

Meat Industry Performance and Organisational Form

A Commentary

November 2007

Lewis Evans

and

Eli Grace-Webb

The New Zealand
Institute for the Study of Competition and Regulation

Victoria University of Wellington

Contents

Introduction	5
Part 1 – A brief history of the New Zealand meat industry to 1999	7
Part 2 – The contemporary changing structure and performance of the New Zealand meat industry	
2.1 Introduction	10
2.2 Structural changes in the meat industry	10
2.2.1 Consolidation of meat processing processors and processing plants, and overcapacity	10
2.2.2 Dominance of meat worker unions and industrial action	13
2.2.3 Restructuring under the Meat Board Act 2004	14
2.2.4 The future structure of the meat industry	15
2.3 Performance of the meat industry	16
2.3.1 Livestock and slaughter numbers	16
2.3.2 A look at productivity	17
2.3.3 Export volume and value	18
2.3.4 Farmer incomes, cash farm surplus, and the effect on land use	20
2.3.5 Farmer schedule differentials between the North Island and the South Island	21
2.3.6 Meat processor performance	22
2.3.7 Investment and capital expenditure	24
2.4 Access to international export markets	24
2.4.1 Export quota	24
2.4.2 The affect of access to international markets on returns to farmers	27
2.5 World commodity prices and exchange rates	28
2.5.1 The New Zealand dollar	28
2.5.2 World meat commodity prices	28
2.5.3 Meat export prices in New Zealand dollar terms	39
2.6 Competition	30
2.6.1 Stock procurement competition	30
2.6.2 Product sale competition	30
2.6.3 Management and labour competition	31
2.6.4 Debt supply competition	32
2.6.5 Equity supply competition and the market for corporate control	32
2.7 Ownership	33
2.7.1 Cooperative versus investor-owned ownership structures of meat processors	33

(a)	Management accountability and firm investment decisions	33
(b)	Compulsory farmer ownership and the affect on farmer risk	34
(c)	Access to funds	34
2.7.2	Foreign ownership of meat processors	35
2.7.3	United marketing of meat productions internationally	35
2.8	Economies of scale	35
2.9	Looking forward – investment versus interest overtime	36
2.9.1	Investment	36
2.9.2	Debt financing and servicing costs	37
Part 3 – PPCS: the study of a cooperative		
3.1	Introduction and background	39
3.2	The structure of PPCS	39
3.2.1	Corporate structure and the regulation of management	39
3.2.2	Restrictions on the transferability of shares	41
3.3	Performance of PPCS	41
3.3.1	Turnover and operating surplus	41
3.3.2	Debt, interest and operating cash flows	42
3.3.3	Raising additional funds	43
3.3.4	Return to shareholders	44
3.3.5	Investment expenditure	46
3.4	PPCS into the future	47
Part 4 – AFFCO: the study of an investor-owned firm		
4.1	Introduction and background	49
4.2	The structure of AFFCO	50
4.2.1	Shift from farmer cooperative to publicly listed investor-owned firm	50
4.2.2	Corporate structure and the regulation of management	50
4.2.3	Pressure to cut costs and improve efficiency of its meat processing operations	52
4.2.4	Diversification into dairying	53
4.2.5	Expansion into the South Island	54
4.3	Performance of AFFCO	54
4.3.1	Turnover and operating surplus	54
4.3.2	Debt, interest and operating cash flows	55
4.3.3	Raising additional funds	58

4.3.4	Return to shareholders	58
4.3.5	Investment expenditure	60
4.4	AFFCO into the future	61
	Conclusion	63
	References	64
	Appendices	
	Appendix A – Timeline of industry events since 1971	65
	Appendix B – New Zealand’s Largest Meat Processors	74
	Appendix C – Examples of plant construction and upgrade costs	75
	Appendix D – Meat Industry Organisations	76
	Appendix E – Investment in technology by PPCS	77
	Appendix F – Export Quota and Tariff Rates	78

Introduction

The important role that processed meat and milk played in the past century, and continue to play in delivering the bulk of New Zealand's exports, engenders relevance and interest in the performance of these industries.

The structure of the meat industry has always differed from that of dairy by the preponderance of cooperative firms in dairy. Despite the fact that there were at the outset of the industry investor-owned firms, by 2001 when Fonterra was formed there were four reasonably sized cooperative dairy companies; and two of these shared the bulk (approximately 95%) of the raw milk market. This final position may have reflected the cooperative basis of the Dairy Board which was, by statute, the New Zealand single-desk dairy exporter for (approximately) the period 1960-2001. The preponderance of capacity of the meat packing was, until the meat industry and economy-wide de-regulation of the 1980s, held by investor-owned firms; although cooperatives were also important. More recently, cooperative meat packing firms have acquired a large share of the meat packing market.

There remains debate about the existence of a desirable organisational structure for meat packing and dairy processing and, if so, whether it is that of outside-investor ownership or supplier cooperative.¹ The purpose of this paper is to report on the meat packing industry in a manner that informs this debate. The paper does not purport to resolve it.

The organisational structure of entities in the two industries will desirably reflect their product characteristics and these differ – for example, dairy requires that milk be collected regularly every day for at least 250 days of the year, whereas there is more flexibility for animal collection for meat processing; both have strong seasonality components; animals are more heterogeneous than milk, and historically it has been relatively more cost-efficient to transport animals, than milk, long distances. The different product characteristics mean that there may be desirably different organisational arrangements in the two industries, although they have the common feature that the preponderance of output is exported to foreign markets where each industry is generally a price taker.

The economic literature on organisational form suggests that the question is only properly settled by competition between these forms in the product markets, the ownership market and the labour and capital markets (see Evans and Meade (2006)). Historically, all these markets have affected the performance of dairy and meat processing, and through them regulatory and de-regulatory episodes have had a major influence on organisational structure.

¹ Boyd, Evans and Quigley, study contractual arrangements between suppliers and processors (see Haleigh Boyd, Lewis Evans and Neil Quigley "The Efficiency of Contractual Arrangements in Private Agricultural Product Markets", *Victoria University of Wellington Law Review*, 31, 2000, 813-846), but not the co-operative approach of dairy, or the spot market approach of meat packing .

The purpose of this report is to review the contemporary history of the meat packing industry and particularly the role of cooperatives and investor-owned firms in its development. The report that follows is divided into three parts. Part One reports briefly the contemporary history of the meat industry, Part Two looks at the changing structure and performance of this industry, Part Three assesses the evolution and performance of the now-large cooperative processor PPCS, and Part Four reviews the evolution of the now-investor firm AFFCO.

Part 1 – A Brief History of the New Zealand Meat Industry to 1999

The history of the New Zealand meat industry covering the period 1972 - 1997 is thoroughly covered in book entitled *Meat Acts* by Mick Calder and Janet Tyson first published in 1999. Appendix A of this paper provides a timeline of important events over this period, drawing on this book, and to the present day.

By the beginning of the 1970s there were four major foreign-owned meat processing and exporting companies. These companies concentrated on the UK lamb and the North American beef export markets. Combined these companies had control of approximately 30 percent of New Zealand's meat processing capacity. However, they controlled a much larger percentage of the meat marketing sector through arrangements with other New Zealand processing companies. There were also a number of smaller New Zealand meat processing and exporting companies, including: Alliance Freezing Company, established as a cooperative that had one plant; and Auckland Farmers' Freezing Company ("AFFCO"), a farmer cooperative that had three processing plants.

The principal industry regulatory body – the Meat Board ("the Board") – had significant powers under the Meat Export Control Act 1921 over much-sought-after export licences, and the grading, shipping marketing and promotion of meat exports. Through the application of these powers, the Board centralised control over processing and exporting company ownership, and capacity, including the construction of new processing plants. As one the nation's largest employers, the meat processing industry accounted for in excess of 30,000 employees in 1970. Industrial relations law and wage setting at this time was centralised with union membership having been compulsory since 1936. The Board intervened in the UK lamb market for the 1976-1977 season, when it marketed lamb internationally through established meat marketing companies that included PPCS which had started life as a marketing company.

In 1980 (after the passing of the Sheepmeats Regulations 1980) New Zealand was granted a 245, 500 tonne country-specific quota of sheepmeat through a Voluntary Restraint Agreement. The administration of these quotas and the allocation to New Zealand exporters was placed in the hands of the Board.

In response to interest group pressure for change, an amendment to the Meat Act was passed in April 1981. It delicensed the industry and led to significant restructuring. Although the processing capacity did begin to expand, it was some time before the opening of the floodgates was fully realised. By October 1982 the meat processing industry consisted of:

- 17 freezing works companies;
- 2 meat marketing companies (PPCS and Phoenix Meat Company Limited ("PML")); and
- 40 members of the International Meat Exporters' Association.

In the following years much change occurred in the now established 'wild west' of the meat industry. After the poor returns on lamb in the 1980/81 and 1981/82 seasons and continued debate about the role of the Board in the industry, the Government established the Meat Industry Task Force in 1983 to report on the structure and success of meat marketing. The Taskforce reported back that the meat industry should move towards a single-seller market place under the Meat Board, much like that of the Dairy Board. This fashioned much debate and discontent, effectively highlighted when Ian Jenkins of PPCS produced a minority report in opposition. Despite this however, the Task Force's report was later accepted by Government.

In 1985, economy-wide deregulation affected all aspects of the agricultural sector. The withdrawal of subsidies began a decline in sheep numbers from the high of 70 million in 1984, that has continued up to the present day. Competition was enhanced by the 1991 Employment Contracts Act that substantially altered the employment environment.

At this time, the financial viability of meat companies was at risk due to:

- different positions in labour contracts and plant ages;
- diminishing stock numbers;
- uncertainty over the supply of livestock; and
- for those companies unable to process their own meat, uncertainty over the supply of processed meat.

The cooperative, PPCS was prominent in the next phase of change, which it had anticipated and moved to further meat processing. In particular;

- PPCS acquired the failed Waitone Meats Ltd at Gore;
- PPCS also acquired Venison New Zealand at Mosburn;
- In 1994 PPCS acquired the Silverstream plant from Skeggs Group; and

Also in 1994 a consortium of North Island meat companies acquired 5 of Weddel's processing plants and closed them to reduce the industry's processing capacity.

However, even after the poor financial performance and collapses of existing companies during the 1980s and early 1990s, and the continued decline in stock numbers, many companies continued to enter the market and many processing plants continued to be constructed. In fact, from 1986 to 1994 the number of meat companies increased from 11 to 29 and the number of meat works increased from 45 to 64.

In 1994 changes were made to the way that quota were allocated to meat exporters. The elements of the new system were:

- quota allocations were on an annual basis calculated from three year rolling averages based on ownership of qualifying export graded product at the time of slaughter;

- quota could be earned by companies on 5 percent of qualifying product sold domestically;
- some percentage of the total quota would be reserved for new entrants;
- all quota allocations were made by an independent body; and
- (importantly) quota could be traded amongst companies.

By 1999 the major players in the meat processing industry were as follows:

- Alliance and PPCS, the two cooperatives, dominated the South Island meat processing industry;
- AFFCO (6 processing plants) and Richmond (6 processing plants), two non-cooperatives public companies, the first listed the second not, were the major North Island meat processors;
- ANZCO (4 processing plants) had built itself into a multi-national trading company.

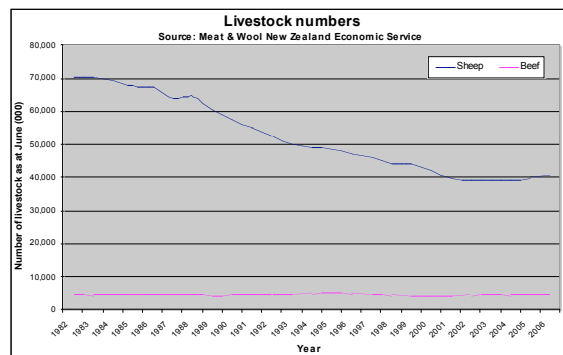
These companies had managed to survive the procurement wars and the poor financial performances of the 1980s and early 1990s, in the process acquiring other companies. This consolidation and change in ownership resulted in a large reduction in foreign ownership of meat processing facilities with only Itoham's shareholding in ANZCO remaining as a significant foreign presence.

Technological change has proceeded in various important ways. Through the early 1980s it was, in part, represented by the introduction of automated dressing machines to meat processing lines that lead to a large increase in the efficiency of processing plants and the quantity of meat that could be carved from the bone. In the late 1990's and early 2000's there has been advancement in getting chilled, as opposed to frozen, lamb to foreign markets.

Part 2 – The contemporary changing structure and performance of the New Zealand meat industry

2.1 Introduction

The meat industry continues to be dominated by the decrease in sheep livestock numbers as farmers switch land use from sheep and beef farming to other uses including viticulture and dairy farming. However, as these stock numbers decrease, the weight and value of meat exports have risen. This result suggests a combination of improvement in productivity and in the ability of the meat processing sector to extract greater value from its exports.



2.2 Structural change in the meat industry

The meat industry has sustained continued structural change, reflected in changes in ownership and Government regulation.

2.2.1 Consolidation of meat processing processors and processing plants, and overcapacity

Over recent years the larger meat processors (AFFCO, PPCS, Richmond and Alliance) have continued acquiring processing plants and other meat processors. This consolidation in the ownership of meat processing capacity has resulted in these larger meat processors expanding their presence throughout the entire country.

Examples of meat processors acquiring other meat processors:²

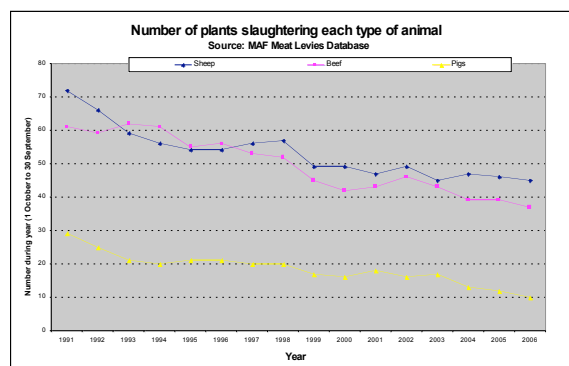
- PPCS takes over Mair Venison in August 2000;
- Canterbury Meat Processors acquires Phoenix Meat Company in 2001;
- Progressive acquires Te Kuiti Meat Processors from Allied Farmers in January 2002;

² Source: press reports, financial statements and Newztext Database.

- PPCS acquisition of Richmond completed in 2004 (as reported in the PPCS' 2004 Annual Report);
- AFFCO purchase of Dairy Meats in 2005 for \$31 million;
- Bernard Mathews purchases a 50 percent holding in Lamb Packers' Feilding and Progressive's Gisborne in February 2005;
- Talley's Fisheries partial takeover of AFFCO in May 2006, increasing its holding to 50.01 percent; and
- Integrated Foods purchases Napier lamb processing plant from Fresh Meats in June 2006.

This consolidation has enabled these larger processors to reduce processing capacity. Since the late 1980s meat processors have been arguing that there is excess processing capacity available in New Zealand and that the effect of this has been to reduce the profitability of meat processing as competition for the procurement of livestock becomes more vigorous in the presence of excess capacity. In response, meat processors have been establishing specialised processing plants, closing down some plants, and mothballing others.

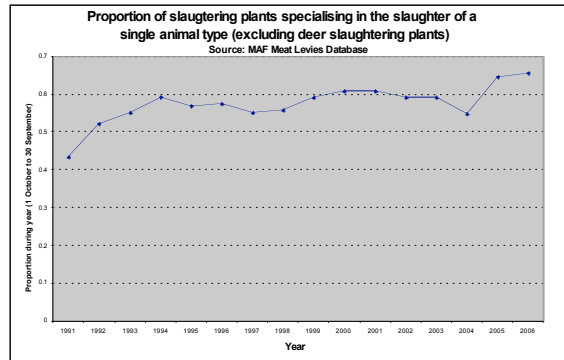
The number of processing plants has been falling. From 1991 to 2006 the number of plants slaughtering sheep has decreased from 72 to 45, the number slaughtering cattle has decreased from 61 to 37 and the number slaughtering pigs has decreased from 29 to 10.³ In addition, the total number of individual slaughtering plants decreased from 90 to 69 over this same period. Although unable to directly measure the processing capacity at each plant, and hence in aggregate, these observations suggest that there has been a substantial decline in overall slaughtering capacity.



It is also noteworthy that the proportion of the total animal slaughtering plants specialising in a single type of animal has increased over the same period from 43 percent in 1991 to 66 percent in 2006.⁴

³ Source: MAF Meat Levies Database.

⁴ Source: MAF Meat Levies Database.



To ensure that the removal of capacity remains permanent, many processors have adopted the practice of including with the sale of closed processing plants, covenants and agreements restricting the ability of subsequent land owners from setting up meat processing facilities.

Examples of restrictive covenants include:⁵

- PPCS negotiation for the Islington and Burnside processing plants to close with the agreement not to be used for sheep or beef slaughtering in 1988 following the Waitaki financial issues;
- Riverlands Marlborough meat processing plant closure in 2002 with a sale of land including a 25 year covenant; and
- ANZCO Foods' Waitara meat processing plant opening issues in 2005 due to a 20 year covenant placed on the land by AFFCO.

The large number of meat processor liquidations and receiverships is a sign that excess processing capacity has reduced profitability in the industry. These liquidations suggest that some processors have failed to maintain sufficient cash margins to cover debt servicing and repayment obligations as a result (at least to some degree) of having to offer competitive payouts to farmers when procuring stock for slaughter, in the presence of available fixed capacity. It is plausible that competition is more intensive with high levels of capacity. The competition in turn provides farmers with multiple options for getting their stock to slaughter.

Examples of liquidations and receiverships include:⁶

- Lakeview Farm Fresh group went into receivership in 2001;
- Cuttle and Isaacs went into receivership in 2002; and
- ABCO' Oamaru meat processing plant went into receivership in 2006.

⁵ Source: Newztext Database and Calder and Tyson (1999).

⁶ Source: press releases and Newztext Database.

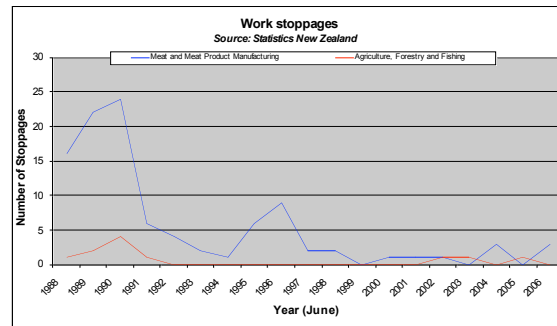
2.2.2 Employment Issues

The Meat Industry Association reports that the installation of the Employment Relations Act 2000, has been associated with increased industrial action by employees seeking pay equity across meat processing plants.⁷ This legislation made it easier for workers' unions to form, and there has evolved a single meat workers union – the New Zealand Meat Workers and Related Trades Union – formed by a merger between Meat and Related Trades' Workers Union of Aotearoa and the New Zealand Meatworkers' and Related Trades' Union in 2005.⁸ At the peak of the lamb and beef processing season, this union comprises in excess of 22,000 permanent and seasonal members.

Examples of industrial action since 2000 include:⁹

- In 2001, 120 MAF vets who work in meat processing plants initiate strike action;
- In 2002, there were strikes at 6 PPCS meat processing plants;
- In 2004, there were strikes at PPCS's Finegand meat processing plant;
- In 2006, there was strike action by employees at Southmore Meat Processing plant;
- In 2006, 750 meat inspectors from Assure New Zealand initiated industrial action; and
- Again in 2006, workers at AFFCO's Feilding meat processing plant go on a strike that continued into 2007.

Corresponding to this the number of work stoppages in the more general agriculture, forestry and fishing classification, range from a high of 4 in 1990 to a low of zero over the years 1992 to 2001.



Notwithstanding different working conditions that may predispose action, the significant difference between the two industries suggests that the incentive and relatedly the ability of workers to hold up their employers in the meat and meat manufacturing industry may be stronger than that in the agriculture, forestry and fishing industry.

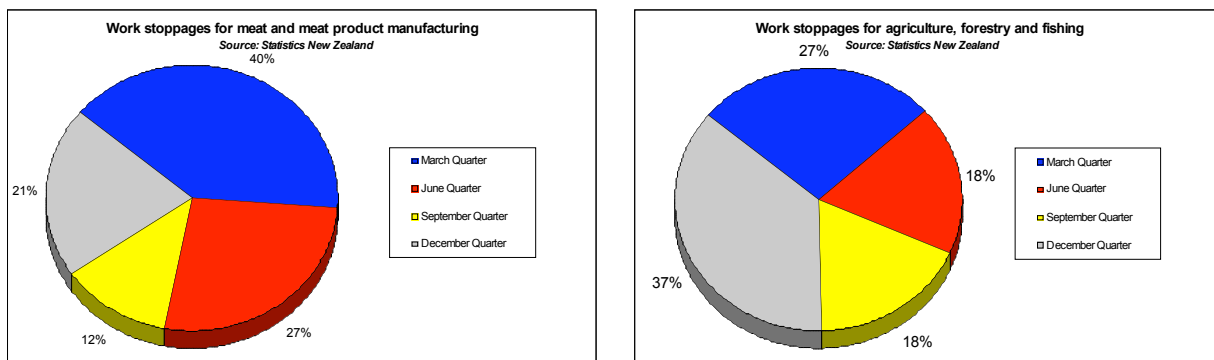
⁷ See the MIA annual reports for years 2000 through to 2006.

⁸ See www.meatunion.org.nz.

