POST-DEREGULATION FARM MANAGEMENT ADJUSTMENT STRATEGIES IN NEW ZEALAND

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ABSTRACT

Economic deregulation in New Zealand has forced farmers to adjust their management in order to survive without Government support in the globally competitive agrifood and fibre industry. In addition to managing a greater exposure to risk, farmers must now also obtain and interpret information about markets and new technology without the aid of a state-funded extension service, and be prepared to modify their production system and land-use according to international market signals. In this paper, aspects of the new economic environment for farming in New Zealand are described and some of the ways that farmers have adjusted their management to remain financially viable are presented. While the adjustment period has not been easy, farmers have benefited from increased efficiency in the finance, processing and transport sectors, and as a consequence, few wish to return to a highly regulated and subsidised economy.

INTRODUCTION

New Zealand continues to be heavily dependent on agricultural production for its prosperity. Although the contribution of agriculture to the economy has declined over the past 20 years to about 6% of GDP, agricultural products still earned 49% of export income in 1995/96 (NZMWBES 1997a). World prices for agricultural products are therefore important to the nation's economy as well the profitability of individual farm businesses.

Equally important are the internal costs and efficiency of production and processing relative to those of competitors in international markets; long-term export competitiveness was a fundamental issue addressed by the 1984 Labour Government in its economic reforms. Prior to 1984, New Zealand agriculture was heavily regulated, licensed and subsidised. Government support for pastoral farms peaked in 1983 at 34% Producer Subsidy Equivalents; by 1992 this had reduced to 3% (Walker & Bell, 1994). This change, and other macro-economic adjustments, which are well-documented elsewhere (Tyler & Lattimore, 1990; Walker & Bell, 1984; Meijer, 1996), impacted directly on the

management practices and investment behaviour of farmers, as described in the remainder of this paper.

LAND-USE AND ENTERPRISE CHANGE

The removal of price supports to agriculture and greater exposure to international prices quickly changed the relative profitability of the various pastoral enterprises (Brazendale & Parker, 1993) and had an immediate effect on both land values and the enterprise mix adopted. The most significant change, as could be expected from the level of subsidies to sheep farmers, was in the number of sheep farmed. A 28% drop in the national sheep flock over the 10 years post-deregulation for hill country farmers was offset only in part by a 12% increase in beef cattle and a 268% increase in deer as illustrated in Table 1.

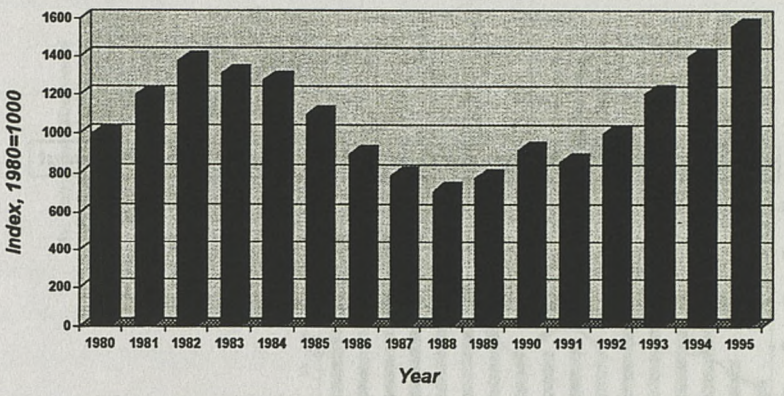
Table 1 Changes in the number of sheep, beef cattle, dairy cattle and deer farmed in New Zealand in 1985 and 1995.

Livestock type	1985 (m)	1995 (m)	change %
Sheep	67.8	48.8	- 28%
Beef cattle	4.6	5.2	+ 12%
Dairy cattle	3.3	4.1	+ 24%
Deer	0.6	1.2	+ 268%
Sheep & beef s.u.	85.1	69.9	- 18%
Total s.u.	107.0	98.3	- 8%

(Source: NZMWBES, 1997a)

Changes in land use, particularly to forestry and dairying, account for two thirds of the reduction in sheep and beef cattle stock units (NZMWBES, 1995). The changes in land-use are a reflection of how the economic environment can quickly modify farm production and investment patterns. The demand for land for these enterprises has underpinned the improvement in land values shown in Figure 1.

