12.20	11.45	10.32	9.81
Cash Surplus	4.63		5.58	4.60	3.96	4.22
Net Profit	4.15		4.92	4.04	3.47	3.72
EBITDA	2.58		3.32	2.42	1.69	2.04
Year	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**
New Zealand			**Average per farm**			
Dairy Products	268,972	371,524	417,403	344,359	414,974	451,686
Cattle	28,404	36,451	51,294	35,100	32,470	37,981
Programs	0	0	0	0	0	0
Other	3,363	2,059	1,724	2,004	1,643	1,225
Gross Revenues	300,739	410,034	470,421	381,463	449,087	490,892
Cash Expenses	211,252	220,629	261,334	317,452	332,188	362,825
Cash Surplus	89,487	189,405	209,087	64,011	116,899	128,067
Depreciation	6,547	7,694	18,062	15,271	17,940	16,157
Net Profit	82,940	181,711	191,025	48,740	98,959	111,910
Labour & Mgt	45,055	45,310	52,255	56,053	69,586	73,654

[10] "Programs" refer to direct subsidies from federal and provincial governments. "Other" Canadian revenues are mainly from sale of grain and oilseed crops.
[11] Includes interest expense.
[12] Also includes stock adjustment.
[13] Labour and management income for the dairy farm owner is calculated using the MAF (NZ$) formula where owner labour is $29,000 for 1999-00, $31,000 for 2001-02, and $38,000 for 2003-04 and owner management compensation is 1% of total capital, to a maximum of $75,000.

EBITDA	44,432	144,095	156,832	7,958	47,313	54,413
$ Per kg MS:						
Dairy Prod Rev	3.80	4.71	4.95	3.80	4.22	4.57
Gross Revenue	4.25	5.20	5.57	4.21	4.57	4.97
Cash Expenses	2.98	2.80	3.10	3.50	3.38	3.67
Cash Surplus	1.26	2.40	2.48	0.71	1.19	1.30
Net Profit	1.17	2.30	2.26	0.54	1.01	1.13
EBITDA	0.63	1.83	1.86	0.09	0.48	0.55

Table 5 assesses the real growth in net worth for Canadian and New Zealand dairy farmers. Real growth is calculated using local currencies and the consumer price indices in each country (no foreign exchange rates are involved) to explain what has caused the real growth. In recent years, average New Zealand dairy farm net worth has been growing at an impressive 16.5% per year in real terms. While all components of net worth have been growing significantly (all components grew at over 9% per year from 1999 to 2004), the largest growth has been in the value of Fonterra shares. This implies that New Zealand dairy farmers are growing their milk production profits as well as gaining significant new value from being diversified into the processing and marketing sectors, through Fonterra's aggressive international marketing program. In Canada, the highest growth component is debt. However, net worth has been growing significantly at an annual average 5.4% real growth. The highest positive net worth growth component has been the value of the quota, which again signifies the value of the supply management system to dairy farmers in Canada.

Table 5: Analysis of Real Growth in Net Worth for Canadian and New Zealand Dairy Farms (1999 – 2004)

Net Worth Real Growth	**Canada**	**New Zealand**
	Average real growth 1999-2004	
Land and Buildings	5.4%	14.3%
Plant and Machinery	5.1%	9.0%
Stock (Herd)	-3.1%	10.8%
Quota/Shares	9.5%	39.4%
Total Debt	11.6%	9.9%
Net Worth	5.4%	16.5%
What has caused the real growth in Net Worth?		
Average herd size	3.0%	6.0%
Kg Milksolids/cow	1.9%	0.9%
Dairy Products/cow	1.5%	2.3%
Gross Revenue/cow	-0.4%	1.7%
Expenses/cow	0.6%	2.8%
Cash Surplus/cow	-2.7%	-0.9%
EBITDA/cow	-3.3%	-4.0%
Net Profit/cow	-3.0%	-2.1%
Price/kg Milksolids	0.6%	1.5%
Expenses/kg Milksolids	1.0%	1.8%
EBITDA/kg Milksolids	-5.1%	-4.8%
Net Profit/kg Milksolids	-2.7%	-3.0%
Kg Milksolids/farm	5.0%	6.9%
Gross Revenue/farm	4.9%	7.8%
Expenses/farm	6.0%	8.9%
Cash Surplus/farm	2.5%	5.0%
EBITDA/farm	-0.4%	1.7%
Net Profit/farm	2.2%	3.7%