⁹ MIA annual reports, press releases and Newztext Database.

There was a rapid decline in the number of work stoppages following 1990 with the introduction of the Employment Contracts Act 1991. Calder and Tyson *op cit*, report that this Act substantially reduced the strength of unions and the ability of workers to conduct industrial action, switching away from collective bargaining and towards individual employment agreements made on a processing plant basis. It appears reasonable to suggest that this decline in work stoppages can, to some extent, be attributed to the introduction of this Act.

Of the 115 meat and meat product manufacturing work stoppages between June 1987 and June 2006 the majority occurred in the March and December quarters, with the March quarter representing 40 percent of all work stoppages. Correspondingly, of the 11 agriculture, forestry and fishing work stoppages over that same period, the March quarter stoppages represent 27 percent. The relative prominence of work stoppages in the March quarter for meat and meat product manufacturing suggests that industrial disputes arise during the busy summer meat processing period when stoppages exert considerable pressure on the meat processing companies, and the ability of farmers to hold back their stock is limited.



Data provided by Statistics New Zealand shows that from March 1987 to June 2006 total wages and salaries lost exceeded \$153 million for meat and meat product manufacturing and \$3 million for agriculture, forestry and fishing.

As the number of people employed in the agriculture, forestry and fishing industry for the year to February 2006 was 34,010 compared with only 24,240 in the meat processing industry, there is more to the number of work stoppages (and the associated costs) than employment.¹⁰

The MIA has also argued that the introduction of employment legislation (such as Holidays Act 2003) increases the costs of running their businesses to an extent that is above what is necessary for the protection of employees, and that the cost is adversely affecting the financial future of a number of meat processors.¹¹

¹⁰ The number of people employed is not measured on a full-time-equivalence basis. The source is Statistics New Zealand (the Business Demographic Business statistics).

¹¹ See page 26 of the 2006 MIA annual report for a discussion of the Holidays Act 2003, and page 3 of PPCS's 2006 annual report for a brief comment.

2.2.3 Restructuring under the Meat Board Act 2004

In June 2004 Parliament passed the Meat Board Act 2004 that had two prime functions:

- To merge Meat New Zealand and the Wool Board into Meat and Wool New Zealand to represent farmers and growers and to provide industry-good services; and
- To establish the New Zealand Meat Board to administer the allocation of New Zealand country specific export quota to meat exporters and to be responsible for the management of meat industry' reserves (collected through the meat Commodities Levies Act).

This legislation allowed for the separation of the quota management and reserve management functions (now administered by the Board) from the industry-good and commodity levying powers.

In addition, the Act allows the Board to recover from meat processors (by way of a levy) any liability incurred when undertaking its quota management function, including costs incurred defending any successful action taken against it regarding the allocation of quota. This aspect of the legislation has been contested by the Meat Industry Association on behalf of meat processors. It argues that the costs incurred by the Board are not under the control of the meat processors and therefore to pass these costs onto the processors is unreasonable.¹²

Examples of actions taken against the New Zealand Meat Board are:¹³

- *Paramount Export Ltd and Ronnick Commodities Ltd v NZ Meat Board and MIA* (first heard in 2001 with final Privy Council decision in 2004, about the 1994 EU quota allocation); and
- *Hartnell v NZ Meat Board and MIA* (1995 EU export licence allocation, proceedings discontinued in 2004).

2.2.4 The future structure of the meat industry

The future structure of the meat processing industry is quite uncertain. On the one hand, it may be that the larger processors will continue to acquire smaller processors in an effort to reduce capacity and to expand their cover of New Zealand meat processing on a regional level. On the other hand, it seems possible that there will be consolidation at the large processor level. The acquisition of Richmond by PPCS (completed in 2004) represented a consolidation of two of the largest processors into the single largest meat processor – PPCS, was an example.

¹² See page 18 of the 2004 MIA annual report.

¹³ Source: MIA annual reports and NZLR law reporter series.

This question has been raised again recently with calls by a group of South Island farmers – calling themselves the Meat Industry Restructuring Group (“MIRG”) – for a merger between PPCS and Alliance.¹⁴ These are the two largest meat processors and are both farm-owned cooperatives (with PPCS and Alliance having asset values of around \$762 million and \$431 million respectively).

It is asserted by MIRG that this merger should go ahead to enable the creation of a united international marketing and exporting front, that can be used to maximise the returns to New Zealand farmers by competing as one when selling New Zealand meat internationally against the other meat exporting nations. MIRG suggests that this would be a far more efficient use of New Zealand’s resources when compared to the current situation, where the two meat exporters compete over export quota, international marketing and procurement of stock. This competition, they argue, ultimately lowers returns to New Zealand farmers. They use as their model the restructuring of the dairy industry and the resulting formation of Fonterra as the single New Zealand dairy product exporter.¹⁵

2.3 Performance of the meat industry

2.3.1 Livestock and slaughter numbers¹⁶

Arguably one of the most telling statistics on the meat industry has been the significant decline in the number of sheep. Following the 1982 meat industry reforms there has been a substantial decrease in the number of sheep (mutton and lamb) from a high of 70.3 million in 1982 to a low of 40.7 million in 2006. This represents a 42 percent decrease in the total number of sheep. At the same time, the number of beef stock has remained relatively constant.

Interestingly, during this same period the number of sheep (mutton and lamb) slaughtered only decreased 27 percent from 41.1 million in 1982 to 29.9 million in 2006. In light of the increase in lambing percentages (discussed below) this disparity between total sheep numbers and total sheep slaughtered can in part be attributed to the increased “turnover” of lambs to slaughter on a seasonal basis. This fact can be highlighted by noting that the number of slaughtered sheep per unit of livestock has actually increased from 58.5 percent in 1982 to 73.4 percent in 2006, while the rate of decrease in sheep livestock per year has remained relatively constant.

As with beef livestock numbers, beef slaughter numbers have remained relatively constant; but unlike sheep, calving percentages have remained around 80 percent.

¹⁴ See The Deer Farmer Magazine, Issue 12-2006 (5 September 2006).

¹⁵ Note that although Fonterra has approximately 95% of the raw milk market and is by far the largest exporter, there are a few other competing exporters.

¹⁶ Source: Meat and Wool New Zealand Economic Service.

However, due to likelihood that farmers' willingness to record data (including livestock numbers) is likely to reflect commercial incentives, it is possible that the measured trends exhibited here reflect some changes in these incentives between the subsidy and no subsidy eras. It is likely that any such a recording effect would have been most prominent when per-head of sheep subsidies were paid in the early 1980s.

2.3.2 *A look at productivity*¹⁷

Since the meat reforms of the early 1980s there has been a marked increase in the productivity of beef and sheepmeat production in New Zealand. In particular, over the years 1983 to 2006 there has been a significant increase in lambing percentages from 98 percent to 124.3 percent respectively. This has been complemented by a 27.6 percent increase in the average weight per lamb carcass over the same period (from 13.31 kgs to 16.99 kgs).

A significant increase in the average weight per beef carcass of 18.7 percent also occurred during this same period (from 223.31 kgs to 264.99 kgs).

Both sets of statistics suggest that at the farm gate level, farmers are able add greater weight to their animals while they are on their farms by providing feed with greater nutritional and muscle-producing content, while being able to ensure lower lamb birth mortality rates. These gains have come through the genetic evolution including new sheep breeds with better meat content and greater lambing tendencies, and the use of fertiliser and improved pastures.

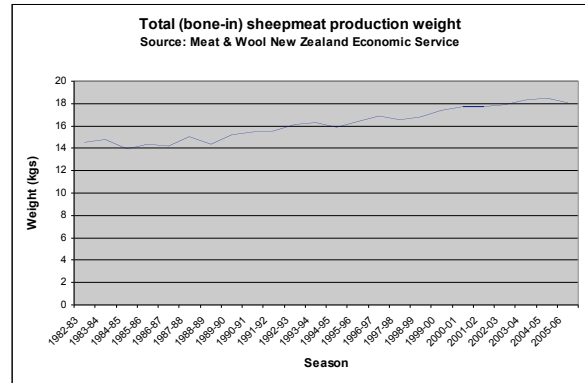
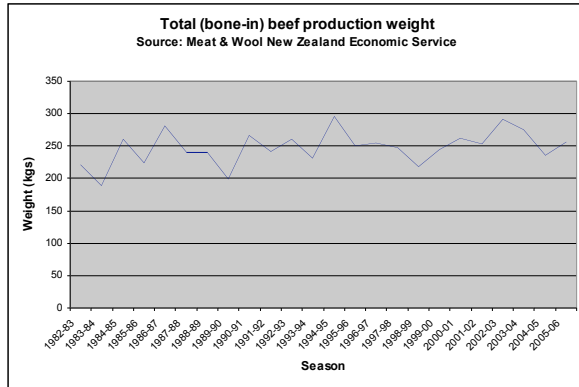
It is also possible that these productivity gains actually reflect substitution land use from less productive sheep land into other land uses such as forestry. In such a case, it is rather the increase in the weighting towards more productive land relative to the less productive land that increases the measures of sheep productivity, rather than any real increase in productivity per se.

Another important statistic for the indicator of total productivity can be taken from the total weight of bone-in meat for both beef and sheepmeat. For beef, total bone-in meat has increased from 490 thousand tonnes in 1983 to 620 thousand tonnes in 2006 (an increase of 27 percent), while for sheepmeat there was a decrease from 657 thousand tonnes to 538 thousand tonnes over the same period (an 18 percent decrease). The decrease in sheepmeat can be attributed to the decrease in sheep slaughter numbers discussed above.

Using these figures, the average bone-in weight per unit of slaughtered sheep (lamb and mutton) has increased from 14.5 kgs to 18.0 kgs, while the average bone-in weight per unit of slaughtered beef has increased from 220 kgs to 256 kgs.

¹⁷ Source: Meat and Wool New Zealand Economic Service.

The ability to increase the quantity of meat per unit of beef and sheep must be attributed to both an increase in carcass weight (attributable to farmers) and an increase in the efficiency of meat de-boning and processing (attributable to meat processors).



2.3.3 Export volume and value¹⁸

Total meat exports in the balance of merchandised trade for the year to June 2006 was \$4.5 billion which made up 14.6 percent of the \$30.8 billion total commodity exports from New Zealand, making meat the second biggest commodity export in terms of value. This percentage has decreased from the 16 percent for the year to June 1990 (as \$2.3 billion of the total \$14.5 billion in commodity exports), where meat exports made up the largest proportion of total commodity export value.

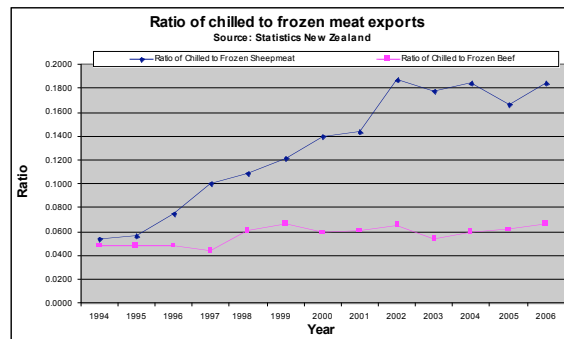
From 1983 to 2006 the total quantity of sheepmeat exported (in tonnes) decreased from 598 thousand to 524 thousand (a 12 percent decrease), while the quantity of beef export (in tonnes) increased over the same period from 368 thousand to 539 thousand (a 46 percent increase). For both types of meat, the proportion of total meat production sent to export markets has increased: from 91 percent to 97 percent for sheepmeat, and from 75 percent to 87 percent for beef.



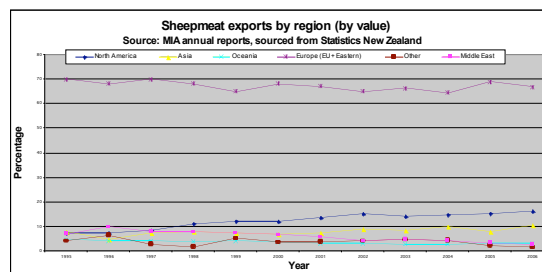
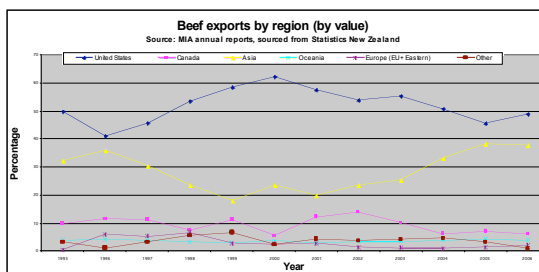
¹⁸ Source: world beef and sheepmeat nominal export value and volume figures from Meat and Wool New Zealand, and Merchandised Trade figures, CPI inflation figures and the destination of exports from Statistics New Zealand.

Between 1996 and 2005 the value of beef exports increased from \$NZ 1.19 billion to \$NZ 1.8 billion (when converted into constant 2005 prices), representing an increase of 51 percent, while the value of sheepmeat exports increased by only 38 percent over that same period (from \$NZ 1.72 billion to \$NZ 2.38 billion, in 2005 prices).

There has been a dramatic increase in the percentage of chilled sheepmeat exports to frozen sheepmeat exports. From 1996 to 2006 this percentage increased from 7.5 percent to 18.5 percent. Chilled meat competes more directly with fresh meat and thereby fetches higher prices internationally than frozen meat. Consequently this growth provides an indicator of the ability of meat exports to add value to carcasses.



Europe continues to be the primary destination of sheepmeat at about 66.9 percent of the total, while the proportion of beef exported to the US (our dominant beef export market) has been falling with substitution to by Asian markets. Over the period 1999 to 2006 the proportion of beef exported to the US has fallen from 58.5 percent to 49 percent, while the proportion exported to Asia has increased from 17.9 percent to 38 percent. This apparent trend has led to increased focus by our meat industry bodies on procuring trade deals with Asian countries.¹⁹

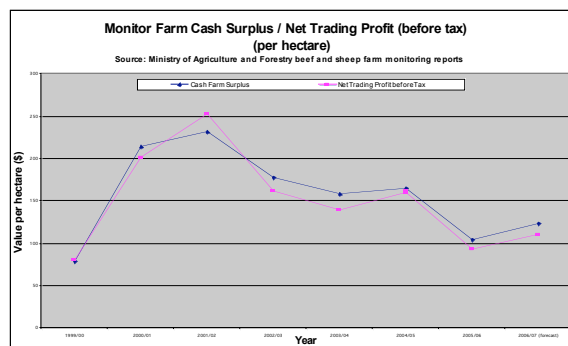


A major reason for the increase in beef exports to Asia was the discovery of foot and mouth disease in the UK in 2001 and BSE in the US and Canada in 2003. In particular, the latter disease outbreak resulted in the banning of beef imports into Japan, South Korea and Taiwan from the US and Canada. As a result, Asian demand shifted towards New Zealand and Australian beef.

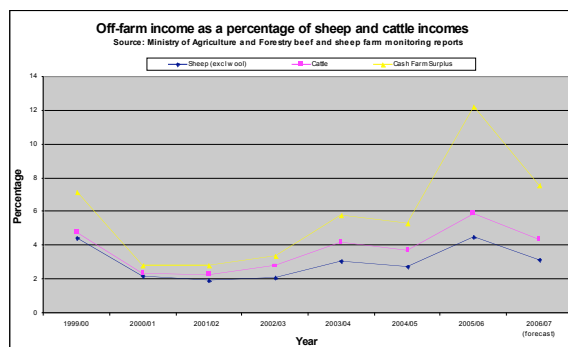
¹⁹ See the MIA and MWNZ annual reports of 2000 through to 2006.

2.3.4 Farmer incomes, cash farm surplus, and the effect on land use²⁰

Taking the Ministry of Agriculture and Forestry Farm Monitoring Reports for the years 2001 through to 2006, we can determine the average beef and sheepmeat sourced income for an average (monitored) farm. For the farms monitored, sheep income (excluding wool) per hectare has increased from \$275 to \$283 while cattle income per hectare has decreased from \$257 to \$216. However, the increase in sheep income has not been translated into farm cash surplus. In fact, over this period per hectare cash farm surplus has decreased substantially from \$214 to \$104.



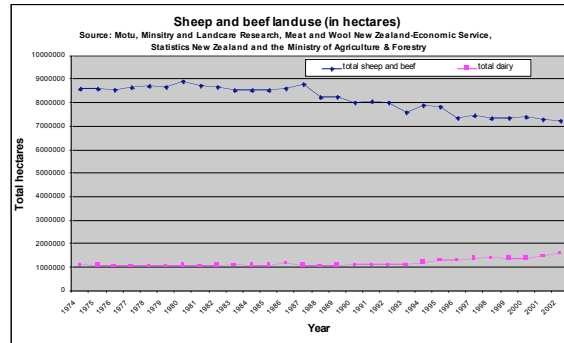
Such a decrease suggests that farmers have an increasingly greater incentive to switch land from the production of sheepmeat and beef into other uses. Associatedly, during this same period (based again on the Farm Monitoring Reports) the percentage of cash farm surplus attributed to off-farm income increased from 2.8 percent to 12.2 percent, corresponding to an increase from \$6.07 to \$12.73 in off-farm income per hectare (a 110 percent increase per hectare).



In addition, it is quite pronounced that since 1987 total sheep and beef farmland has declined year on year from a high of 8.8 million hectares to a low of 7.2 million hectares in 2002 (an 18 percent decrease), while at the same time total dairy farmland has increased from 1.1 million hectares to 1.6 million (a 45 percent increase). This shift in land use from sheep and beef farming to dairying can most readily be attributed to the

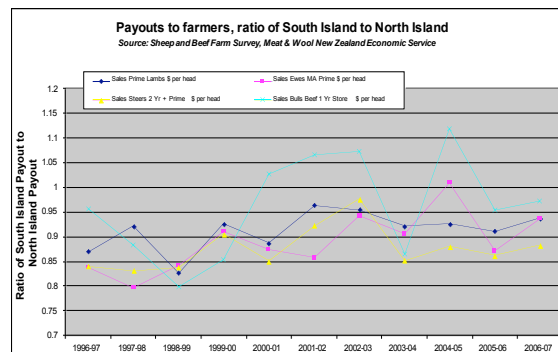
²⁰ See MAF Farm Monitoring Reports for years 2001 to 2006.

removal of farmer support through the late 1980s and early 1990s, and the relative profitability of these activities since that time.



2.3.5 Farmer schedule differentials between the North Island and the South Island

As is illustrated below, the South Island schedules are generally lower than the North Island schedules. This may indicate, though not definitely, that the two islands are separate markets. One reason postulated for this difference is the difference in climatic conditions between the two islands. One proposition put to us is that as a result of the harsher winter months in the South Island, farmers are unable to hold onto their stock for growth reasons past February due to the risk that winter conditions will damage stock numbers. Accordingly, these farmers are forced to send their stock to slaughter before the end of summer, and this pressure allows meat processors to effectively achieve larger margins between export value and stock procurement cost, by offering these farmers lower meat schedules with the confidence that they will be able to achieve sufficient slaughter throughput.



In contrast, due to the relatively more mild climate with a longer summer-autumn period of pasture growth, North Island farmers may have greater bargaining power, and have the ability to hold onto their stock until much later in the meat processing season. This ultimately forces the meat schedule up in the North Island, as meat processors compete for stock throughput. However, if the price difference reflects simply a difference in buyer strategy it could be expected that there would be further processor entry into the South Island market. In fact, this has occurred with AFFCO's recent move into

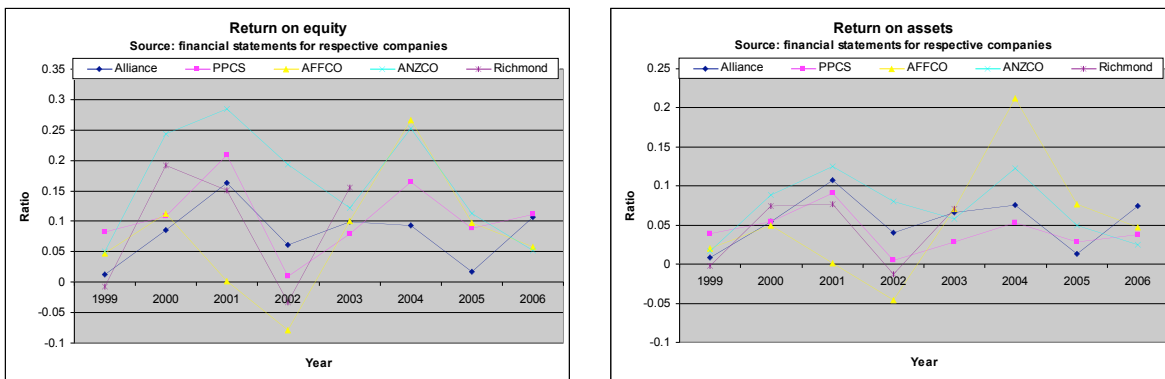
Southland. The prices reported between the different islands may also reflect the different balances of cooperative and investor-owned companies in each island. In cooperatives farmer payouts are made in two-steps: through sale proceeds and shareholder returns: the transaction prices data may not reflect this.

Recently schedule equality between the two islands has become an increasing priority for South Island farmers.²¹

2.3.6 Meat processor performance²²

The efficiency of processing of livestock into meat packaged, marketed and distributed to retail markets is important in yielding returns for New Zealand livestock farmers, and for the performance of the industry from New Zealand society's perspective. It requires efficient performance of meat processors. We examine crude indicators of this.