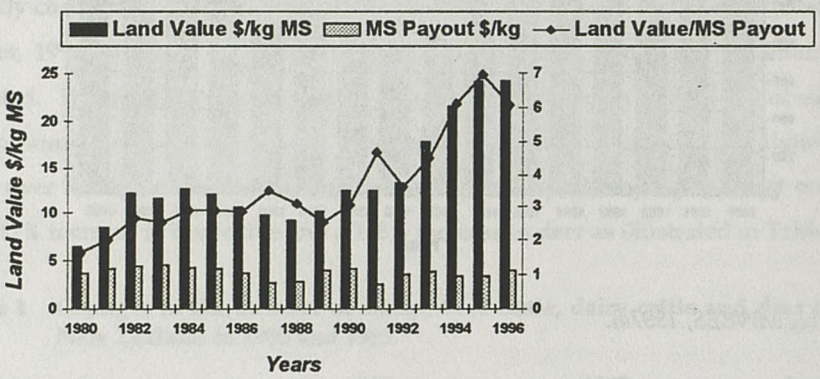
Figure 1 Real Farmland Prices in NewZealand, 1980-1995



(Source: NZMWBES, 1997a).

By late 1995, land prices were "out-of-line" with returns for both dairy, as illustrated by the Land Value/Milksolid Payout factor in Figure 2, and sheep and beef farms. A downward correction in land values was being experienced by late 1996 (Wilson K., 1996) as the market sought to reduce the income/value ratio. The strong demand for rural land fuelled by a confidence in both dairy and forestry had created a disproportionate growth in asset values, not matched by the growth in income. Wilson K.(1996) suggests this situation if not redressed will lead to pressure on farm businesses driving changes in size of units, in land use and in the social structure of the communities.

Figure 2 Real Dairyland Sale Values and Milksolid Payouts to dairy farmers, 1980-1996



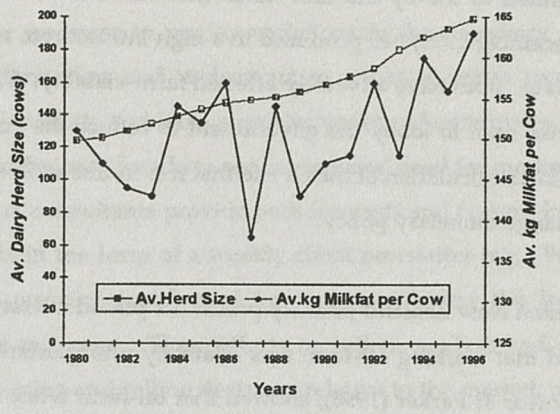
(Source: LIC 1997).

PRODUCTIVITY

Lower stocking rates and improved livestock performance, despite a general reduction in key inputs such as fertiliser, have helped the majority of sheep and cattle farmers to remain viable over the past decade. For example, although the national sheep flock in 1995 was the same size as in 1960, 25% more lambs were slaughtered for export (NZMWBES, 1996a). In addition, lamb and cattle slaughter weights were 7 and 8% greater, respectively, in 1995/96 than a decade earlier.

In both the sheep and beef and the dairy industries efficiencies have been obtained through economies of scale (particularly labour costs). Sheep and beef cattle farms have increased in size from 237 hectares in 1970 to 375 hectares in 1996 (Wilson K.,1996). Dairy farms have increased herd size and, to a lesser extent, productivity per cow hasoccurred (Figure 3). In 1980/81, 1.5% had 300 or more cows; by 1995/96, this had increased to 14.3% (LIC 1997). The trend toward larger farms is increasingly separating ownership/management from labour, and in the dairy (and pipfruit) sectors shortages of skilled, and the ability to retain, high quality staff are emerging as problems.

Figure 3 : Dairy Herd Size and Productivity Statistics, 1980-1996



(Source: LIC ,1997).