Table 5 also analyses the sources of the growth in net worth in each country. As illustrated in Figure 2, both countries display the typical growth pattern in a

commodity-based industry where real growth in net profit per operating unit (cows) is declining because real growth in revenues/operating unit cannot keep up with real growth in expenses/operating unit. This causes the profit margin per operating unit to decline (see negative growth in cash surplus/cow, EBITDA/cow and profits/cow). However, the normal reaction is for producers to increase the size of their operations (more operating units) to offset the smaller margin per operating unit and to possibly slow or decrease the growth in expenses/operating unit. In New Zealand this is occurring and causing positive growth in cash surplus, EBITDA and net profits for the average farm. In Canada, there has been positive growth in farm cash surplus and net profits, which is likely to be the reason for the increasing value of milk quotas and farm net worth. However, there has been negative growth in EBITDA over the five year period. This suggests that (other things being constant) either average herd size will grow faster, as in New Zealand, or prices paid to producers will be increased to stabilize EBITDA.

Figure 2: Rationalization in the Canadian and New Zealand Dairy Industries (1999 – 2004)

	Real Growth in EBITDA/cow Negative		Growth in Herd Size Positive		Real Growth in Farm EBITDA
Canada	-3.3%	+	3.0%	=	-0.4%
New Zealand	-4.0%	+	6.0%	=	1.7%

The final objective in this paper is to compare average dairy farm net worth and average country-wide net worth. Table 6 compares average net worth for all Canadian families and Canadian dairy farms, in Canadian dollars, and does the same for all New Zealand families and New Zealand dairy farms, in New Zealand dollars. It is clear that in both countries, dairy farmers have much higher net worth than the average citizen. Dairy farmers in New Zealand have accumulated their wealth without assistance from government. They have accepted the risks, invested heavily in land and equipment and managed production to become cost leaders in the world, and as well, invested in processing and marketing to become world leaders in selling branded dairy

products. The net worth accumulated represents the return to good farm management and a willingness to take risks and diversify up the value chain. The New Zealand economy has benefited significantly from the success of their dairy industry. Dairy farmers in Canada have also accumulated significant wealth but mainly because of the special treatment through the supply management system. Instead of praise for creating wealth, the huge excess net worth of Canadian dairy farmers has attracted the attention of consumer lobby groups who would like to dismantle Canada's supply management system.

Table 6: Comparison of All Families and Dairy Farm Net Worth for Canada and New Zealand (in local currencies) 1999 – 2004

Year	1999	2000	2001	2002	2003	2004
			Canada Net Worth (in Cdn $)			
All Families	249,300	256,530	266,791	280,664	298,627	317,141
Dairy Farms	1,285,451	1,417,049	1,548,647	1,636,946	1,729,656	1,868,062
			New Zealand Net Worth (in NZ $)			
All Families	152,431	155,174	164,640	177,317	185,829	197,722
Dairy Farms	1,114,753	1,206,201	1,657,462	1,880,720	2,252,224	2,681,880

Conclusions

Dairy farmers in both Canada and New Zealand have prospered, but for different reasons. New Zealand dairy farmers, operating in a free and competitive market with no government subsidies, have become world cost leaders in the production of milk and have diversified along the value chain into the processing and marketing of dairy products. Through Fonterra, their dairy processing and marketing cooperative, they have captured 40% of the world dairy export market with branded New Zealand dairy products. As a result, New Zealand dairy farmers have high incomes and have accumulated significant net worth, compared with the average net worth of all families in

New Zealand. Their success can be attributed to good farm management and a willingness to take risks.

Dairy farmers in Canada have also prospered. However, Canadian dairy farmers have a supply management system that protects them from outside competition and provides cost-plus pricing. They are not cost leaders and, other than Quebec dairy farmers, have not invested in processing and marketing. As a result, there are significant differences between the New Zealand and Canadian dairy industries in term of average farm size, cost and production efficiencies and prices paid to dairy farmers for their milk. The large excess profits and net worth of Canadian dairy farmers has attracted the attention of consumer interests who would like to end Canada's supply management system.

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