From 1999 to 2005/2006 the return on equity for meat processors has followed a variable path. For the five largest meat processing companies (PPCS, AFFCO, ANZCO, Alliance and Richmond²³) there appears to be similarity in operating profit before taxation over the years, and in particular, higher returns in 2001, 2002 and 2004, and lower returns in 2003, 2005 and 2006 were experienced across the board. As an indication of the likely returns for 2007, PPCS has reported a (unaudited) substantial reduction below its 2006 level.



However, the use of operating surplus (before taxation) to equity (total assets) as a measure of the return on equity (total assets) does not indicate viability or prospect of ongoing performance. A much more meaningful approach is to examine economic

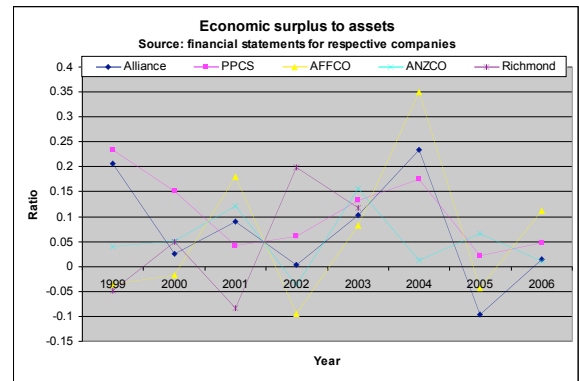
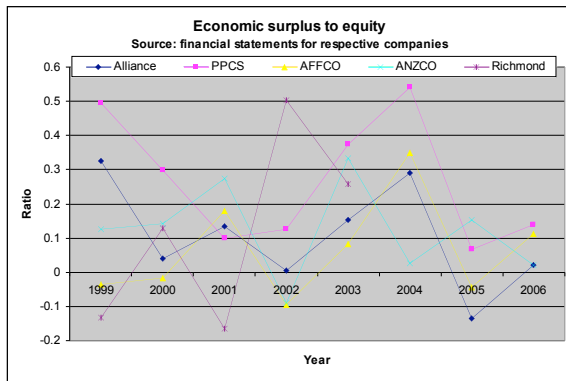
²¹ See Annette Scott, (March 1, 2005) "Brian takes up Owen's lamb gap challenge," The New Zealand Farmers Weekly, and Ross Annabell, (July 5, 2007) "PPCS lamb plan grilled," Rural News.

²² Financial information for each meat processor is taken from their respective financial statements, where PPCS has a 31 August balance date and the remaining four have 30 September balance dates. All processors excluding PPCS have only published statements up to 2005m with PPCS having published 2006 statements as well.

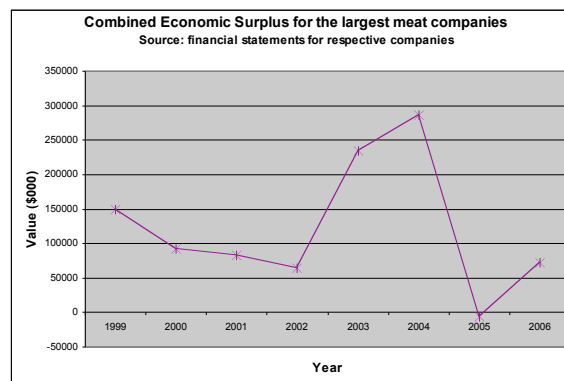
²³ This includes Richmond before it was taken over by PPCS and completely incorporated in the financial statements of PPCS in the 2004 financial year.

surplus; as economic surplus attempts to include all costs; in particular capital cost and therefore indicates the ongoing health of the business. In this case, a firm's economic surplus is defined as net cash flows from operations plus interest paid and less its depreciation expense. This measure is limited as a measure of economic surplus however, as the accounting measure of depreciation is a poor indicator of annualised capital stock.

Of particular interest is the volatility in economic surplus between time periods as opposed to across firms. There appears to be no meat processor that continuously outperforms the other. This and the volatility suggest that the meat processing industry is to a large extent competitive.

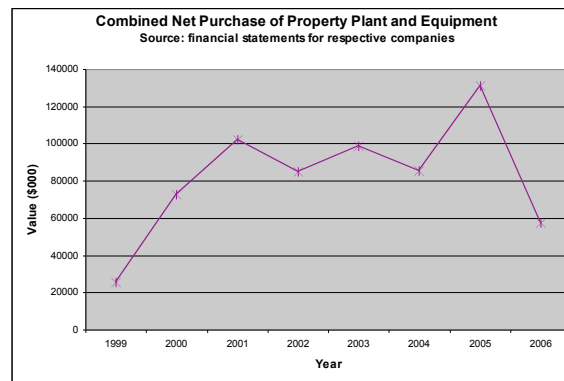


Since the takeover of Richmond (and the incorporation of Richmond's assets into the accounts of PPCS in 2004), PPCS has cemented its position as the largest meat processor on both an operating revenue and asset value basis. This superior size has allowed PPCS record higher absolute levels of economic surplus, estimated to be approximately \$36.3 million for the 2006 financial year relative to the other meat processors. As a comparison over time, we see that combined economic surplus for the five meat processors varied from a high of \$286.2 million in 2004 to a low of negative \$6.3 million in 2005 (helped by a negative economic surplus from Alliance of \$25.4 million in that year).



2.3.7 Investment and capital expenditure

Prospective expected growth in future returns to farmers and meat processors and New Zealand competitiveness in international meat markets is indicated by high investment levels. Over the years 1999 to 2005 the combined net purchase of investments, property, plant and equipment by the five largest meat processors alluded to above, increased from \$25.7 million to \$131.3 million – a massive increase of 411 percent. In addition, growth in this expenditure was far more than the increase in depreciation expense over this same period. If we used this expense as a the annualised (rental) cost of capital, it would suggest that new investment (as the difference between net purchase of investment, property, plant and equipment and replacement expenditure) increased over this period.



But some of this increase is expenditure on consolidating the industry (such as the purchase of Richmond by PPCS and the purchase of Dairy Meats by AFFCO). However, after accounting for these activities there is still a large proportion of new investment that can most likely be attributed to the development of technology, upgrading and construction of plants and processing facilities, and expansion into international markets. As is shown in Appendix C, since 1999 there have been numerous plant upgrades and constructions undertaken by meat processors, with the value of many of these in the tens of millions of dollars. For example, the \$23 million new plant at Marton constructed by CMP in 2002, the \$30 million new South Pacific Meat plant constructed by Talley's Fisheries and AFFCO begun in 2003 and the \$22 million upgrade by ANZCO of the Waitara meat processing facility in 2005.

2.4 Access to international export markets

2.4.1 Export quota²⁴

Export quota and tariff restrictions are placed on meat exports from New Zealand to many overseas markets. In particular, access restrictions are placed on lamb and high quality beef to the EU and beef to the US. The placement of these restrictions is aimed at

²⁴ Source: Meat and Wool New Zealand and the New Zealand Meat Board.

assisting the competitiveness of the domestic producers of these products (operating in the EU and US) against competition from New Zealand and other exporters.

Although these access restrictions frustrate the ability of the New Zealand meat industry to profit from international trade, country-specific quota are allocated to New Zealand, providing favoured treatment to meat exports over exporters from other countries. The three major New Zealand country-specific export quota are:

- The EU beef and veal tariff rate quota of 1300 tonnes (carcass weight equivalent);
- The EU sheepmeat and goatmeat tariff rate quota of 227854 tonnes (product weight); and
- The US beef and veal tariff rate quota of 213402 tonnes (product weight).

These quotas are issued annually to New Zealand by the EU and US respectively. The management of them, and allocation to New Zealand meat exporters, is then by the New Zealand Meat Board in accordance with the Meat Board Act 2004. The allocation of quota by the Board to these exporters is made annually once the total export quota is set by the respective export market.

For the US and EU, the Board has adopted a Quota Allowance Allocation System (QAAS) to allocate Tariff Rate Quota Certificates to New Zealand exporters. These certificates are required for presentation to the appropriate authorities upon the importation of meat products into the US or EU. It is the Board's policy to allocate these certificates to certain qualifying companies based on production history using a rolling three year production average (of 98 percent of the total New Zealand quota), and to new export companies (of 2 percent of the total New Zealand quota) with the aim of promoting economic benefits to the New Zealand meat industry of export.

Once an exporter has been allocated a certificate, that exporter is entitled to export meat in accordance with that certificate and is only required to pay an "in-quota" tariff rate to the respective issuer. If an exporter wishes to export outside of their quota allocation they must pay an "out-of-quota" tariff rate. This latter tariff is generally well in excess of the "in-quota" rate (see Appendix F for a description of the current tariff rates).

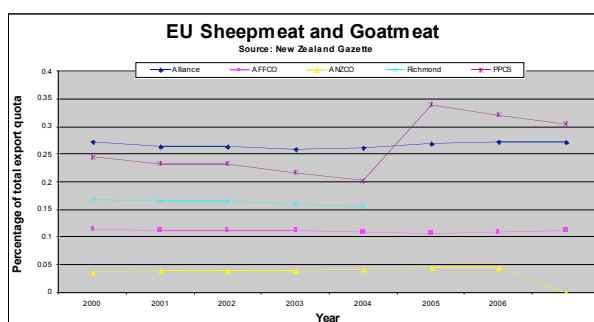
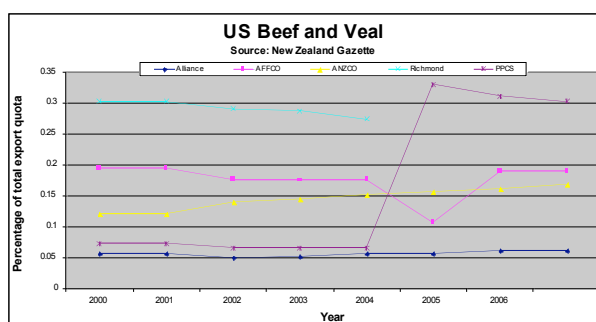
By placing restrictions on the exportation of meat to the EU and the US, the price of sheepmeat, goatmeat, veal and beef in these markets is higher. Effectively these restrictions allow New Zealand exporters to sell to consumers that in these markets are forced to pay higher prices for. As a result, the value of quota certificates to exporters is high, and those exporters that receive the largest allocations are placed at a competitive advantage in respect of domestic stock purchases relative to those New Zealand exporters that have smaller or no allocations.

Over the last few years the EU has revised the level of quota that it issues to New Zealand in light of the introduction of 10 new member states into the union in May 2004. The changes made were:

- Increase the high quality beef and veal quota from 300 tonnes in 2004, to 800 tonnes in 2005, and to 1300 tonnes in 2006; and
- Increase the sheepmeat and goatmeat quota from 226700 tonnes in 2005 to 227854 tonnes in 2006.

The EU sheepmeat and goatmeat and the US beef and veal quotas are by far the biggest meat export earners for New Zealand. Therefore, competition for the allocation of certificates for these quotas is strong.

Since its acquisition of Richmond in 2004, (and its consequential assumption of Richmond's production average), PPCS is allocated the greatest proportion of these two export quotas.²⁵



This allocation helps PPCS remain in a dominant position in the meat exporting industry. It is interesting to note that although PPCS has a commanding allocation of the US beef and veal allocation with 30 percent for the 2007 year compared to the next largest certificate holder AFFCO with 19 percent, its allocation of the EU sheepmeat and goatmeat quota of 30 percent for the 2007 year is only slightly ahead of the next largest certificate holder Alliance, with 27 percent. In regard to this last quota allocation, from 2005 to 2007 the difference between the EU sheepmeat and goatmeat allocations to PPCS and Alliance (as a proportion of the total quota) fell from 7.2 percent to 3.3 percent.

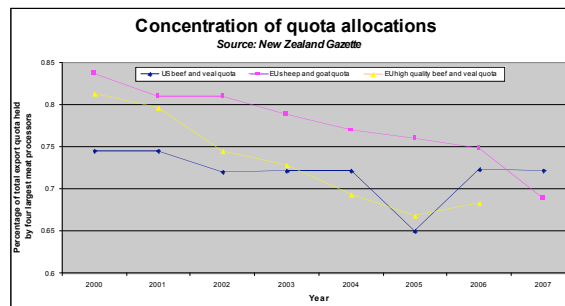
At this point, it might be queried whether this signals a temporary fall in the allocation to PPCS due to it selling its certificates to other meat exporters, the EU quota review or temporary production changes, or whether this signals a more permanent change in the dominance of PPCS in sheep meat exporting to the EU.

Even more interesting are the statistics representing the proportion of total EU beef and veal, EU lamb and US beef export quotas that the four largest meat processors hold (in this case assigning the quota that was previously allocated to Richmond to PPCS). This statistic, as a measure of competition, is superficially similar to the four firm

²⁵ Note that the allocation to ANZCO includes the allocation to ANZCO Green Island, Canterbury Meat Packers, Phoenix Meat Company Limited from 2002 onwards and Riverlands Limited, the allocation to AFFCO includes the allocation to Dairy Meats from 2005 onwards, and the allocation to Richmond includes Waitotara Corporation Limited.

concentration ratio.²⁶ It does not represent a measure of market power in export markets since exports from New Zealand are competing with other countries' exports as well as domestic suppliers.

From 2000 to 2007 the EU sheep four-firm quota decreased from 83.7 to 68.9, from 2001 to 2007 the US beef quota statistic fell from 74.6 percent to 72.3 percent, while from 2000 to 2006 the EU beef quota four-firm quota decreased from 81.4 percent to 68.4 percent.



The allocation to the four biggest meat processors of the three main New Zealand export quotas has decreased over the last few years. This observation has two implications:

- Firstly, this suggests that greater competition from smaller meat processors for export quota allocations has decreased the allocation of quota to the larger meat processors; and
- Secondly, as export quota are allocated by the Board based on rolling three year averages of stock throughput, it also suggests that competition has increased at the meat procurement and processing levels.

It remains to be seen as to whether this recent trend is merely an aberration in the meat processing industry or a more permanent fixture.

2.4.2 The effect of access to international markets on returns to farmers

The higher quota sourced rents are to a large extent passed onto farmers due to the requirement of meat processors/exporters to compete in stock procurement.

As quota allocations are based on throughput, meat processors wish to maximise throughput of stock processed so to maximise the quota allocations they receive. This creates an increased level of competition at the stock procurement stage of production, placing increased pressure on the price paid to acquire stock.

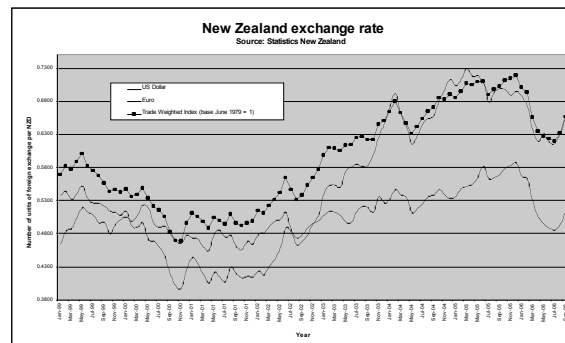
²⁶ To determine the four firm concentration ratio, the statistic would need to focus on allocations to those entities (which includes pure meat exporters as well as meat processor-exporters) that are allocated quota rather than on just meat processor-exporters.

2.5 World commodity prices and exchange rates

Arguably, the most important factors that affect returns to New Zealand livestock farmers, meat processors and exporters alike are outside their control. The weakening of the world sheepmeat commodity price from the highs of 2002 combined with the continued high of the New Zealand dollar have without doubt had a large negative impact on profits and economic surplus within the meat industry.

2.5.1 The New Zealand dollar

Since the beginning of this millennium the New Zealand dollar has appreciated significantly against the US dollar and the Euro. From the low of November 2000 to the high of May 2005 the NZD against the USD appreciated from \$0.3988US to \$0.7191US (an 80 percent increase), while from June 2001 to November 2005 the NZD against the Euro increased from €0.4752 to €0.5845 (a 23 percent increase). As these are the two major currencies used for the purchase of New Zealand meat, it is hardly surprising that the effect of these appreciations has been to place downward pressure on New Zealand meat profits. This occurs because when exporters convert their meat sale proceeds (realised in either USDs or Euros) into NZDs they receive lower NZD sale proceeds the greater the NZD climbs in value.



Although exchange rate cover may be taken out against these exchange rate changes, it is typically short term and eventually the cost of these changes will have been reflected in prices.

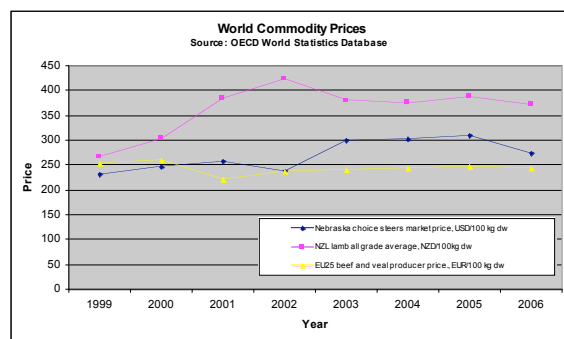
2.5.2 World meat commodity prices²⁷

On the world stage, lamb prices are often quoted in NZD per 100 kilograms of dressed weight. From 2002 to 2006 this world commodity price has declined from \$421.64NZ to \$372.53NZ. This represents a 12 percent reduction in the world price of lamb which

²⁷ Source: Meat and Wool New Zealand Economic Service for farmer meat prices, and the OECD World Statistics Database for world meat commodity prices.

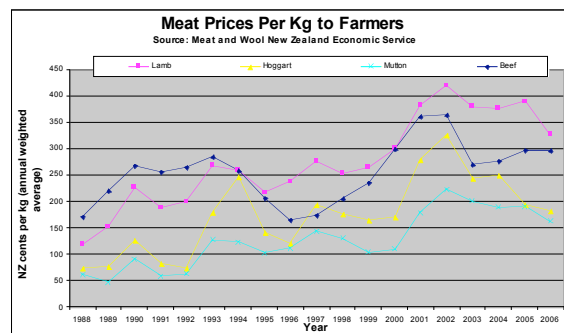
after taking account of inflation of say 2 percent per year represents a real price reduction of a significant 19 percent.

At the same time, the path for the world price of beef appears slightly less certain. On the one hand, the EU25 beef and veal producer price path (measured in Euros per 100 kilograms of dressed weight) has remained relatively constant in nominal terms. While on the other hand, the Nebraska bull world price (measured in USD per 100 kilograms of dressed weight) has appeared to move upwards slightly with a strong increase from 2002 to 2003 and a recent downturn from 2005 to 2006. In particular, the former world price has increased by 2 percent from 2002 to 2006 while the latter has increased by 11 percent.²⁸ However, if we also assume inflation of 2 percent for these prices then the real changes in these prices are actually a decrease of 6 percent and an increase of 2 percent respectively.



2.5.3 Meat export prices in New Zealand dollar terms

As a result of both the increase in the strength of the New Zealand dollar and the weakening of world lamb commodity prices, the New Zealand price to farmers of sheepmeat and beef exports per kilogram has fallen significantly from 2002 to 2006. In particular, over this period, the price of beef to farmers has fallen from 363.4 cents to 295.5 cents, and the price of lamb to farmers has fallen from 418.6 to 326.9 cents. Respectively these are decreases of 19 and 28 percent.



²⁸ The EU25 beef and veal producer price from €239.46 to €244.58 and the Nebraska bull price from \$247.66US to \$274.63US.

As international meat sales make up the majority of the meat industry's revenues, it is no wonder that when faced with such a decline in sales revenue that the profits and economic surplus of meat processors (and consequently of the farmers who supply them stock) have fallen over recent years. This dependence on world commodity prices and exchange rates is arguably the single biggest concern for the New Zealand meat industry.²⁹

2.6 Competition

2.6.1 Stock procurement competition

The decline in sheep numbers since the early 1980s has placed increased pressure on meat processors to compete for stock procurement. Many in the meat industry argue that New Zealand faces issues of overcapacity due to capacity not decreasing at the same rate as the number of sheep.³⁰ Excess capacity induces competition in that any revenue over variable cost makes a contribution to profit and fixed capacity means that capacity costs can be ignored in competing for stock in the short term. Returns to meat processors have become increasingly uncertain with changes to market conditions and intensive competition.

An indirect assessment of competition in the market for stock based on an analysis of the New Zealand Meat Board's quota allocation leads to the conclusion that competition over time has increased. As was discussed above, the Board allocates its quota to meat companies based on a rolling three year average of stock throughput, and therefore the decrease in the concentration of export quota allocated to the largest four meat processors suggests that stock throughput has become less concentrated. Therefore as stock procurement directly leads to stock throughput, this also indicates that these processors are decreasing their dominance in the stock procurement sector. This decrease may be the result of increased competition where meat processors are forced to provide farmer payouts at levels that these companies are struggling to sustain.

2.6.2 Product competition

Historically the right to sell meat products to foreign markets was regulated by the New Zealand Meat Board, where the Board assigned this right to meat processors based on its discretion to better promote returns to New Zealand farmers. At this time, competition between meat processors for international markets was directed by the Board, and was to

²⁹ This point is made on page 3 its 2006 annual report, where PPCS criticises Government policies that it says promote a high New Zealand dollar to the detriment of its returns.

³⁰ See page 26 of Agriculture, Forestry, Rural Affairs: Briefing for Incoming Ministers," Ministry of Agriculture and Forestry, 2005, and more recently the article King, David; "Meat overcapacity still a problem," The Press, 5 January 2007 reporting AFFCO's departing CEO Tony Egan concern with the industry.

a large extent limited to a select few meat exporters. With the removal of this control in the reforms of the early 1980s, competition in these markets increased substantially as meat processors were able to develop their own approaches to meat marketing.