Farmers have confidence in the processing and marketing performance of the vertically integrated dairy industry, but reform of the meat and wool industries has, from the view point of farmers, been too slow. Nevertheless, improvements have occurred in the meat processing sector through refurbishment of plant, new entrants and closures (for example, the number of lamb killing chains has reduced by 41% since 1984), but the on-farm benefits of these changes have been masked by factors such as low offshore prices for meat and wool, and a strengthening exchange rate (NZMWBES 1996). Nevertheless, for the same trade weighted (FOB) price in 1994/95 for a 14.0 kg carcass weight lamb as in 1991/92 the per head schedule payments to farmers were $6 more in 1994/95. This is the tangible result of competitive restructuring and plant closures in the meat industry.

While the dairy industry has a positive image in the farming community, a 1994 strategic analysis of the dairy sector suggested further efficiencies could return an additional $26,000 to each dairy farmer. This is expected to precipitate rationalisation of the number of dairy companies from 15 (in 1996) to perhaps three (or fewer) large companies (plus a few small 'niche' companies) within the next decade.

GREATER INTERDEPENDENCE WITH THE ECONOMY

Farming is no longer treated as a special case within the New Zealand economy, even where adverse events significantly impact on agricultural production (Walker & Parker

1996). This can also be illustrated in terms of Government macro-policy where the focus of monetary policy by the Reserve Bank on price stability and achieving 0 to 2% underlying inflation (expanded to 3% by the first MMP (Mixed Member Proportional) coalition government in December 1996) has produced in a high interest rate regimen and a strengthening exchange rate. Both have adversely affected farm viability. The response of farmer representatives has been to lobby the government to reduce the emphasis put on the non-tradable sector in its calculation of the CPI so that it is in line with other OECD countries, rather than to change monetary policy.

While Martin (1994) suggested New Zealand primary producers placed a strong emphasis on on-farm investment and that working off-farm was relatively unimportant, Rhodes & Journeaux (1995) and Rauniyar & Parker (1996), showed that off-farm work is becoming both more common and important for all farm types, and especially for smaller farms. Thus, Rauniyar & Parker (1996) found the mean off-farm income was $28,652, $33,762 and $54,321 per year for dairy; sheep, cattle and deer farms with more than 500 su; and small farms with 50-500 su, respectively. At least one household member was employed off-farm on 39% of the dairy farms, 54% of the >500 s.u. properties and 85% of the units with 50-500 s.u. Involvement in off-farm investment ranged from 37% of the dairy farmer to 70% of the arable farmer respondents in the Rhodes & Journeaux (1995) study.

MANAGING GREATER UNCERTAINTY

The deregulated market-led economy means farm management must account for the uncertainty in the market place and exchange rate, as well as the physical environment. Risk management options used to alleviate risk include diversification of enterprises, contracting product supply, reducing debt and building a financial buffer. Brazendale and Parker (1993) interviewed farmers both before and 8 years after the 1984 economic restructuring. The main short-term response of the case study farmers to reduced farm incomes was to utilise cash and capital reserves, and reduce farm inputs. Thus, capital reserves such as soil fertility, livestock and wool reserves were reduced to fund cash deficits. Fertiliser, labour and repairs and maintenance were also significantly reduced over the review period in order to maintain cash surpluses, particularly when interest rates increased to around 20% in 1987-88. Long-term responses of some of the farmers included increasing the earning capacity of the farm and reducing debt by selling off assets (e.g. a second house on the farm with a small block of land). Feeding priorities for

livestock were shifted from less to more profitable enterprises which also became a greater proportion of the total livestock on the farm (i.e. cattle substituted for sheep).

The farmer response to market variations in the non-dairy sector has been to monitor market information and endeavour to enhance prices received, spread sales over a number of markets and have a greater variety of enterprises. A number of groups have emerged in the past decade to service farmers' need for market information. For example, several farm consultants provide both forecasts and current information on cost and price movements in the form of a weekly client newsletter (e.g. Wilson, 1996). In addition, a small but growing number of farmers now access the Internet for their own price forecasting purposes. These efforts to gather, analyse and interpret price data seek to optimise buying and selling decisions relative to the market, rather than solely in terms of the physical circumstances on the farm.