There is thus an increase in competition within domestic and foreign markets. The effect of more New Zealand producers selling in foreign markets may not much affect competition where there is competition from other sources in that market. The potentiality for any “weak selling”, as competition between any New Zealand firms in export markets is sometimes called, may well be offset by the developments that competition brings in quality and technological change. In addition, it is possible for New Zealand exporters to collaborate in marketing to foreign markets, to an extent that would not be legal in the domestic New Zealand market.

2.6.3 Management and labour competition³¹

At the management level, it is often seen that managers are usually trained internally and move up through the ranks of meat processing companies, where company loyalty by employees leads to promotion and pay increases. In this case, managers are often groomed for positions and develop into roles of senior management positions from within the company. This has occurred, for example, with PPCS where Ian Jenkins as CEO of PPCS through the early 1980s trained Stewart Barnett for the role, who in turn has just recently announced his replacement in Keith Cooper of whom Barnett had groomed for that same role.

In addition, there is still a high level of competition between meat processors for experienced managers. There are many instances of previous Board, industry and meat company employees operating at management levels being taken on by meat processors due to the high levels of industry experience that these employees wield.

In the lower ranks of the meat processing industry, the degree of competition for labour between meat companies is generally on a regional basis. Because of the seasonal nature of the industry, competition between other seasonal industries (particularly horticulture) combined with generally low current unemployment levels since the mid 1990s, ensures that meat processors must stay competitive. This is the case in areas such as the Hawkes’ Bay and Marlborough which are both regions with high alternative seasonal employment vocations.

Many employees operate on seasonal contracts (such as in Wellington and the Taranaki) to match the seasonal nature of meat processing, generally running from October to July. This combined with the repetitive nature of meat processing and the low unemployment rate generally results in a high turnover of employees in areas such as Manawatu-Wanganui and Wellington.

³¹ Sourced from Career Service, Job Labour Market Report.

The other major influence on labour competition is the levels of available stock for slaughter. Particularly in the South Island, weather conditions such as snow or drought may lead to lower numbers of stock, and farmers sending stock to slaughter earlier due to lack of stock feed, have a large effect on the length of the slaughter season and the volume of meat processed. In times when this volume is high, meat processors must compete for employees against other meat processing companies.

Another factor is the increased use of technology and automation in meat processing. This both leads to an increase in the productivity of employees, and a redundancy of meat processing positions as the automated machines replace tasks previously occupied by human beings. Presumably, as the level of this form of technology increases, competition between meat processors will be concentrated on more specialist roles within the meat processing chain for which those specialist employees will be able to bargain for higher compensation.

There are several regions where the number of processing plants is low, such as Gisborne and Marlborough. In these areas, meat processors may not compete as vigorously between each other, as employees are limited for choice between meat processors. The competition in these areas generally derives from other industries.

2.6.4 Debt supply competition

Generally debt arrangements are standard across the meat industry, with no particular meat processors holding any special position of dominance in securing this form of financing. Accordingly, competition for debt exists between meat processors and across the debt market in general. There may be a slight disadvantage in procuring debt for cooperatives when compared to investor-owned firms due to the restrictions on equity ownership accorded to the former firm types. However, commentary in the market does not appear to directly credit this difference to any form of performance differences.

2.6.5 Equity supply competition and the market for corporate control

Cooperative firms (Alliance and PPCS), listed companies (AFFCO) and private investor-owned companies (Te Kuiti Meat Processors, Bernard Mathews, ANZCO Foods, Canterbury Meat Packers, Blue Sky Meats, Crusader Meats, Taylor Preston for example) all vary in their corporate structures. Cooperative firms are not open to direct competition for equity ownership due to restrictions placed on the transferability of shares. Accordingly, pressure on management must come from farmer-shareholders of these firms and not the wider equity market, and the market for corporate control in general.

Competition for equity in listed companies and larger private meat processing companies (such as AFFCO, ANZCO and Canterbury Meat Packers) is strong and places stronger discipline on firm management than in cooperative firms. This compares with the small

and often localised meat processing companies which generally have shareholder arrangements constraining the ability of its shareholders to transfer their ownership without first offering this ownership to existing shareholders. Such pre-emptive rights (contained within their constitutions) help to ensure that ownership remains on a localised basis, and therefore reduces competition. However, the difference between this form of transferability restriction and the more restrictive form of the cooperative structure is that shareholders of the former have the option to exit their shareholdings and maintain any supply contracts that they have with the firm, while shareholders of the cooperatives are required to have their supply and ownership contracts bundled together.

When it comes to the market for corporate control, the cooperative structure is the most restrictive, and arguably the most inefficient on this dimension. The larger listed and private companies and even the smaller private companies are able to sell their shareholdings (collectively in the case of private firms with pre-emptive shareholder rights) to other owners if the market for corporate control dictates. This suggests that these firms will have a greater degree of competition in firm ownership and therefore should ultimately perform better for their shareholders in the long run. However, this does not necessarily mean that returns to farmers as suppliers are superior under this form of meat processing ownership when compared to cooperative firms, since these have other different characteristics.

2.7 Ownership

2.7.1 Cooperative versus investor-owned ownership structures of meat processors

There are three primary issues with the cooperative structure that have likely had an impact on performance differences between the cooperative meat companies (Alliance and PPCS) and the non-cooperative meat companies (AFFCO and ANZCO).

(a) Management accountability and firm investment decisions

Due to their ownership structures, the shareholders of cooperative meat processors are large in number and small in quantum of shareholdings. This spread of ownership both between shareholders and across geographic regions (nationally for PPCS and Alliance), ensures that shareholder-led scrutiny of management is reduced. As a consequence, these firms' managers may have more information and ability to make decisions that may differ from the preference of the farmer-shareholders; including making investment decisions that are more consistent with manager interests as opposed to shareholder interests, than would be the case with other forms of ownership.

In fact, through 2000 to 2003 the cooperatives provided greater levels of new investment and asset purchases generally than did the investor-owned firms.³² Although it is difficult

³² Due to the lack of detail reporting by both sets of firms, it is not possible to distinguish between acquisition investment and asset investment.

to directly attribute this observation to the capital structure of the firms, it appears that there may be a relationship between manager scrutiny and asset acquisition decisions.

(b) Compulsory farmer ownership and the affect on farmer risk

Another central issue for the cooperative structure is the concentration of farmer assets and income streams in the same industry. Because farmers are required to acquire assets (in the form of shares) in the same industry in which they supply their farm produce, their farm incomes as well as their investment returns are both tied to the same influences such as exchange rate risk and international meat commodity returns. This concentration is exacerbated further by the fact that the payouts to cooperative farmers and their cooperative investment returns are concentrated within the same firm in the meat industry. From a finance perspective, weighting both supplier and investor investments towards the same specific potentially diversifiable risk is inefficient as an efficient investor would ensure that this risk is diversified away to minimise the total risk of their return portfolio. Although farmers can attempt to diversify this risk in other ways via other investment products, the large proportion of total farmer returns attributed to cooperative returns makes it difficult for cooperative farmers to reduce their weighting towards this risk.

The problem essentially stems from the inability of farmers to transfer ownership in the shares that they acquire. This both reduces the liquidity of the shares, and hence their realisable value, and requires farmers to stop supplying produce to the respective cooperative in order to realise that value.

By definition, this requirement for compulsory supplier-ownership also reduces the competition for equity in cooperatives. Such a lack of competition increases the inefficiency within such a capital structure, as unlike with investor-owned shares, the ability to sell cooperative shares is directly tied to the business decision to switch meat processing companies as well as the investment decision to change investments. This mixing of decisions distorts the market for corporate control. In particular, it voids the scrutiny often subjected to managers of investor-owned firms through the market for corporate control. The threat of a takeover is a strong disciplining factor that encourages maximisation of returns to shareholders in these firms.

(c) Access to funds

Another issue with the cooperative structure is the reduced ability of these firms to raise equity funding. Importantly, by their very nature cooperatives must raise equity funds from its farmer-shareholders and cannot utilise the wider equity markets either internationally or domestically. This problem has recently been felt by PPCS who was forced to issue a new class of compulsory shares to its suppliers in order to raise sufficient funding to cover its high interest costs, to reduce its debt loadings and to advance further investment. Naturally, the extent to of this form of capital raising is

restricted to the available funds of the farmers and their tolerance to this form of capital raising. In contrast, investor-owned firms can contract capital raising from a large range of investors, where they have viable projects.

An additional problem is the effect that the cooperative ownership restriction has on the firm's ability to issue debt. It means that there is no option for the debt-holder to take up equity holding in the cooperative. Convertible debt (such as convertible notes) generally includes some form of embedded option allowing debt-holders to transform their principal upon debt maturity into equity-holdings. Consequent upon equity restrictions, cooperatives are limited to the issuance of straight debt (such as secured bonds), without any embedded options.

2.7.2 Foreign ownership of meat processors

The meat processing industry has moved from being dominated by foreign companies (Borthwicks, Vestys, the Cooperative Wholesale Society and Swift) in the 1970s, to being primarily under domestic ownership (PPCS, Alliance, AFFCO, Taylor Preston and Greenlea Premier Meats), and as a result there has been an increased need for technological and organisational growth to come from within New Zealand. Traditionally, the British-owned companies were able to have their growth spurred along by developments in the UK and other international regions. As time progressed, and international influence diminished, domestic industry bodies began developing growth and marketing initiatives. Presumably the farmer-owned meat processors that were growing in presence took up filled much of the gap left by the departing foreign owners.

2.7.3 United marketing of meat productions internationally

When it comes to marketing meat internationally it is common place for small to medium sized New Zealand exporters to come together under a single marketing company in an effort to compete better on an international stage. This arrangement that could in some circumstances be regarded as anti-competitive and illegal in New Zealand domestic markets is permitted under New Zealand competition law as the Commerce Act only restricts non-competitive practices in domestic markets.³³

One such example is the New Zealand Lamb Co (North America) Limited that following the Board's sale of its shareholding in 1996 to Richmond and ANZCO became a joint marketing venture between AFFCO, Richmond, Alliance and ANZCO, which sold lamb in North America.

2.8 Economies of scale

Economies of scale in facilities might be expected to lead to greater returns in larger companies, but this does not appear to be the case for the meat processing industry. The

³³ In any event foreign markets are invariably larger than New Zealand domestic markets.

performance of industry giants such as PPCS, Alliance and AFFCO, who each manage many meat processing facilities across a range of geographic regions, relative to such companies as Frasertown Meat Co. Limited and River City Export Beef Limited, who operate single processing facilities in single regions, does not seem to indicate a beneficial processing scale effect. Rather, the scale benefits seem to come from being able to spread financing and investment, financial returns and losses, research and development costs, international marketing and logistics, and strategic management resources across the network of facilities.

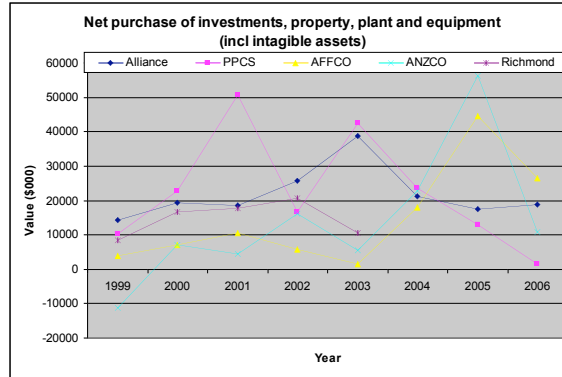
Arguably, due to the need for meat processing to be administered and operated on a local basis, the presence of large nation-wide processing capacity (held by such as PPCS and Alliance) does little to derive economies of scale in processing. In particular, the high transport costs associated with moving stock reduces the desire of farmers to shift their stock for slaughter and of meat processors to shift meat for further processing. As a testable proposition warranting further research, the differences in financial performance between small and large meat processors imply that the scale of processing capacity has little association with firm performance.

In the meat processing industry, unlike many other processing and manufacturing industries, the raw inputs – in this case animals – are not homogeneous. That is, in any particular season and between any supply of lamb and cattle stock, weights, fat content and other nutritional characteristics vary greatly, and therefore meat processing is quite heterogeneous: particularly in contrast to milk processing. This fact combined with the localised nature of meat processing plants ensures that any benefits from economies of scale associated with a combining of processing facilities (in terms of both location and ownership) may be limited.

2.9 Looking forward – investment versus interest over time

2.9.1 Investment

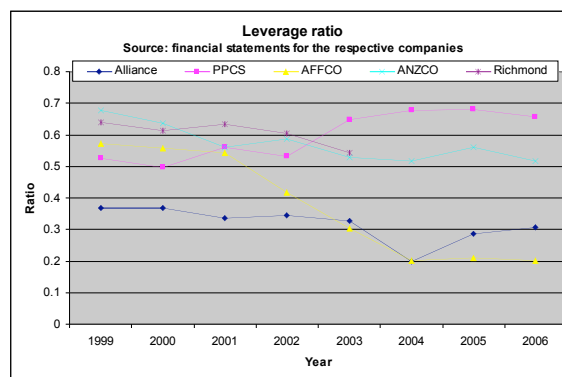
A key source of future success is likely to be indicated by investment in new technology, processing facilities, intellectual property and international marketing. If new investment is taken to be net purchases of investments, property, plant and equipment less the depreciation expense (as a proxy for replacement investment), then it appears that over the last few years it has been the non-cooperative companies that have made the greater new investment. In particular, in 2005 together the non-cooperatives made new investment totalling \$80.6 million while the cooperatives actually made negative new investment of \$15.4 million, with the bulk of this deficit (\$14.6 million) lying with PPCS. As both Alliance and PPCS recorded positive net purchases of assets, this observation suggests that Alliance and PPCS in aggregate were either selling off assets to raise cash flow, or were failing to replace their assets as they depreciated overtime in the ordinary course of business.



However, the figures broadly indicate that the provision for depreciation relative to non-current assets in the investor-owned firms has been relatively lower, at 7.2% and 5.1% for AFFCO and ANZCO in 2005 compared with 9.2% and 8.1% for Alliance and PPCS.³⁴ Of course, the credibility of this measure of new investment is poor, but it is the only one readily available. The main concern is that the depreciation expense is a relatively poor approximation to replacement investment. This results from the fact that the former is based on accounting and tax principles while the latter is based on actual investment in people, plant and logistics. Moreover, even if an asset's depreciation expense is calculated consistently with real cash flows this does not mean that replacement of that asset will be made at the rate of that depreciation.

2.9.2 Debt financing and servicing costs

High levels of interest payments will reduce the free cash flows that a firm has available to inject into new investment and will also reduce the ability of such a firm to absorb a poor financial season. This may particularly be the case for cooperatives with their limited access to funds. Over recent years there appears to be a growing divide between the leverage ratios of PPCS and the other three major meat processing companies.



³⁴ Note however, that this divergence disappears when depreciation is assessed relative to total assets. *Meat Industry Performance and Organisational Form 2007, The New Zealand Institute for the Study of Competition and Regulation, Victoria University of Wellington.*

As is discussed below PPCS has turned to its suppliers for a direct injection of cash. The above graph indicates the steady performance of Alliance, AFFCO and ANZCO, and their allowing equity holders to absorb temporary poor performance years without the risk of failing to meet debt servicing costs.

Part 3 – The performance of PPCS: study of a cooperative

3.1 Introduction and background

The mix of investor-owned and cooperative firms in meat processing enables an investigation of the merits of these forms of firms. In this section we examine the largest firm in the business, the cooperative PPCS.

The Primary Producers Cooperative Society (“PPCS”) was formed in 1947 on the back of support from farmers who had become increasingly disillusioned with the ability of existing companies to acquire the best returns for farmers from foreign markets. Traditionally it was established as an international meat export marketing company. Over time however, PPCS expanded into meat processing, and through the recent acquisition of Richmond, has now become the largest New Zealand processor and exporter of meat.

The evolution of PPCS from a marketing cooperative, to New Zealand’s largest meat processor and exporter has been driven by takeover-based expansion. Since its move into meat processing in 1982 when it acquired 20 percent of Canterbury Frozen Meats, PPCS has relied on the acquisition of meat processing companies and the processing plants that they hold for its growth. This approach to expansion has its attributes, but when looking on an industry level represents simply a restructuring in ownership in the industry rather than significant capital development.

Examples of takeovers by PPCS:

- Canterbury Frozen Meats in 1984;
- Finegand and Marlborough acquired from Waitaki in 1988;
- Acquired the Silverstream plant from Skeggs Group in 1994;
- Acquisition of Mair Venison in 2000; and
- Canterbury Frozen Meats, completed in 2004; and
- Richmond, completed in 2004.

3.2 The structure of PPCS

3.2.1 Corporate structure and management of management

The shareholdings of PPCS are divided amongst many farmer-shareholders who acquire their shareholdings on the basis of the volume of livestock supplied to PPCS.

As a result of the capital structure of PPCS, no single shareholder can hold more than 17,500 shares. This means that, as there were 51,562,000 shares on issue as at 31 August 2006, that a shareholder can hold a maximum of 0.034 percent of the ordinary shares in

PPCS.³⁵ Therefore, the organisation of a shareholder consortium that together holds 50 percent or more of the voting rights in PPCS requires 1474 shareholder-farmers, with each holding the maximum shareholding. The co-ordination transaction costs of doing so are prohibitively high, and not helped by the geographic diversity of the location of shareholders.

Accordingly, the inability to create a sufficient voting block to influence the strategy of the company, and monitor and discipline PPCS management and directors leaves management in particular and the directors with a relatively (when compared to other companies such as AFFCO and ANZCO) less encumbered mandate to direct PPCS.

Also, shareholders' ability to discipline firm management is strongly dependent on the level of information available to them. In the case of cooperative companies such as PPCS, the Securities Act requirement to register a detailed prospectus for the issue of shares and rebates to farmer-shareholders is limited by the Securities Act (Co-operative Companies) Exemption Notice 2002 to requiring registration of only a shortened "evergreen" prospectus.³⁶ For example, these "evergreen" prospectuses are not required to include financial information, prospects and forecasts, information on acquisitions of businesses or subsidiaries, or directors' interests so long as within the previous 9 months there has been a statement signed by all directors detailing material matters relating to the offer that are not published elsewhere. Accordingly, as 'material' is not defined, there is room for information required to be disclosed by investor-owned firms for equity issues that is not required to be disclosed by PPCS in either the "evergreen" prospectus or the directors' statement. This information gap would appear to confer relative benefit to management rather than shareholders, as it provides a lower level of information disclosure to farmer-shareholders that could otherwise be used to monitor management.

Perhaps the main effective disciplining mechanism on management in cooperatives that have such diffuse shareholding, comes from the debtholders ability to enforce debt covenants. In general these covenants place restrictions on operating profit margins, leverage ratios and cash flow margins. Interestingly in February 2006, June 2007, and September 2007 these covenants on PPCS were breached following the release of financial results by that company.

From an economics perspective, the lower levels of owner control and oversight of management increases the likelihood of management pursuing actions that are not necessarily in the best interests of its shareholders, but rather are in the interests of management. This arises because of the inability of shareholders to affect business decisions and the superior information held of management. For example, it is often argued that managers with greater freedom to make business decisions will focus on activities that enhance their position and control. This may have been one of the factors in the growth strategy of the company, PPCS.

³⁵ See PPCS' 2006 Annual Report.

³⁶ In this case, these farmer-shareholders are considered transacting shareholders. The limited prospectus is the result of exemptions under clause 5(1)(e) of the Exemption Notice.

3.2.2 Restrictions on the transferability of shares

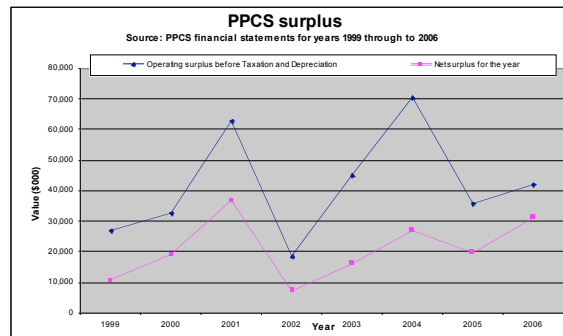
Another central issue associated with the capital structure of PPCS is that the shares held by farmers are non-transferable unless the farmers meet certain exceptional conditions.³⁷ Therefore, there is limited ability for any individual farmer to realise the equity held in PPCS through the sale of ownership shares. This has implications for the ability of a farmer to construct an efficient investment portfolio and to raise necessary cashflows as liabilities become due and investment opportunities arise.

3.3 Performance of PPCS³⁸

3.3.1 Turnover and operating surplus

Following the effective amalgamation of Richmond's assets and turnover into the 2004 PPCS financial statements, the operating revenue of PPCS reached \$2.194 billion in 2004, up from \$1.373 billion in 2003. This amalgamation also saw (over the same period) earnings before tax and depreciation increase from \$45m to \$70m.

In subsequent years however, the level of these earnings dropped to \$36m and \$42m in 2005 and 2006 respectively. As described below, this decrease in earnings appears to be attributed to the increase in interest expenses associated with higher financing costs from the Richmond takeover and the reduction in the value of international meat sales (from \$2.62 billion in 2004 to \$2.37 billion and \$2.38 billion in 2005 and 2006): the latter arising from the state of the market.



Despite the improvement in surplus from 2005 to 2006, PPCS recently announced that its unaudited earnings before tax and depreciation for 2007 decreased by 131% to negative \$13 million on the back of international meat sales dropping further by \$270 million to \$2.21 billion.³⁹

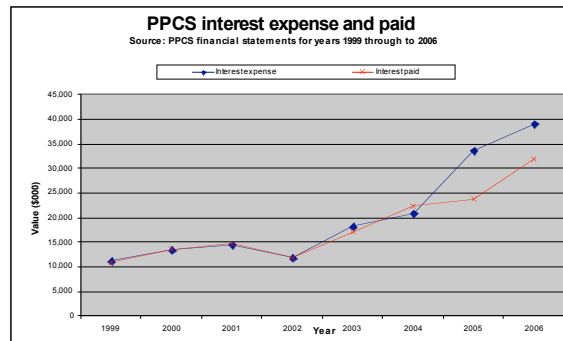
³⁷ These exceptions include the sale of farm, closure of a farm or death of a farmer.

³⁸ The financial results of PPCS are extracted from the financial statements for the years 1999 to 2006.

³⁹ PPCS Press Release (29 October 2007), "Preliminary Full Year Report", <http://www.ppcs.co.nz/ppcsweb/download/press-release/2007-10-29-preliminary-full-year-report-announcement.pdf>.

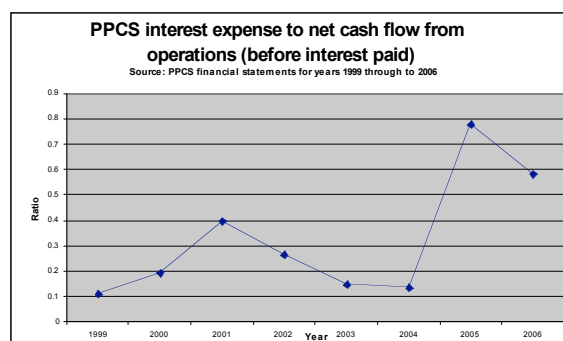
3.3.2 Debt, interest and operating cash flows

For the years 2005 and 2006 PPCS did not meet its interest expense obligations. In the 2005 financial year the shortfall between what PPCS expended for interest and what it paid as interest was $\$33,647,000 - \$23,698,000 = \$9,949,000$, and in 2006 the shortfall was $\$39,146,000 - \$31,925,000 = \$7,221,000$. While for the years 1999 to 2004 interest expensed and interest paid were very close.



It appears that PPCS has capitalised the shortfall by increasing its liabilities. After reporting a loss of \$26.7m in February for the first-half year of 2006, PPCS was placed in breach of its banking covenants. Its debtholders waived their rights to pursue a breach of the covenants. However, as a result of these breaches PPCS reports that it has incurred additional financing costs, adversely affecting its cashflows for 2006.

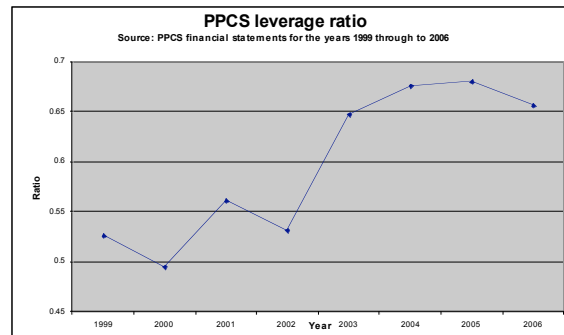
Since 2002 PPCS has tripled its interest expense. Understandably a component of the absolute increase in this expense will be due to the liabilities that Richmond carried with it. However, this is not the whole explanation, for as a proportion of net operating cash flows before interest payments, this interest expense increased from 13.6 percent in 2004 to 77.8 percent in 2005 and 58 percent in 2006.



Following the takeover of Richmond, total liabilities of PPCS increased substantially with the majority of the increase coming from an increase in total bonds, credit notes, convertible notes and secured loans. This is a consequence of both PPCS assuming

Richmond's liabilities and PPCS using debt financing to cover certain of the costs associated with the purchase of Richmond.

As a result of the increase in liabilities the leverage ratio increased from 53% in 2002 to 65% in 2003, and to 66% in 2006. Ultimately this high level of leverage places considerable financial constraint on the ability of PPCS to invest in further research and development, and other meat processing facilities. Encouragingly, PPCS recently reported that its unaudited financial statements for 2007 show a decrease in this ratio to 63% and a reduction in interest paid to \$25 million.



Due to the increased leverage, the risk of PPCS defaulting on its obligations has increased, which in turn, has flowed through to the risk to the investments of the farmer-shareholders and debtholders in PPCS. In light of this, and the recent financial company collapses, the yield rates on the two series of PPCS bonds currently listed on the NZX's Debt Exchange (2009 series and 2010 series) have increased, with its 2009 series bonds currently operating at a 19 percent yield against a 9 percent coupon interest rate.

3.3.3 Raising additional funds

On 10 November 2006, PPCS dispatched a letter to all of its shareholders detailing its announced issue of Supplier Investment Shares ("SISs"), as a new class of PPCS shares. The funds raised from the issue of these shares will be used to increase the capital base of PPCS and allow it to reduce the level of debt financing needed for its operational activities and financial activities.⁴⁰ In particular, PPCS hoped to raise \$41 million from the issue of around 45 million shares. In this letter, PPCS also proposed that it will be able to "actively participate" in industry restructuring if it occurs.

The most telling aspect to this issue is that it is *mandatory* for suppliers of stock to PPCS (from 1 November 2006 onwards) to acquire these shares at a cost of \$0.9 per share (where these shares have a nominal value of \$1.00). The number of shares required to be purchased is based on a "stock unit equivalent" basis, with:

- one share per lamb/sheep/goat unit;

⁴⁰ A large proportion of these financial liabilities correspond to the bank debt used to fund the acquisition of Richmond (which has appeared to cause financial difficulties for PPCS).

- six shares per deer unit; and
- twelve shares per cattle unit (excl. bobby calves).

A maximum total holding of 15,000 SISs is specified, with a maximum of 7,500 issued per season to any one supplier. Accordingly, there is a maximum shareholder outlay of \$13,500 over two seasons.

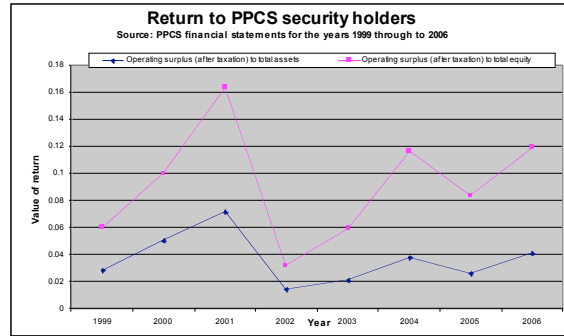
The arrangement is a compulsory purchase of shares by existing and potential suppliers. Suppliers can choose whether or not to supply but not whether they make a capital contribution if they so choose to supply. This illustrates, providing suppliers agree with the policy and/or have no alternative but to supply PPCS, how cooperatives can utilise funds from their members as security for their debt obligations. The arrangement was not received with acclamation by all shareholders and the issue has been debated by many farmers both inside and outside supplier meetings. In particular, the lack of consultation prior to the announcement of the requirement is one major concern. The rights attached to these shares are limited to director election voting and the receipt of dividends. Importantly, there is no right to decide on material transactions carried out by PPCS.⁴¹ The arrangement may have been enforceable on suppliers by a lack of capacity in the industry in certain peak periods and hence limited opportunity to transact with other suppliers, and PPCS's shareholder-suppliers concern for any remaining equity they had in the company.

In November 2006, PPCS offered \$75 million in four-year fixed coupon secured bonds (paying coupons of 10.25 percent per year payable quarterly). PPCS maintains that these funds will be used to refinance/rollover maturing debt, where the refinancing will be to better align its full-year results with the debt repayment and coupon payment schedule. Presumably PPCS seeks to refinance its liabilities to avoid the situation that arose in early 2007 where they breached debt covenants.

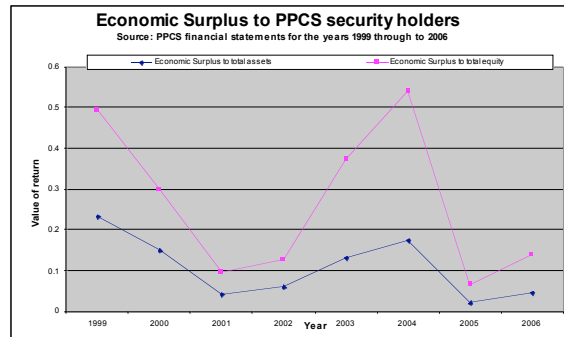
3.3.4 Return to shareholders

Following 2002, net profit after taxation and depreciation to total equity for the shareholders of PPCS has increased to a level just below 12 percent for the year ending 31 August 2006. Notably, for the 2002 financial year (following a large amount expensed as a result of the Richmond acquisition) this return on equity dropped significantly. One reason for the increase in return following 2002 is the fact that total equity in PPCS has increased only slightly, while operating surplus has increased substantially as a result of the purchase of Richmond assets. However, following its poor performance for the 2007 financial year, this equity return dropped significantly to negative 17 percent.

⁴¹ In this instance, a material transaction (with some exceptions) is a transaction involving more than 50 percent of the assets (before or after the transaction), such as merger or takeover or a capital restructuring. *Meat Industry Performance and Organisational Form 2007, The New Zealand Institute for the Study of Competition and Regulation, Victoria University of Wellington.*



Interestingly, if we look at economic surplus to equity as a form of return, we see that along with the fall in this return from over the years 2001 to 2002, that from 2004 to 2005 this return fell from 54.2 percent to 6.6 percent. The higher levels of interest paid by PPCS in 2005 are likely to have contributed to the reduction in the economic surplus return.

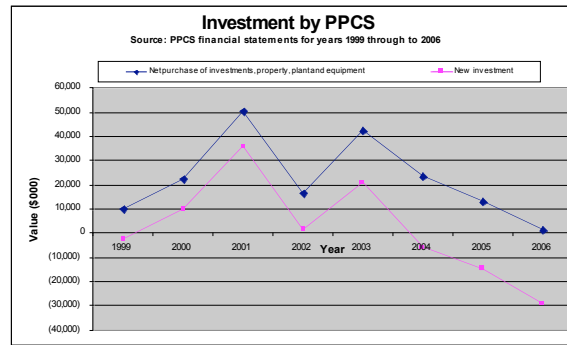


When looking at the economic surplus return on assets, we notice that there was also a marked decrease in return from 2001 to 2002 as well as from 2004 to 2005. The capital issue arrangement for raising funds is an effective equity tax on suppliers in 2006-7, that has the contrasting effect of lowering the short-term returns to holding shares and supplying stock to PPCS.

In line with its poor performance for the 2007 financial year, PPCS has indicated that it will not be paying a year-end rebate to shareholders for this year.

3.3.5 Investment expenditure

For the years 2004, 2005 and 2006 net purchases of investments, property, plant and equipment by PPCS has been less than its depreciation expense. Furthermore, over these years this net figure has approached zero while the depreciation expense has remained relatively steady.⁴²



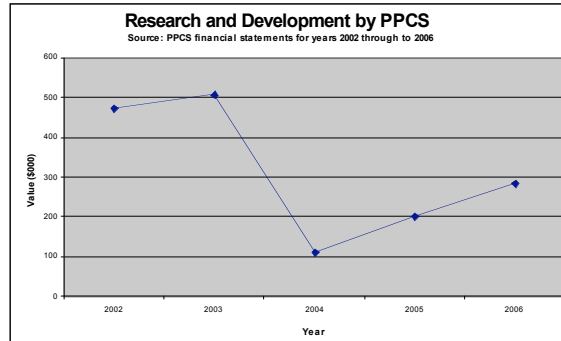
This decrease in net purchases has resulted from both a decline in acquisitions following the takeover of Richmond over the years 2000 to 2003, and an increase in sales of investments, property, plant and equipment (where PPCS appears to be selling off its excess capacity).

If we make the difficult-to-justify assumption that this depreciation expense is (to an extent) synonymous with replacement investment, then the figures suggest that PPCS has been investing less than that required to cover the replacement of its assets that fall due in the ordinary course of business. Failure to provide this cover and a lack of new investment is consistent with a focus by PPCS towards short-term farmer payouts as opposed to longer-term shareholder returns in the context of a low-cost surplus.⁴³

Since 2002 the level of expenditure by PPCS on research and development has declined from \$475,000 to \$285,000 in 2006, representing a 40 percent decrease. As can be seen below, the major decrease occurred from 2003 to 2004 where presumably funds generally set aside for research and development were used to finance the Richmond acquisition.

⁴² Taking new investment to be net purchase of investments, property, plant and equipment less depreciation expense, it appears that PPCS recorded new investment of negative \$29 million in the 2006 financial year.

⁴³ In this sense, the surplus is low cost as PPCS is expensing a lower level of depreciation to service the operation of its assets than that which may otherwise be needed to promote the longer-term sustainability of these assets and returns to shareholders.



Although on an aggregate level PPCS appears to be reducing its new investment and research and development costs appear lower than traditional levels, at a micro level, PPCS has been involved with a number of technological advancement programmes and innovative developments (see Appendix E below).

In 2002, PPCS entered a joint venture with Global Technologies (www.glotec.co.nz) to develop DNA-traceability technology aimed at increasing quality assurance of meat products by allowing for the tracing of the origin of meat from farm to retail. In the same year, PPCS also made steps towards introducing a Market Attributed Assessment Criteria with the aim of enhancing the quality of market information.

The other major advancement is the joint venture between Scott Automation and PPCS to develop robotic and automation technologies for meat processing. There are several phases to the implementation of this technology with the final steps involving the installation of completely automated meat processing facilities overseas. It appears that one angle for this area of investment by PPCS is to acquire rents from the licensing of intellectual property internationally as well as from the use of this technology in its own processing plants.

3.4 PPCS into the future

PPCS has struggled to digest the latest in a long line of acquisitions. Assisted by its cooperative structure and co-commitment supplier-shareholder restrictions it has the possibility of returning to a state of providing an acceptable rate of return to its shareholders. It illustrates the different ways cooperatives operate when compared to investor-owned firms. It is difficult to imagine that an investor-owned firm could rectify its balance sheet by means of the supplier-tax that PPCS has recently implemented.

In common with the literature on cooperatives (see Evans and Meade, 2006) there are mixed facets of performance with cooperatives. PPCS has expanded its market share hugely by acquisition and it has also carried through innovative developments. A full analysis would entail comparison of innovation and marketing performance with other relatively large investor-owned companies. However, the available data does not permit this.

If PPCS continues to decrease its new investment expenditure, while maintaining high financial leverage, there will ultimately result an effect on financial performance. Although PPCS is now positioned at the front of the industry in terms of gross size, the history and financial information of the industry suggest that this is no assurance of financial success.

The impact of declining stock throughput will likely induce greater levels of competition for procurement between meat processors. This will continue to place pressure on PPCS in all of product, ownership, financial and organisational structure dimensions.

Part 4 – The performance of AFFCO: the study of an investor-owned firm

4.1 Introduction and background

The history of AFFCO is that of progression of a North Island farmer cooperative meat company into its current form as a publicly listed meat processor, that has recently ventured into the dairying sector. It began operations in the primary sector in 1904 as the Auckland Farmers Freezing Company.

By the beginning of the 1970s it operated three North Island meat processing plants. Through the restructuring of the 1980s and 1990s, AFFCO expanded its operations within the North Island. In particular, it acquired;

- A controlling interest from PPCS in R & W Hellaby in 1986; and
- The North Island assets of Waitaki after its \$97 million loss in 1988.

As a part of the Waitaki restructuring in 1989 and 1990, of which the latter acquisition was one component, Alliance acquired a 25 percent stake in AFFCO. Although AFFCO still operated as a farmer cooperative at this time, the status of Alliance as a farmer cooperative, allowed the ownership stake to be transferred.

Following AFFCO's change from a cooperative to an investor-owned firm in the period following 1993, Alliance's holding in AFFCO was eventually purchased by Fletcher Challenge in 1997.

By the beginning of 1999, AFFCO was a publicly listed investor-owned firm with six meat processing plants, and was one of the major North Island meat processing companies. Since then, AFFCO has expanded into the dairy industry and into the South Island meat processing industry, currently operating 10 meat processing plants, nine in the North Island and one in the South Island, and recently acquiring a majority interest in dairy processor Open Country Cheese.

Its willingness to expand into both the domestic meat and dairy processing industries combined with AFFCO's policy of debt reduction suggests that investors or owners have had a strong influence over firm management. It is useful to evaluate AFFCO as it is an investor-owned firm operating in a market with cooperative firms, and there is debate about the desirable organisational form in a modern economy.

4.2 The structure of AFFCO

4.2.1 Shift from farmer cooperative to publicly listed investor-owned firm

AFFCO was established in 1904 as a farmer cooperative and exported meat to the United Kingdom. Its status as a farmer cooperative enduring until the early 1990s. The catalyst for the change was its large \$117 million loss in the 1993 financial year. This loss was blamed in part on AFFCO's high level of debt.

Following this record loss, AFFCO underwent financial restructuring including:

- Raising \$50 million in an equity cash injection through an initial public offering⁴⁴ and listing on the New Zealand Stock Exchange on 1 May 1995; and
- Use of these new funds to reduce the level of AFFCO's debt.

As a result of listing, AFFCO lost its status as a farmer cooperative and took on the new status as a publicly listed investor-owned firm.

4.2.2 Corporate structure and the regulation of management

AFFCO's shareholdings are essentially divided between two major investors:

- Talleys Fisheries Limited with a 50.01 percent shareholding; and
- Toocooya Nominees Limited with a 23.46 percent shareholding.

The co-existence of these two shareholders is only a recent phenomenon, with Talleys acquiring its majority shareholding in May 2006 after a partial takeover offer of AFFCO increased its holding from 40 percent to its current level.⁴⁵ This highlights the high level of liquidity and flexibility in shareholdings for listed companies like AFFCO when compared to the rigid shareholding requirements of farmer cooperatives like PPCS.

One major benefit that exists for investor-owned firms, and listed firms in particular, is the influence that the market for corporate control can have on the efficiency and operations of firm management. At a minimum, this influence is wielded through the ability of shareholders to remove management in response to poor financial results. This is particularly relevant for AFFCO which since 1998 has had four different CEOs:

- Ross Townshend was appointed in 1998 to restructure AFFCO and was removed in early 2001;
- Sam Lewis, who has been a director since 1990 and currently is the chairman, was chief executive chairman in early 2001 for a short period until September 2002;

⁴⁴ Issuing 100 million shares at 50 cents per share.

⁴⁵ Talleys announced on 24 May to the NZX that it had acquired the additional shares required to complete the partial takeover.

- Tony Egan, who was CFO from mid-2001, was appointed in September 2002 and remained CEO until his surprise resignation in January 2007; and
- Stewart Weston was appointed in April 2007 and is the current CEO.

In contrast, with the appointment of Keith Cooper as CEO in February 2007 to succeed PPCS' CEO of 20 years Stewart Barnett, PPCS has only had two different CEOs over this same period. Importantly, this change in leadership seemingly represents a progression of management within an internally motivated environment that differs substantially from the externally influenced changes to AFFCO's management.

To the outside observer, the frequency of CEO changes seems linked to the varying financial performance of AFFCO. For example, the drop in net surplus after taxation to \$837 thousand for the year ended 30 September 2001 down from \$15 million the year before, may have been associated with Townsend's departure in early 2001. Additionally, the "surprise" resignation of Tony Egan, announced less than two months after AFFCO reported a large fall in profits to \$13.1 million for the year ended 30 September 2006 down from \$21.1 million for the year prior, also may suggest some correlation between AFFCO's performance and CEO tenure, although further study would be required to test this. Any such correlation would mean that the market for corporate control has acted to remove CEOs from AFFCO that have underperformed shareholder expectations.

The presence of a majority shareholder introduces another different dimension, namely, individual shareholder influence on the direction of the firm. In particular, the resignation of Tony Egan in January 2007 corresponds to Talley's acquiring a majority shareholding in May 2006. Although we have no information on this, a possibility is that there was a difference in vision between Egan and Talley's that caused Egan to resign to accommodate for the latter.

Shareholder influence in the case of AFFCO has also affected shareholder representation on the board of directors. In particular,

- Andrew and Michael Talley represent their family business, Talley Fisheries, shareholding on the board; and
- Chris Spencer represents his investment vehicle, Toocooya Nominees Limited, on the board.

Through this direct involvement in the activities of the company, the two major shareholders have the ability exert direct influence over the direction of the firm and to apply more direct scrutiny to the actions of AFFCO management. Further, the information provided by listed companies means that AFFCO provides more information to its shareholder than do cooperatives.

On the face of it, relative to PPCS, AFFCO's management need to be very responsive to the interests of its shareholders.

As a consequence of the market for corporate control and the stronger influence of shareholders on the management of AFFCO, the firm has continuously sought ways to cut costs while boosting profits and reducing shareholder risks. In particular this has led to the firm focusing on cost reduction and continued expansion through diversification into dairy and into meat processing in the South Island.

4.2.3 Pressure to cut costs and improve efficiency of its meat processing operations

About the time of Townsend's removal as CEO, the directors of AFFCO, including the then executive chairman Sam Lewis, sought to reduce employment cost substantially. As one indication of this reduction, the number of employees earning over \$100,000 decreased from 73 in the 2001 financial year to 57 and 21 for the 2002 and 2003 financial years respectively. Since then, the number has increased slightly to 33 in the 2006 financial year.⁴⁶

	2001	2002	2003	2004	2005	2006
Number of employees paid in excess of \$100,000	73	57	21	27	33	33
Top employee pay band			\$390,001- \$400,000	\$270,001- \$280,000	\$590,001- \$600,000	\$590,001- \$600,000
Maximum total salary cost to employees with salaries in excess of \$100,000 ⁴⁷			\$3,800,000	\$3,830,000	\$4,930,000	\$5,300,000

As is shown below, other major cost cutting has come from the reduction in AFFCO's interest expense by retiring long term debt. Since 2001, this expense has decreased from over \$11 million to below \$3 million in 2005 representing a reduction of over 72 percent.

To improve the efficiency of its operations AFFCO has looked to establish new processing facilities, upgrade existing facilities and acquire others, including:

- The 2002 expansion of its Wairoa beef, sheep and goat processing facilities at a cost of \$5 million;
- The expansion of its Imlay plant in September 2002 at a cost of \$11 million;
- The establishment of a \$30 million meat processing plant near Invercargill in 2003;
- The acquisition of Dairy Meats in February 2005 for \$30.9 million;
- The upgrade of its Horotiu plant in February 2006 at a cost of \$20 million; and
- The acquisition of Malvern Meats in early 2007, recently renamed SMP Malvern.

Further to this, AFFCO relocated its head office from Auckland to Horotiu, north of Hamilton, in 2002 at a reported cost saving of \$1 million per year.

⁴⁶ This data is contained within the annual reports of AFFCO.

⁴⁷ This is determined by aggregating the multiple of the number of employees in each pay bracket by the upper bound of that pay bracket.

4.2.4 Diversification into dairying

The consolidation of the meat industry combined with the poor returns experienced over recent times suggests that there is not a lot of room for expansion in this industry through organic growth. Rather, it appears that those meat processors that have grown have done so through acquisitions of other meat processing assets.

In light of this, and the observed growth in returns for the dairy industry, AFFCO sought, presumably through the influence of their major shareholder Talley Fisheries, diversification into the dairy industry. Implicitly, Talleys' shareholding and direct influence brought to AFFCO its experience in the dairy industry through its holdings in Waikato-based Open Country Cheese.

In March of this year, AFFCO announced the establishment of a subsidiary Dairy Trust Investments that had the mandate to become a milk processor, with the intention of this company being listed on the NZAX in 2008. At the time of this announcement, it was indicated that Dairy Trust would acquire three sites from AFFCO in Northland, Waikato and Wanganui. These sites were seen as surplus to AFFCO's meat processing purposes, suggesting that the incorporation of dairy improved utilisation of AFFCO's assets.

Recently Dairy Trust has successfully made a partial (50.01 percent) takeover of dairy processing firm Open Country Cheese that is currently listed on the Unlisted Exchange. In exchange for the sale of shares in Open Country cheese, accepting shareholders acquired shares in Dairy Trust. This takeover was all but assured after Open Country Cheese major shareholder Talleys Fisheries committed its shares to the takeover offer.

This expansion along with the commitment to use surplus AFFCO meat processing facilities for dairy product processing, illustrates the drive with which AFFCO is moving into the dairy sector. The reasons cited for this expansion by AFFCO include strong investment potential in the dairy industry and synergies between dairy and meat processing facilities.⁴⁸

Importantly, although some shareholders of AFFCO may have been against exposure to the dairy industry, through the operation of AFFCO as a publicly listed company, these shareholders have the option to exit or reduce their holdings in AFFCO to a more investor-specific optimal level. This contrasts with the position that these shareholders would have been in had AFFCO operated as a farmer cooperative, where these shareholders would not be able to reduce such exposure unless they were to desist from supplying livestock to AFFCO.

Indeed, diversification of the sort that AFFCO has advanced would be difficult to implement as a cooperative because of the widespread shareholding tied to supply in cooperatives, and the diversity of supply to the firm that the addition of dairy processing would represent. Diversity is hard to manage under a cooperative; for governance of

⁴⁸ See AFFCO's 2007 Half Year Review.

cooperatives that relies on equal treatment of shareholders/suppliers is assisted by product homogeneity. Thus, including dairy and meat processing in a cooperative company would pose significant governance issues that may well affect the performance of such a firm.

4.2.5 Expansion into the South Island

AFFCO observed the expansion of the South Island cooperative meat processors Alliance and PPCS into the North Island. This move by the two largest meat processors produced fears by some that they would pursue some form of market share strategy in the North Island keeping farmer lamb payouts high, perhaps at the expense of keeping South Island payouts low.⁴⁹ In any event, AFFCO saw profit opportunities in the South Island and sought to maintain its market share in the North Island while expanding its meat processing operations into the South Island.⁵⁰ In 2003 AFFCO began operations in the South Island with the establishment of a \$30 million meat processing plant, South-Pacific Meats, at Awarua just below Invercargill as part of a joint venture with Talleys Fisheries..

AFFCO's South Island expansion has continued with the recent acquisition of Malvern Meat Processors by South Pacific Meats in early 2007.

4.3 Performance of AFFCO⁵¹

4.3.1 Turnover and operating surplus

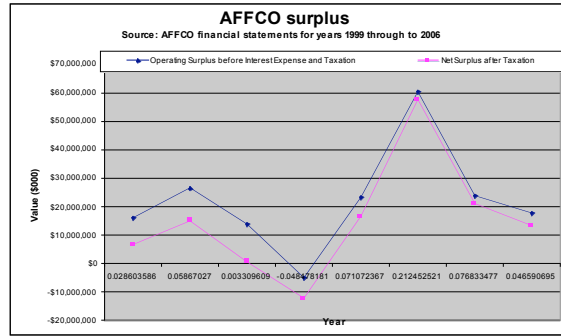
From the 1999 to the 2006 financial year, AFFCO's operating revenue increased by 14.3 percent from \$838.7 million to \$958.7 million, reaching a high of \$1,205.2 million in 2001. Over this same period, earnings before interest, taxation, depreciation and amortisation increased from \$28 million to \$32 million with a peak of \$74 million in 2004, while operating surplus before interest and taxation increased from \$16 million to \$18 million suggesting that depreciation and amortisation represent a large proportion of AFFCO's expenditure.

Nevertheless, as shown below, AFFCO's operating surplus has been volatile in recent years and in line with experiences felt among the other major meat processors including PPCS, resulting from the high New Zealand exchange rate and lower sheepmeat commodity returns.

⁴⁹ See Jenny Ruth, "Cost carve-up" reported in Unlimited Magazine on 1 September 2006, issue 86.

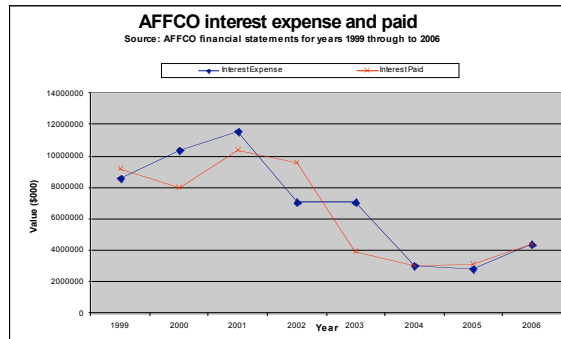
⁵⁰ See AFFCO's 2004 Annual Report.

⁵¹ The financial results of AFFCO are extracted from their financial statements for the years 1999 to 2006.



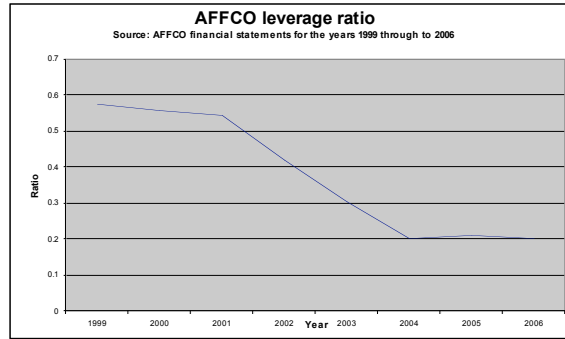
4.3.2 Debt, interest and operating cash flows

Unlike PPCS, AFFCO has been able to continually match its interest expense over recent years with its interest payments. It has reduced this expense from a high of \$11.5 million in 2001 to a low of \$2.8 million in 2005.



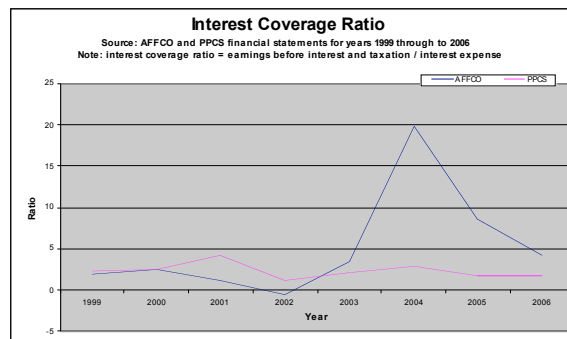
Further to this, AFFCO has been able to offset a large proportion of the interest rate risk associated with its debt servicing costs by increasing the interest revenue stream that it receives. In particular, AFFCO moved from net interest expenditure of \$11.3 million in 2001 to net interest revenue of \$2.4 million in 2005. This interest expenditure change was matched by a net interest receipt of \$2.1 million in 2005 compared with a net interest payment of \$10.1 million in 2001.

In parallel, AFFCO has decreased its leverage ratio from 57 percent in 1999 to 20 percent in 2006, by increasing its total assets from \$227 million to \$281 million and decreasing its total liabilities from \$130 million to \$57 million over this same period. The majority of this decrease in total liabilities has come from the reduction in current borrowings and long term liabilities.



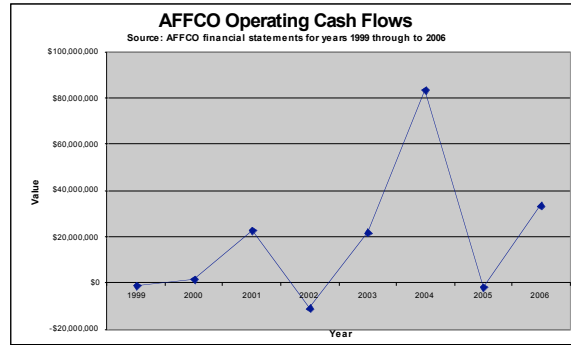
It is reasonable to suggest that this decrease in total liabilities is the main cause of AFFCO's decreasing interest expense. Further, in comparison to PPCS (which currently has a leverage ratio of 63%), AFFCO has sufficiently less financial constraint placed on its ability to invest for any purpose; including research and development and other processing facilities.

A common measure of a firm's viability in meeting its interest expense is the interest coverage ratio⁵² that looks to assess the number of times a firm's interest expense can be covered by its earnings before interest and taxation. This ratio is often used by banks and other lenders to firms as a benchmark for security over its debt, and in particular, is often included in debt covenants. Following the poor earnings performance and high interest expense levels of 2002, AFFCO has improved this ratio, reaching a high of 19 in 2004 and a current 2006 financial year ratio of 4.1. In comparison, since a high of 4.2 in 2001 PPCS has settled at a ratio of 1.7 for the 2006 financial year. This difference will very likely be reflected in a lower interest rate on debt for AFFCO.

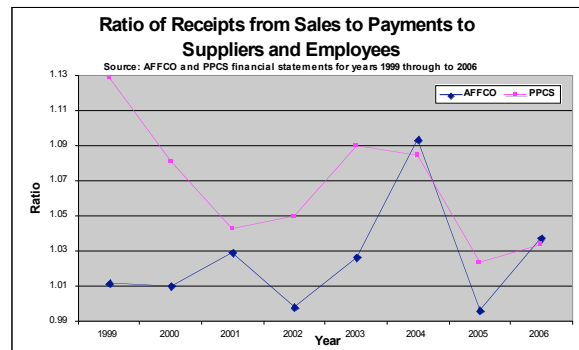


However, despite AFFCO's control over its interest obligations, it has not been able to maintain positive operating cash flows. In particular, net operating cash flow losses of \$11 million and \$1.5 million were experienced in 2002 and 2005 respectively. Comparatively, PPCS has not had the same difficulties, ensuring positive operating cash flows over the years 1999 through to 2006.

⁵² The interest coverage ratio is the ratio of earnings before interest and taxation to interest expense.
Meat Industry Performance and Organisational Form 2007, The New Zealand Institute for the Study of Competition and Regulation, Victoria University of Wellington.



This difference can in part be explained by observing that PPCS has continually ensured that its receipts from customers exceeded its payments to suppliers and employees, while AFFCO has not. Plotting the ratio of these two flows for both AFFCO and PPCS, we see that AFFCO has generally had the lower ratio. Moreover, for AFFCO, this ratio has on two occasions dropped below one, with these occasions corresponding to the years with negative operating cash flow.



The result reflects that PPCS, through its discretion in making supplier-shareholder payments under its supply agreements, has the ability to adjust the level of supplier payouts to ensure that it maintains positive operating cash flows. In contrast, as AFFCO is required to acquire its livestock on the open market, it has substantially less discretion to adjust these payments to suppliers (subject only to its inability to influence the market price for livestock). The cooperative model has a built-in supplier sharing of ups and downs of the profitability of meat processing and marketing (subject only to the acceptance of this practice by its supplier shareholders), that has historically been much more difficult for investor-owned firms to put in practice contractually.

Nevertheless, due to its lower level of debt and its ability to achieve positive operating cash flows overtime, AFFCO is presently well placed to ensure that its default risk is minimised.

4.3.3 Raising additional funds

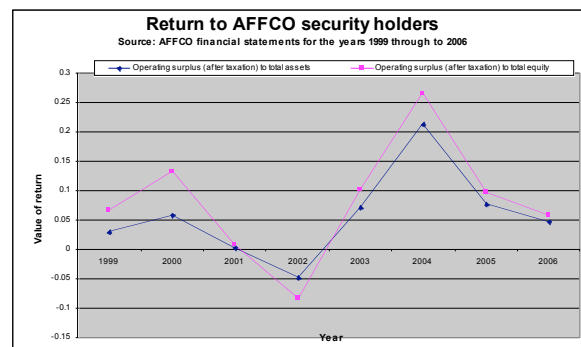
Unlike PPCS, AFFCO has the ability to raise additional funds by issuing shares on the New Zealand Exchange as a result of its publicly listed status. As a much larger equity market than that available to PPCS, the NZX has provided AFFCO with the ability to offer shares to a larger selection of potential investors. In late 2001 and September 2002, AFFCO made two rights issues raising \$11.25 million (at 25 cents per share) and \$27 million (at 10 cents per share) respectively. In total there were issues of 337 million shares in the 2002 financial year.

Additional cash injections from shareholders brought the total cash injections for the 2002 financial year up to \$43.87 million in 2002 from owners. As noted above, this new cash allowed AFFCO to reduce its level of debt from \$105 million in 2002 to \$70 million in 2003.

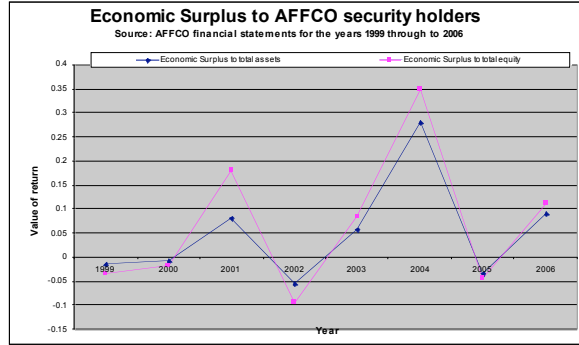
The important difference from the approach taken by PPCS to raise funds is that AFFCO did not require its shareholders to acquire shares as a component of its supply agreements. Instead it made pro rata share *offers*, thus indicating that those investors that did accept these offers held confidence in the continued performance of the meat processor at the time of their contributions.

4.3.4 Return to shareholders

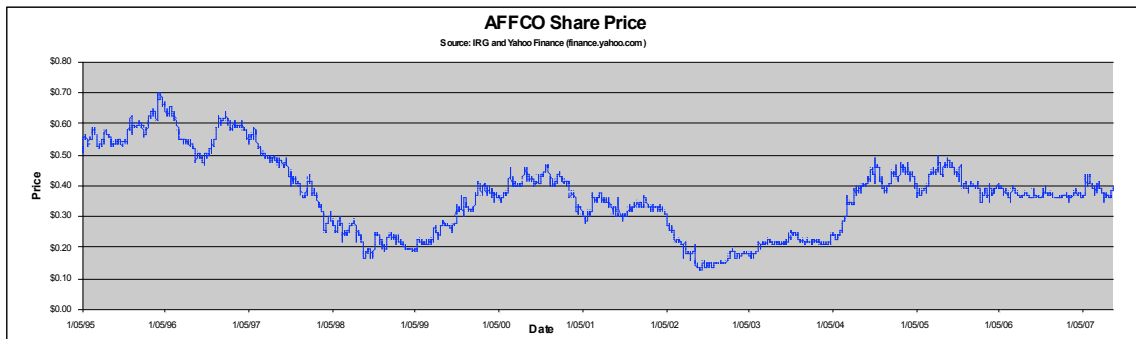
AFFCO shareholders have experienced varying returns to equity over the past few years ranging from a low of negative 8 percent for the 2002 financial year to a high of 27 percent in 2004 financial year, and settling at 6 percent for the 2006 financial year. Presumably the lower return in 2002 can be in part attributed to the lower level of sales revenue relative to the costs of livestock supplies and employees.



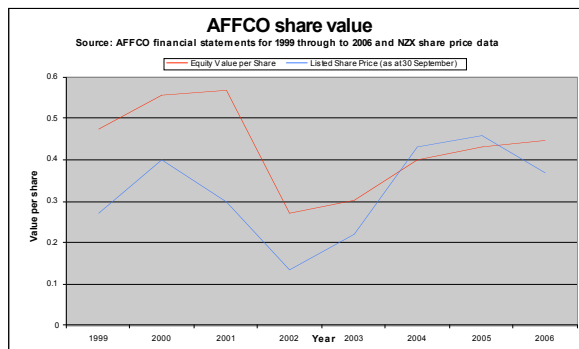
As a comparison, when looking at the ratio of economic surplus to equity we see a similar variation in security holder returns over that same period, ranging from negative 9 percent to 35 percent. However, unlike the equity return, the economic surplus return increased from the 2005 financial year to the 2006 financial year from negative 4 percent to 11 percent.



Looking at AFFCO’s share price over this period we see that there has been considerable variation also, moving from a high of 70 cents on 3 April 1996 to a low of 13 cents on 16 September 2002.



This listed share price has appeared to move with the book equity value per share through the period 1999 to 2006, although, between 1999 and 2003, the market appeared to discount this book value by between 27 and 51 percent.



Unlike listed or traded firms such as AFFCO, PPCS does not provide a return to its shareholders through capital gains. In particular, due to the nominal (fixed) value placed on shares, PPCS farmer-shareholders are unable to attain returns through sales of their shares following capital appreciation. Rather, these shareholders are required to either achieve returns through shareholder-based cash payouts or supplier-based cash payouts, while shareholders of firms like AFFCO can expect either cash payouts or capital gains.

However, compared to other New Zealand companies, AFFCO has provided limited cash payouts to shareholders in the form of dividends and share repurchases. In particular, since the beginning of 1997 it has returned dividends on only three occasions:

- A 2.5 cents per share dividend on 6 June 1997;
- A 1 cent per share dividend on 5 December 2005 providing shareholders with \$5.1 million; and also
- A 1 cent per share dividend on 13 December 2006 providing shareholders with \$5.1 million.

In October 2005, AFFCO also provided shareholders with \$20 million through a share cancellation.

As a simple comparison of total payouts to owners (including payouts to minority shareholders in subsidiary and associated firms) AFFCO and PPCS made the following:

- AFFCO paid out a total of \$26.6 million in equity distributions to owners over the period 1 October 1998 to 30 September 2006; while
- PPCS paid out a total of \$114.6 million over the period 1 September 1998 to 31 August 2006, although \$20.2 million of this was in share allocations and redeemable preference dividends, presumably in line with the ability of PPCS to supply its farmer-suppliers with shares as opposed to cash for livestock supplied.

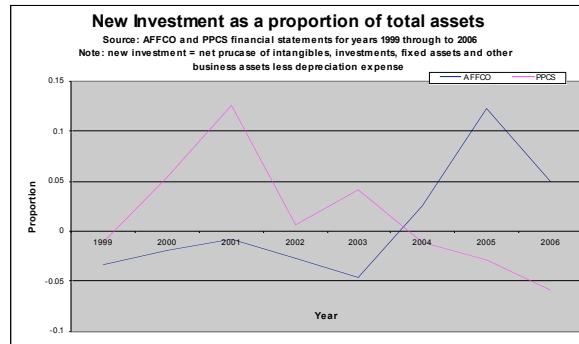
As a proportion of 2006 financial year end equity values, this represents 12 percent for AFFCO and 36 percent for PPCS (after deducting the \$20.2 million for share allocations and redeemable preference dividends). From this it appears that PPCS has been the most investor friendly in terms of distributions to shareholders.

However, it is difficult to interpret these differences. These distributions also include non-cash distributions and, with respect to PPCS, are likely to include distributions that embody the price paid for livestock rather than returns attributable to investment funds. To make an informative comparison the payment for supply would have to be disentangled from return on investment in processing and marketing; an extremely difficult task in the case of supplier cooperatives.

4.3.5 Investment expenditure

Over the years 1999 to 2003 AFFCO's net purchase of investments, property, plant and equipment has been less than its depreciation expense. However, in the years following 2003, the difference between these two (loosely termed "new investment") has become positive and has reached a level of \$13.9 million for the year ended 30 September 2006.

If we compare the proportion of new investment to total assets for AFFCO to that of PPCS we see that PPCS presents the opposite result: Suggesting that while AFFCO has been able to increase its new investment over time, that of PPCS has decreased.



The increase in this proportion from the pre 2004 period to the post 2004 period corresponds with AFFCO's more active investment regime including the acquisitions, establishments and upgrades mentioned above such as South Pacific Meats, Dairy Meats and the Horotiu relocation.

Similarly, the reversal of PPCS corresponds with its decline in post-Richmond takeover acquisitions.

4.4 AFFCO into the future

Over recent years AFFCO has undergone some volatility in its share price and its equity value, its operating cash flows and its net surplus. This volatility is a phenomenon common to investor-owned listed firms and those exposed to the agricultural sector specifically, particularly where input supply costs are volatile. Nevertheless, it appears that AFFCO has maintained investor confidence in its performance.

At a more fundamental level, the scrutiny that has been placed on AFFCO's management over recent years through the market for corporate control has seemingly had a positive affect on its direction. AFFCO's expansion into the South Island and its diversification into the dairy industry suggest that the firm is looking for ways to increase returns to shareholders, while attempting to reduce the risks of poor commodity returns in one sector, and addressing competition in the livestock procurement market. Furthermore, through its apparent policy of reducing debt servicing obligations, AFFCO has been able to ensure that during periods of poor cash flows, financial constraints controlled by firm debtholders have a lesser affect on its performance.

Unlike PPCS, AFFCO is in a strong position within the meat processing industry in terms of its financial position and defined strategic direction. The key difference between these two firms' positions is the level of debt that each firm bears. It is this difference that may well determine their future presence and organisational structure in the meat processing industry, particularly in light of the high level of interest rates that currently exist within New Zealand.⁵³ Immediate future debt financing for PPCS will be costly and may be

⁵³ See Marta Steeman, "PPCS yields lift as concern grows" in *The Press*, 6 September 2007.

quite difficult. The de-mutualisation from a farmer cooperative to an investor-owned firm that AFFCO undertook following its poor 2003 financial performance, also with high debt levels, may provides information about one strategy to PPCS shareholders.

Conclusion

Although the meat processing industry has been in turmoil for some 25 years, it has continued to innovate and add value to the final meat product. Competition between investor-owned and cooperative firms has been illustrative of the industry in general but not definitive, as the real shareholder assessment of cooperative ownership remains unclear. The competition has been illustrative of the different strengths and weaknesses of the cooperative and investor forms of ownership. While it is dangerous to draw firm rules from two examples, AFFCO and PPCS do illustrate that the differences in control mechanisms and capital availability and ability to diversify are real. The organisational structure competition goes on.

References

- Calder, M.; and J. Tyson, "The Meat Acts – The New Zealand Meat Industry 1972-1997," Fraser Books, Masterton NewZealand (1999).
- Curtis, Bruce; and James Reveley; "Producers, Processors and Unions: The Meat Producers Board and Labour Relations in the New Zealand Meat Industry, 1952-1971," Australian Economic History Review, Volume 41, Number 2 (July 2001): pages 135-158.
- Evans, Lewis; and Richard Meade, "The Role and Significance of Cooperatives in New Zealand Agriculture: A Comparative Institutional Analysis," Report Prepared for the New Zealand Ministry of Agriculture and Forestry, ISCR, December 2005.
- Rae, Allan; Anna Strutt; and Andrew Mead, "New Zealand's Agricultural Exports to Quota Markets," Massey University Department of Applied Economics and Policy Studies, Agricultural Policy Discussion Paper no. 21 (September 2006).

Appendix A – Timeline of industry events since 1971

Source: compiled from MAF Monitoring Reports for the years 2000 to 2006, selected newspaper articles provided on Newztext Newspapers database, MAF's SONZAF for years 2000 to 2006, Calder and Tyson (1999) and the Meat Industry Association annual reports.

Through the years 1999 to 2006 there has been a raft of events that have affected the meat industry in New Zealand. A summary of these events is detailed below.

Year	Event
1971	<p>International and environmental events</p> <ul style="list-style-type: none"> • UK introduced a levy on imported lamb as a prelude into EC membership <p>Industry events</p> <ul style="list-style-type: none"> • In October, the Meat Board was granted legislative power to acquire sheepmeat intended for any export market through changes to the Meat Export Control Act • The Meat Board intervenes in the lamb market <p>Meat processor events</p> <ul style="list-style-type: none"> • Pacific Freezing Ltd formed by Dawn Meats and Richmond with one processing plant approved • Cattle Services established, eventually evolved into Fortex • Crown Meats converted its Aotearoa abattoir plant at Cambridge into a meat export plant
1972	<p>International and environmental events</p> <ul style="list-style-type: none"> • Labour elected into Government <p>Industry events</p> <ul style="list-style-type: none"> • Meat Exporters Council established to represent meat processing and exporting companies • The National Government introduced the Stabilisation of Prices Regulations introduced as a measure to curb inflationary pressures • Stabilisation of Prices Regulations introduced • Livestock Incentive Scheme introduced • Begg Committee on future lamb marketing <p>Meat processor events</p> <ul style="list-style-type: none"> • Pacific Beef built a new export meat processing plant in Hastings
1973	<p>International and environmental events</p> <ul style="list-style-type: none"> • International oil shock • Industrial Relations Act 1973 passed • UK effectively became a member of the EC <p>Industry events</p> <ul style="list-style-type: none"> • Minimum prices for beef introduced <p>Meat processor events</p> <ul style="list-style-type: none"> • Borthwicks acquires 24 percent of Canterbury Frozen Meats • Swift closed Ngauranga plant, sells Wairoa plant to Waitaki and exits the industry
1974	<p>International and environmental events</p> <ul style="list-style-type: none"> • World oil price crisis • Accident Compensation legislation introduced • Japan bans beef imports <p>Industry events</p> <ul style="list-style-type: none"> • Nordmeyer Commission report completed • Board introduces guaranteed prices for lamb and mutton <p>Meat processor events</p> <ul style="list-style-type: none"> • Waitaki acquires Nelson Freezing Co and South Otago Freezing Company • Pacific Freezing plant opened
1975	<p>International and environmental events</p> <ul style="list-style-type: none"> • The US imposed a beef Voluntary Restraint Agreement <p>Industry events</p> <ul style="list-style-type: none"> • Alliance, AFFCO and Hawke's Bay Farmers' Meat Company formed the Associated New Zealand Farmers to

	<ul style="list-style-type: none"> operate in the UK NZ Meat Marketing Corporation established Government introduces agricultural support measures <p>Meat processor events</p> <ul style="list-style-type: none"> Waitaki and New Zealand Refrigerating Co Ltd merger to form Waitaki NZR
1976	<p>International and environmental events</p> <ul style="list-style-type: none"> US Meat Export Federation formed <p>Industry events</p> <ul style="list-style-type: none"> the Meat Amendment Act 1976 was passed, establishing the Meat Industry Authority the Meat Export Prices Act was passed, introducing the Price Smoothing Scheme for farmers Livestock Incentive Scheme introduced
1977	<p>International and environmental events</p> <ul style="list-style-type: none"> Prices for NZ lamb in UK suffer largest drop to date US ITC looks into beef imports <p>Industry events</p> <ul style="list-style-type: none"> The Meat Board supplements beef prices and intervenes for mutton <p>Meat processor events</p> <ul style="list-style-type: none"> Meatmark Ltd established in the UK
1978	<p>International and environmental events</p> <ul style="list-style-type: none"> UK lamb prices crashed in November partly due to meat destined for Iran being diverted to the UK Drought in summer <p>Industry events</p> <ul style="list-style-type: none"> Supplementary Minimum Prices were introduced Heavy level of industrial action The Meat Board acquires 25 percent of mutton as a result of a drop off in Russian orders <p>Meat processor events</p> <ul style="list-style-type: none"> Hellaby processing plant at Taumarunui approved Phoenix meat processing plant at Kokiri approved
1979	<p>International and environmental events</p> <ul style="list-style-type: none"> New Zealand was granted a country specific quota of 300 tonnes of high quality beef after the 1979 Tokyo Round of GATT International oil shock The Government introduces a crawling peg exchange rate <p>Industry events</p> <ul style="list-style-type: none"> The Meat Board assumed control of Waitiki's export meat using its powers under the Meat Export Control Act in an effort to ensure that Waitiki did not contravene shipping agreements entered into by the Board <p>Meat processor events</p> <ul style="list-style-type: none"> Hawke's Bay Farmers' Meat Company granted an export license at Takapau The Meat Board acquires 50 percent of DEVCO
1980	<p>International and environmental events</p> <ul style="list-style-type: none"> EC Sheepmeat Regulations are agreed The Voluntary Restraint Agreement was signed between New Zealand the EC US beef prices collapse
1981	<p>International and environmental events</p> <ul style="list-style-type: none"> Adoption of the lamb for oil program with Iran The US House of Representatives passed the Farm Bill 1981 The Iran and Iraq conflict developed In October the Iranian oil for lamb program was established <p>Industry events</p> <ul style="list-style-type: none"> Introduction of the Meat Act 1981, deregulating the meat industry, dissolving the meat industry Joint Meat Export Marketing Council established The Meat Board supports beef prices and intervenes in the mutton market <p>Meat processor events</p> <ul style="list-style-type: none"> AFFCO closes Southdown Freezing Works Waitaki closes meat processing plant in Picton Gear Meat Company closed Petone meat processing plant Two plants open – one by HBFMC in Takapau and the other by Pacific Freezing in Oringi Alliance acquires Ocean Beach from CWS
1982	<p>International and environmental events</p>

	<ul style="list-style-type: none"> The Government introduces price and wage freezes along with a fixed exchange rate <p>Industry events</p> <ul style="list-style-type: none"> Japan and North Africa declared development markets by the Meat Board The Meat Board intervenes in the lamb market, eventually taking over all sheepmeat <p>Meat processor events</p> <ul style="list-style-type: none"> Meatmark reactivated by the Meat Board Fletcher Challenge takes over the Dunedin Master Butchers Association PPCS acquires 20 percent of Canterbury Frozen Meats Gear Meat Company exists the meat industry Three plants close – one by W&R Fletcher in Patea, one by Gear in Petone and the other (Shortland) by Hellabys
1983	<p>Industry events</p> <ul style="list-style-type: none"> Meat Industry Task Force report issued The Meat Board cuts the number of UK importer-agents from 30 to 8 <p>Meat processor events</p> <ul style="list-style-type: none"> ANZCO was established Fletcher Challenge and PPCS become the controlling shareholders of Canterbury Frozen Meats Brierleys acquires Riverlands beef processing plant One plant opens – the Waitaki Marlborough Plant Merger of Dalgety and Crown Corporation
1984	<p>International and environmental events</p> <ul style="list-style-type: none"> The New Zealand dollar was devalued 20 percent after the snap election called by Robert Muldoon and Labour became the Government <p>Industry events</p> <ul style="list-style-type: none"> Sheep numbers reach a high of over 70 million The Government announces plan to dismantle the Supplementary Minimum Payments (SMPs) regime The Meat Industry Council was established <p>Meat processor events</p> <ul style="list-style-type: none"> PPCS takes control of Canterbury Frozen Meats SFM exists the meat industry, with 2 of their plants (Mataura and Makarewa) taken over by Fletcher Challenge under the name of Challenge Meats Industrial relations trouble for Alliance at Ocean Beach
1985	<p>International and environmental events</p> <ul style="list-style-type: none"> North American beef prices hit a seven year low <p>Industry events</p> <ul style="list-style-type: none"> Record lamb production with 39 million slaughtered The Government removes the SMP regime Independent Meat Exporters' Association, MEC and FCA merged to form the Meat Industry Association The Chilled Lamb Working Party was convened <p>Meat processor events</p> <ul style="list-style-type: none"> Janmark is established Fort Export changes its name to Fortex Advanced Foods (jointly owned by the Meat Board and Advanced Meats owned) open processing plant in Waipukurau
1986	<p>International and environmental events</p> <ul style="list-style-type: none"> The Cairns Group is formed in Queensland GATT Uruguay Round begins New Zealand dollar devalued again after being floated Spain and Portugal joined the EC <p>Industry events</p> <ul style="list-style-type: none"> The Meat Board reestablishes Freesia to make investments in marketing National meatworkers strike Meat Export Prices Act repealed Red Meat Promotion Council established <p>Meat processor events</p> <ul style="list-style-type: none"> Hellabys is taken over by AFFCO Borthwicks/CWS is taken over by Waitaki Weddel Crown is formed by W & R Fletcher (Vestys) and Dalgety Crown Weddel takes over Hellabys' Whangarei processing plant HBFMC exits the meat processing industry

	<ul style="list-style-type: none"> • Lowe Walker established by Graeme Lowe • Two plants are closed – one by HBMFC at Whakatu and one by AFFCO at Shortland • North Island rationalization occurs with the closure of 7 chains • DEVCO renamed the New Zealand Lamb Company (North America) Ltd
1987	<p>International and environmental events</p> <ul style="list-style-type: none"> • The Gulf War begins • The share market crashes in October • Labour Relations Act 1987 introduced <p>Industry events</p> <ul style="list-style-type: none"> • NZ Lamb Promotion Council (UK) established • Meat inspection cost recovery <p>Meat processor events</p> <ul style="list-style-type: none"> • CS Stevens exits the meat industry, with Alliance acquiring NCF Kaiapoi plant, Sockburn plant and Ashley plant • PML exits the meat industry after poor performance • Lowe Walker acquires Namron Meats Paeroa • Four new plants open – one by Blue Sky Meats, one by Fortex, one by Frasertown and the other by Paramount Exports • PPCS acquires 50 percent of Brooks in Norwich • Riverlands Group established by Brierleys
1988	<p>International and environmental events</p> <ul style="list-style-type: none"> • EU VRA renegotiated • Cyclone Bola hits <p>Industry events</p> <ul style="list-style-type: none"> • Quality of Product Acknowledgment Agreement signed by the managing directors of all processing companies • The Beef Council established • Meat Industry Freight Council established <p>Meat processor events</p> <ul style="list-style-type: none"> • Waitaki faces huge financial loss of \$97 million • Challenge and Waitaki merge • Two plants close – both by PPCS (Islington and Burnside) • PPCS acquires Marlborough and Finegand processing plants from Waitaki • Five new plants open – one by NZ Beef Packers, one by South Pacific Meats, one by Ventec, one by Waitotara and the other by Wallford
1989	<p>International and environmental events</p> <ul style="list-style-type: none"> • EC sheepmeat levy reset to zero, and EC sheepmeat quota reduced to 205,000 tonnes • Amendment to the Meat Export Control Act redefines the Meat Board's functions • Drought on the east coast of both the North and South Islands for the 1988/89 summer <p>Industry events</p> <ul style="list-style-type: none"> • South Island industrial action • Meat Industry Freight Council formed <p>Meat processor events</p> <ul style="list-style-type: none"> • Waitaki's North Island assets are sold to AFFCO, Waitaki exits the industry • Fressia Meat Holdings is established • Fressia sells holding in Fortex • Closure of Westfield by Weddel • Ventec taken over by Cavalier Meat Co • Alliance record a record profit
1990	<p>International and environmental events</p> <ul style="list-style-type: none"> • The Primary Products Act was drafted • The Commodities Levies Act 1990 enacted • Iraq invades Kuwait <p>Industry events</p> <ul style="list-style-type: none"> • MRDC established <p>Meat processor events</p> <ul style="list-style-type: none"> • Fortex lists on the stock exchange • Alliance takes over the remaining Waitaki assets/plants • MRDC is established • Two plants are closed – both by AFFCO as a rationalization (Waingawa and Longburn) • Two new plants open – one by Waitane Meats, the other by Fortex at Silverstream
1991	<p>International and environmental events</p>

	<ul style="list-style-type: none"> • Employment Contracts Act 1991 and the Resource Management Act 1991 introduced • North American shipping deregulation • The Meat Planning Council came into operation • BSE first recognised in Britain <p>Industry events</p> <ul style="list-style-type: none"> • Meat Industry Hygiene Council established • Meat Planning Council formed • MISS established • Texel, Finn and Oxford Dawn sheep breeds introduced into New Zealand sheep flocks after 5 years in quarantine <p>Meat processor events</p> <ul style="list-style-type: none"> • Lowe Walker acquires NZ Beef Packers and Ngauranga Meat Processors while selling NMO to Taylor Preston • One plant is rebuilt at Feilding – by Weddel NZ Limited (formally named Weddel Crown) • Three plants are closed – all by Alliance (Ocean Beach, Kaiapoi and Ashley Lean) as rationalization by Alliance • Richmond acquires Dalgety Lonsdale and Paramount Te Kquwhata
1992	<p>International and environmental events</p> <ul style="list-style-type: none"> • ACC Act introduced • Heavy August snowfall • EC chilled reaches 10,500 tonnes <p>Industry events</p> <ul style="list-style-type: none"> • 55 percent of lambs are further processed • Primary Resources Ltd and Meat Enterprises Ltd established by the Meat Board <p>Meat processor events</p> <ul style="list-style-type: none"> • Waikato Beef Packers acquires South Pacific • Five new plants are opened – one by Clover Exports, one by Hill Country Beef, one by King Country Lamb, one by Cromwell Meats and the other by Riverlands in Manawatu • AFFCO opens Manawatu Beef Packers, which was the rebuilt Fielding Plant
1993	<p>International and environmental events</p> <ul style="list-style-type: none"> • Single EU market established <p>Industry events</p> <ul style="list-style-type: none"> • Debate begun over the tradability of quota rights • Beef processed for local market now qualified as product for the US quota <p>Meat processor events</p> <ul style="list-style-type: none"> • Greenlea Meats established with one processing plant in Hamilton • AFFCO reports \$117 million loss • Four new plants are opened – one by Greenlea, one by Hill Country Beef, one by Lowe Walker in Dargaville, and the other by AFFCO in Moerewa
1994	<p>International and environmental events</p> <ul style="list-style-type: none"> • GATT Agreement was signed • EU shipping deregulation • NAFTA came into force <p>Meat processor events</p> <ul style="list-style-type: none"> • Fortex exits the meat industry after collapse • Weddle exits the meat industry closing its five plants (Tomoana, Feilding, Aotearoa, Whangarei and Kaiti) • Seven plants close – 2 as a result of the Fortex closure and 5 as the result of the Weddel closure • Canterbury Meat Packers acquires Seafield plant
1995	<p>International and environmental events</p> <ul style="list-style-type: none"> • Uruguay Round of WTO (previously GATT) trade talks implemented, • Sweden, Finland and Austria join the EU • Hard drought conditions • E Coli concerns in the US <p>Industry events</p> <ul style="list-style-type: none"> • Commerce Commission price fixing inquiry • Processor representatives elected to the Meat Board • Ultrasound scanning introduced and used to identify ewes carrying twins or triplets <p>Meat processor events</p> <ul style="list-style-type: none"> • Trial Run Holdings established and salvages Weddel assets • BLMB restructured • AFFCO was listed on the New Zealand Stock Exchange

	<ul style="list-style-type: none"> • ANZCO holding sold by the Board for \$35 million • ANZCO acquires Huttons Kiwi • Two processing plants open – one by Canterbury Meat Packers and one by Universal Beef Packers at Te Kuiti
1996	<p>International and environmental events</p> <ul style="list-style-type: none"> • BSE/E Coli scares in Europe, and also E Coli in Japan leading to increased demand for New Zealand meat • US Mega Regs introduced, which related to a Hazard Analysis Critical Control Point approach leaving individual plant operations responsible for hazard identification and process control • EU Veterinary Agreement signed between New Zealand and the EU <p>Industry events</p> <ul style="list-style-type: none"> • Industry R&D Strategy • Lamb Promotion Council ends <p>Meat processor events</p> <ul style="list-style-type: none"> • Trial Run Holdings completes its life after wiping its debt • One new plant opened – by Lamb Packers Fielding • MPITO established • AFFCO acquires Mathias • ANZCO sold to Janz by the Meat Board, and establishes Pacific Beef
1997	<p>International and environmental events</p> <ul style="list-style-type: none"> • ACC/Industry tail project <p>Industry events</p> <ul style="list-style-type: none"> • The Meat Board Act is introduced, deregulating exporters by moving against the single seller approach • MIA/MPB Strategic Direction for red meat industry <p>Meat processor events</p> <ul style="list-style-type: none"> • Benmore exits the meat industry after being placed in receivership • MPC disbanded • ANZCO acquires NZ Casing Ltd • The Meat Board sells holdings in Alliance and Richmond
1998	<p>International and environmental events</p> <ul style="list-style-type: none"> • Industry/Government CO2 Agreement • HACCP/PBV introduced <p>Industry events</p> <ul style="list-style-type: none"> • MQM carve-up • Producer Boards reform project <p>Meat processor events</p> <ul style="list-style-type: none"> • Richmond/Low Walker merger • Three plants close – 2 by AFFCO and one by Richmond • One plant opened – by Wallace Meats
1999	<p>International and environmental events</p> <ul style="list-style-type: none"> • NZD exchange rate against the USD hits an all time low at around 39 US cents per NZD • US impose tariffs on NZ lamb ranging of from 9 to 40 percent depending export volume • East Coast droughts • Asian economic downturn • WTO Seattle meeting <p>Industry events</p> <ul style="list-style-type: none"> • The carcass classification system for both sheepmeat and beef became voluntary • Introduction of the Animal Products Act • National Certificate in Meat Processing introduced to increase food-quality assurances • MAF-initiated national vendor declaration introduced which aim to ensure that animals meet food safety and market access requirements • Animal Products Act 1999 introduced • MIRNZ Food Technology and Research Incorporated (joint venture between MWNZ and MIA) established <p>Meat processor events</p> <ul style="list-style-type: none"> • Four plants close (Richmond 2, Wallace, Capriannah Meats) • Alliance Meats begins deer processing at its Makarewa Plant in the South Island • PPCS begin moves to acquire Richmond to get back into the North Island • Suspension of export licences at Riverlands' Eltham freezing works by MAF • Alliance Group purchased shareholding in Nelson Bays Meat Producers previously owned by Phoenix Meat Company, signaling a move towards an exit of the latter from the meat processing industry
2000	<p>International and environmental events</p> <ul style="list-style-type: none"> • Summer–early autumn drought increases demand for meat processing space

	<ul style="list-style-type: none"> • Changes to ACC legislation are criticised as increasing costs to farmers • Employment Relations Act 2000 introduced • GMO Commission of Inquiry <p>Industry events</p> <ul style="list-style-type: none"> • Farmers continue to convert their farms into dairying • 120 MAF vets who work in meat processing plants initiate strike action • Animal Status Declaration (aka Vendor Declarations) introduced • 90 percent of lambs further processed <p>Meat processor events</p> <ul style="list-style-type: none"> • PPCS takeover Mair Venison as the main deer processor (increasing calls for a lack of competition) • Alliance closes Stockburn meat processing plant • Wallace Corporation's Taumarunui meat processing plant damaged by fire (sheep) • AFFCO expands into China through a joint venture completing construction of a meat plant with two Chinese partners on the outskirts of Chengdu, in the western Sichuan province • Talley's attempts to purchase a strategic holding in Richmond • AFFCO look to rebuild Imply meat processing plant • Richmond closes Omaha Rd sheep processing plant as a part of the Takapau extension
2001	<p>International and environmental events</p> <ul style="list-style-type: none"> • Second severely dry summer increases demand for meat processing space (in particular around places like Central Otago and Marlborough) and a lack of dairying grazing. In addition, land use changes have increased • Foot and mouth disease outbreak in the UK • US lift of tariff and quota safeguards on NZ lamb after successful WTO negotiations • The Doha Round of World Trade Organisation talks begins • High power prices increase operating costs for meat processors <p>Industry events</p> <ul style="list-style-type: none"> • 120 MAF vets who work in meat processing plants initiate further strike action • Number of sheep hits low of 44 million, and beef cattle hit high of 4.8 million <p>Meat processor events</p> <ul style="list-style-type: none"> • Richmond list on the NZX • Richmond issue \$50 million in capital notes • Wallace Corporation buys the Coromandel meat processing plant • Alliance Group's Nelson meat processing plant has its export licence suspended by MAF • Otago winter snap causes issues for sheep farmers • PPCS closes its wool and animal pelt handling operation in Blenheim • Thames meat processing plant purchased by Wallace Corporation • Lakeview Farm Fresh group went into receivership last month with \$11.6 million outstanding following the closure of its Dannevirke plant • CMP acquires Phoenix Meat Company • New abattoir plant at Domett, near Cheviot owned by Harris Meats
2002	<p>International and environmental events</p> <ul style="list-style-type: none"> • Korea removes its ban on the freezing-down of chilled meat • Small Southern outbreak of Salmonella Brandenburg affecting lamb numbers • Poor meat processing season – worst for several decades • Severe summer drought <p>Industry events</p> <ul style="list-style-type: none"> • Introduction of animal status declaration forms • Fencepost.com introduce new internet tendering system (Prime.ex) allowing dairy and bull farmers to offer stock for tender so meat companies can then place electronic tenders to buy the stock. • Disruption to meat processing due to damaged natural gas pipe line in the lower NI • Sheep numbers hit low of 40 million • Meat & Wool Innovation Limited established • Poaching of feral deer forced MAF to recall wild deer from processor and exporter markets • New Zealand Food Safety Authority came into existence • PPSA enters into force and Cabernet Foods meat processor is the first to allow farmers to register as secured creditors under the PPSA • New Zealand Game Industry Board and the New Zealand Deer Farmers' Association amalgamated into Deer Industry New Zealand • Meat Biologics Consortium established <p>Meat processor events</p> <ul style="list-style-type: none"> • Cuttle and Isaacs, an Ashburton-based stock firm, goes into liquidation after owing millions to farmers • Strikes at 6 PPCS meat processing plants • PPCS close Seventeen Valley Riverlands Marlborough meat processing plant (sheep, goat and bobby calf) • AFFCO closes the only Northland lamb processing chain • AFFCO closes Imlay beef operations

	<ul style="list-style-type: none"> • New Bernard Matthews lamb cutting plant in Gisborne • Lowe Corporation lunch full takeover bid for Blue Sky Meats • Alliance purchased Dannevirke works from Lakeview's receiver for just \$850,000
2003	<p>International and environmental events</p> <ul style="list-style-type: none"> • New veterinary agreement between the EU and NZ ratified recognizing NZ's superior food safety standards • Dry and drought-like conditions (particularly in the south of the North Island) places pressure on processing capacity as farmers look to slaughter stock early • Outbreak of SARS • BSE (mad cow disease) found in Canada • US introduces meat processing restrictions as a preventative measure against Mad Cow Disease after finding BSE found in US in December • Japan, Korea and Taiwan ban the importation of US and Canadian beef <p>Industry events</p> <ul style="list-style-type: none"> • A joint market venture between Alliance and AFFCO marketing in the United Kingdom has broken down (?? Year) • High electricity prices • Holidays Act 2003 introduced • Ibox introduces new temperature control system (refrigerated computerized control system) • Farmers' Choice referendum produces strong support for restructuring of the meat industry <p>Meat processor events</p> <ul style="list-style-type: none"> • CMP planned new lamb slaughter cutting plant in Marton scrapped, replaced by purchase of Waitotara plant from Richmond for \$11.5 million, retaining the Marton property • Talley's begins developing Southland meat processing plant • Alliance move into the Hawkes Bay
2004	<p>International and environmental events</p> <ul style="list-style-type: none"> • Agreement with China allowing NZ only inspection of meat destined for Chinese market • Colder and wetter winter than normal • Ten additional European countries joined the EU adding an additional 1,000 tonnes of high-quality beef and 1,154 tonnes of sheepmeat to NZ's specific country tariff quota to the EU • The EU adopt a "First come, first served" quota management system <p>Industry events</p> <ul style="list-style-type: none"> • Meat export licensing was replaced by meat export registration • Meat Board Act 2004 came into force restructuring the meat industry and establishing MWNZ • The New Zealand Meat Board and the Meat Industry Association win their appeal to the Privy Council against Paramount Export Ltd over EU export quota • Animal Identification and Traceability Working Group established • Introduction of new web-based Injury Management and Benchmarking System <p>Meat processor events</p> <ul style="list-style-type: none"> • CMP purchase Waitotara plant near Wanganui from Richmond for \$11.5 million • Closure of Heartland Prime Meats' Cromwell meat processing plant • Strikes at PPCS's Finegand meat processing plant by wool-pullers • CMP plant at Marton for lamb processing established • Richmond convicted for two accidents that occurred at its Oringi meat processing plant • AFFCO purchases Dairy Meats
2005	<p>International and environmental events</p> <ul style="list-style-type: none"> • Mad Cow Disease detected in Canada • NZD exchange rate against the USD hits high • Free trade agreement with Thailand entered into force • Brazil reports cases of foot and mouth disease • Malaysian Meat Importers Association withdrew accreditation on NZ and Australian meat processors due to a lack of compliance with a new Malaysian halal standard • Japan lifts the ban on imports of US beef • High oil prices provide increased costs for the transportation of sheep and beef • Korea restricted New Zealand beef imports after its authorities detected endosulfan in a single NZ consignment of beef <p>Industry events</p> <ul style="list-style-type: none"> • Experienced NZ meat processing hands are sort after over in Australia after NZ lamb numbers drop away • Consolidation of unions to form the New Zealand Meatworkers' and Related Trades' Union (Meat and Related Trades' Workers' Union of Aotearoa and the New Zealand Meatworkers' and Related Trades' Union) • New DNA test (LoinMax test) officially launched by Ovita Ltd • Veterinarians Act 2005 introduced • Shortage of "slaughterer" skilled labour highlighted

	<p>Meat processor events</p> <ul style="list-style-type: none"> • Bernard Mathews (NZ) purchases holding in Lamb Packers Feilding Limited and in Progressive Gisborne Limited • ANZCO Foods' Waitara meat processing plant gets Court approval to go ahead with production • Strike at PPCS Finegand meat works • Fire at Otepunu Ave plant owned by Bowmont Meats • Closure of Riverlands abattoir by Master Butchers Marlborough • Closure of Riverlands meatworks by PPCS • Closure of Tirau meatworks by PPCS • Opening of South Pacific Meats Awarua meat processing plant • PPCS prosecuted for workplace injury at Richmond Takapau plant
2006	<p>International and environmental events</p> <ul style="list-style-type: none"> • Japan reinstates ban on the importation of US beef after finding an animal spine • Summer drier than average • Korea lifts its restrictions on NZ beef • Trans-Pacific Strategic Economic Partnership entered into force (between Chile, Singapore and Brunei) • European Union (EU) common agricultural policy payments have been decoupled from production • Australian drought severest for many years • Oil prices remain high • The OIA recognised New Zealand's official animal health status as being free of BSE • ACC lowered its employer levy rates <p>Industry events</p> <ul style="list-style-type: none"> • New Animal Status Declaration form introduced to allow for the recording of stock owners • Export lamb schedule fell sharply • High venison prices encouraging sheep farmers to switch to deer farming • 750 meat inspectors from Assure New Zealand initiate industrial action • Meat Board Amendment Act 2006 passed <p>Meat processor events</p> <ul style="list-style-type: none"> • Alliance's Pukeuri plant severely damaged by fire • ABCO' Oamaru meat processing plant goes into receivership • Integrated Foods purchases Hawkes Bay meat processing plant, Fresh Meats • Talley's increase holdings in AFFCO • Strike action by employees at Southmore Meat Processing Plant owned by Progressive enterprises

Appendix B – New Zealand’s Largest Meat Processors

Source: New Zealand Companies Office companies register

Below is an outline of the major New Zealand meat processors.

Processor	Ownership Structure	Company Holdings	Main Brands
Alliance Group Limited	Farmer owner cooperative	<ul style="list-style-type: none"> 100% Waitaki International Limited 37% New Zealand Lamb Company (North America) Limited 	Alliance, Ashley, Weida, Pure South
AFFCO Holdings Limited	Publicly listed company, with major shareholdings: <ul style="list-style-type: none"> 50.01% Talleys Fisheries Limited 23.46% Toocooya Nominees Limited 	<ul style="list-style-type: none"> Dairy Meats NZ Ltd Land Meat (NZ) Ltd 	AFFCO
ANZCO Foods Limited	Private company: <ul style="list-style-type: none"> 48% Itoham Foods Inc (Japanese), 25% Nippon Suisan Kaisha Limited (Japanese) 	<ul style="list-style-type: none"> ANZCO Foods Green Island Ltd Canterbury Meat Packers Ltd Crown Marketing Ltd Pacific Beef Limited Phoenix Meat Company Limited Rakaia River Meats Ltd Riverlands Ltd South Pacific Meats 	Canterbury Meat Packers, Crown, Riverlands, ANZCO, Five Star Beef, Angel Bay.
Blue Sky Meats Limited	Public unlisted company: <ul style="list-style-type: none"> 44% Held Company Other Shareholders 15% Lowe Corporation Limited 14% H. W. Richardson Group Limited 	<ul style="list-style-type: none"> Horizon Meats New Zealand Ltd 	Horizon
Bernard Mathews Limited	Private company: <ul style="list-style-type: none"> 100% Matthews B.V. Bernard (Amsterdam) 	<ul style="list-style-type: none"> Lamb Packers Feilding Ltd Progressive Gisborne Ltd 	Advanced Foods of New Zealand Limited
FJ Ramsey	Private company: <ul style="list-style-type: none"> 50% Francis John Ramsey 50% Lila Bernice Ramsey 	<ul style="list-style-type: none"> Crusader Meats New Zealand Ltd F J Ramsey (Paerata) Limited 	
PPCS Limited	Farmer owned cooperative	<ul style="list-style-type: none"> Copax Group Limited 31% New Zealand Lamb Company (North America) Limited Richmond Ltd Waitotara Meat Company Limited 	PPCS, CFM, Silver Fern, Mayfield, Windward, Mair, Richmond.
Wallace Corporation Limited	Private company: <ul style="list-style-type: none"> 43% James Hay Wallace, 27% Mary Dawn Bridson, 11% Trust 	<ul style="list-style-type: none"> Wallford Meats NZ Limited 	Wallace Meats

Appendix C – Examples of plant construction and upgrade costs

Source: selected articles from Newztext database

A selection of indicative processing plant upgrades and construction expenditures are displayed below. This expenditure is also indicative of the growth in processing capacity.

Year	Company	Plant	Cost (million)	Employees
1999-May	Alliance	Expansion of Mataura meat processing plant (beef)	6	
1999-Aug	Richmond	Upgrade Takapau meat processing plant	14	390
2000	Alliance	New sheep killing plant in Nelson		200
2001	PPCS	Improvements to Balclutha and Ashburton meat plants	15	
2001	Phoenix Meat Company	Upgrade of Kokiri meat processing plant (beef)	1	
2001-Aug	PPCS	New beef chain upgrade to Pareora plant	4.5	
2002	CMP	New plant at Marton (export plant) (sheep and lamb)	20	220
2002	Clover Exports	Expansion to River Road meat processing plant near Gore	0.5	12
2002	AFFCO	Expansion of Wairoa plant (beef, sheep and goat)	5	
2002	Alliance	Upgrade rendering operations at Smithfield	2	
2002-Aug	Alliance	Upgrade of Mataura plant	1	
2001-Aug	Allaince	New storage facilities at Pukeuri plant	0.5	
2002-Sep	AFFCO	Expansion of Imlay plant (beef, sheep and bobby calf)	11	
2002	Oceania Meat Processors	New plant at Timaru (processes leftover meat into peat food)	2	
2003-Jun	Richmond	Upgrade of Oringi plant (addition of boning room for sheep, lamb and goat)	9.8	
2003	Talleys Fisheries /AFFCO	South-Pacific Meats at the Awarua on the Invercargill-Bluff highway (sheep and lamb processing plant)	30	400
2003	PPCS	Upgrade and expansion of Silverstream plant (rendering facility)	2.2	100
2003	PPCS	Upgrade of Dargaville plant	1.8	
2004	PPCS	Upgrade to chilling and freezing systems at Pacific plant	4.8	
2005	Bowmont Meats	Rebuild of Otepunu Ave plant after fire	3.5	
2005	ANZCO	Upgrade of Waitara meat processing facility (beef processing plant)	22	60
2006-Feb	AFFCO	Upgrade plant at Horotiu (expansion of beef processing plant)	20	
2006-Aug	Alliance	Upgrade of Smithfield meat processing plant in Timaru	12.5	

Appendix D – Meat Industry Organisations

New Zealand Meat Board (NZMB):

- up until 2004 the NZMB administered the export quota system and the industry-good functions
- from 2004 onwards after the adoption of the Meat Board Act 2004 came into force, the export quota system remained under the administration of the NZMB but the industry-good functions passed over to a new entity named Meat and Wool New Zealand Limited
- its major functions is to allocate export quota and to administer industry reserves of around \$85 million with around \$55 million of that set aside for industry crises management (see www.nzmeatboard.org)

Meat and Wool New Zealand Limited (MWNZ):

- was formed in 2004 after the adoption of the Meat Board Act 2004
- this provides industry-good functions
- generally the role of this entity is on the side of the farmers and collects information that represents the interests of the farmers

Meat Industry Association (MIA):

- contains membership of the vast majority of New Zealand meat processors, and is a body that stands to advocate the interests of its members on issues that concern its membership, in particular marketing and operation excellence in an effort to enhance profitability (see www.mia.co.nz)

Appendix E – Investment in technology by PPCS

Source: PPCS annual reports and PPCS website (www.ppcs.co.nz)

Over recent years PPCS has been involved in a number of technological ventures contributing to the advancement of the meat industry.

Year	Event
2002	DNA-traceability – joint venture with Global Technologies (with the help of Foundation for Research Science and Technology funding) is developing a genetic system for rapidly tracing the origin of meat. Developing this DNA-traceability technology allows for confirmation of the origins of NZ meat and its status as non-GM. In addition, this venture Technologies begins developing equipment that can test, within minutes, whether genetically modified organisms, or diseases such as anthrax and foot and mouth disease are in food as it is processed (i.e. DNA fingerprints of food and the pathogens that can be found in food). They aim to produce definitive proof of food quality particularly in light of NZ's perceived clean green image and the outbreak of BSE and foot and mouth diseases.
2002	Plans to introduce Market Attributed Assessment Criteria to enhance the quality of market information. This criteria works by identifies market related attributes (tenderness, fat and muscle distribution, weight, yield and PH) that can be used to assess the characteristics that produce the best tasting and eating qualities. The market worth of cuts arising from an individual carcass is assess through photographic techniques, while the carcass is still whole. They installed automated MAAC technology at their Fairton plant on a trial basis (see annual reports). PPCS is trying to develop technology to pay farmers according to the yield of the various cuts of meat they supply, rather than the average gross carcass value. Imaging and computer processing would let the meat companies reward farmers who had sheep with the meat in the right places, working on a system with Lincoln University for the past two years.
2002	Quantum LEAP Project. <i>Phase one:</i> Previous ventures with Scott Technology included the introduction of a robotic system for boning lamb hindquarters (i.e. carry out a complicated task: removal of the pelvic bone from lamb carcasses) into PPCS' Silverstream lamb processing plant expansion. This arm duplicates the human arm and hand to bone out lamb cuts. PPCS retaining intellectual property rights to this technology for a period of 2 years is a key part to its strategy, with the aim to market/sell this technology internationally for additional/secondary income source.
Jan-2005	Quantum LEAP Project. <i>Phase two:</i> Joint venture (Robotic Technologies) between Scott Automation and PPCS attracted \$3 million of private and public funding to commercialise a robot to cut cleaned lamb carcasses into three pieces (forequarter, middle and hind) for further processing – strong focus on automation within the industry. <i>Phase three:</i> focuses on automating the production line between cutting and aitchbone removal (2005) <i>Phase four:</i> installation of robotic operation overseas (2006)

Status of patents filed by Robotic Technologies Limited and Global Technologies (NZ) Ltd:

Global Technologies (NZ) Ltd (patent title, status of application)

- “Improvements relating to sample processing”, abandoned by application/owner;
- “Method of sample processing and apparatus therefore”, voided pre-acceptance
- “Sampling device”, voided pre-acceptance;
- “Method of sample analysis and apparatus therefore”, abandoned by applicant/owner;
- “Method and apparatus for mixing sample and reagent in a suspension fluid”, examination; and
- “Sampling device”, filed.

Robotic Technologies Limited

- “X-ray imaging of animal carcass to determine cutting path”, filed;
- “Animal carcass cutter”, examination; and
- “Animal carcass leg removal method and apparatus”, granted and sealed.

Appendix F – Export Quota and Tariff Rates

Source: Meat and Wool New Zealand, and the New Zealand Meat Board

The European Union and the United States

Below are the main export quotas and tariff rates for the EU and the US.

European Union		
	Beef and veal	Sheepmeat and goatmeat
<i>Quota</i>	<ul style="list-style-type: none"> Frozen beef: 53,000 tonnes Processed beef: 50,700 tonnes High quality beef: 1,300 tonnes (product weight) 	227,854 tonnes (carcass weight equivalent)
<i>Tariff</i>	<ul style="list-style-type: none"> In-Quota: 20% ad valorem duty Out-of-Quota: 12.8% + 141.4 – 304.1* 	<ul style="list-style-type: none"> In-Quota: zero duty Out-of-Quota: 12.8% + 90.2 – 311.8*

* These tariff rates are Euros per 100kg/net where the range of tariff rates represents different tariff rates for different products.

United States		
	Beef and Veal	Sheepmeat and goatmeat
<i>Quota</i>	213,402 tonnes (product weight)	Unrestricted
<i>Tariff</i>	<ul style="list-style-type: none"> In-Quota: US4.4 cents per kg on most beef products Out-of-Quota: 26.4% 	<ul style="list-style-type: none"> Mutton: US 2.8 cents per kg Lamb: US0.7 cents per kg

Other meat export destinations

	Beef and Veal	Sheepmeat and goatmeat
Japan		
<i>Quota</i>	Unrestricted	Unrestricted
<i>Tariff</i>	Bounded at 50%, applied at 38.5%	No tariff
Korea		
<i>Quota</i>	Unrestricted	Unrestricted
<i>Tariff</i>	Bounded at 40%	Bounded at 22.5%
Taiwan		
<i>Quota</i>	Unrestricted	Unrestricted
<i>Tariff</i>	Bounded at 10 NTD per kg	Max of 15% or 11.3 NTD per kg
Canada		
<i>Quota</i>	27,600 tonnes	Unrestricted
<i>Tariff</i>	In quota: CAD 4.4 cents per kg Out-of-Quota: 26.5%	No tariff