ENVIRONMENTAL PROTECTION

In addition to the post-1984 changes in economic policy, farmers have had to respond to new legislation to protect the environment. In particular, the all-encompassing Resource Management Act (RMA), introduced in 1991, seeks to ensure the sustainability of natural resources for future generations. This legislation directly affects farmers who use about two thirds of New Zealand's land area (Ensor, 1995). The RMA is not prescriptive and encourages natural resource-users to take ownership of the issues and manage their farming (or other business) operations in a manner that eliminates or minimises its effects on land, waterways and other natural resources. The requirements and standards to which farmers and other natural resource users must comply, are set by the regional councils through a process of extensive public consultation. The immediate effect, other than increased monitoring of water quality, on many farmers has been small, but where farmers have wanted to pursue further development of their land, or to alter their farming enterprise (e.g. add irrigation) compliance costs have often been very high. Farmer views on farm business sustainability as identified in a survey by Rauniyar and Parker (1996) included a conflict between environmental and financial management, concern about the ability of the RMA to improve farm profitability, and the imperative for changes in the management of physical resources to be profitable.

FOOD SAFETY AND QUALITY

The removal of tariffs and 'freer' market access is good for New Zealand farmers, but increasingly they face other forms of trade barriers, especially in relation to food safety and quality. A number of New Zealand processors have adopted ISO standards and others a TQM approach, but it seems unlikely that ISO will need to be adopted at the farm level. However, processors, in response to consumer demand, are putting pressure on farmers to develop quality management systems. For example, Wattie Frozen Foods, a subsidiary of Heinz Ltd, a large exporter of vegetables including organic crops, requires farmers to furnish it with details of their crop spray programmes before they will accept the product or pay a premium for it (Garrett 1995). The deer industry that serves high value niche markets overseas with it's Cervena™ product strongly encourages deer farmers to adopt a quality management system which covers on-farm facilities, animal health, welfare and production practices, and the stock and station firm, Wrightson, has implemented an on-farm "Woolcare" system for wool.

It is not yet universally acknowledged by farmers that quality systems are designed not necessarily to gain a price premium, but to preserve market access and price. The need to document on-farm practices for quality assurance and to meet more stringent quality standards (e.g. lowering of somatic cell counts in milk) increase compliance costs for farmers (through time and/or materials), and this is a concern to those whose margins are already "tight". Further, on-farm recording systems need to be modernised in most cases; the traditional farm diary does not provide sufficient detail or reliability to meet requirements.

NEW INFORMATION FLOWS

The restructuring of agriculture included the privatisation of extension services (Walker & Bell, 1994). This was completed in 1992 but its full effect on farmers are yet to be seen because of the lag-effects of earlier Government investment. Farmers now receive an increased volume of information, compared to a decade ago, in the form of both free and subscription newspapers, industry and market newsheets, suppliers advertising and information supplied by their professional advisers. A 1994 survey of sheep farmers indicated that they read material related to their farming systems for about 30 minutes a day; half of the respondents deemed that this was insufficient (Mendez-Lemus et al., 1995). The lack of time to keep up-to-date where the ability to hire labour or professional advice is restricted by low profitability (i.e. sheep and beef cattle, but increasingly in

dairying) is an emerging problem for small-medium sized farms. New ways to get information, particularly on market trends and sustainable production-enhancing technologies, to farmers needs to be developed.

FINANCIAL MANAGEMENT AND COMPUTER TECHNOLOGY

The financial skills of many farmers were challenged by the introduction of the Goods and Services Tax in 1986. This required a greater degree of regular accounting for some farmers and increased both accountancy and compliance costs for those not able to perform the tasks. As a result of GST, many farmers adopted a formal process for financial management and this made them more aware of their cash situation and enabled them to react more rapidly to changing circumstances. Nuthall & Bishop-Hurley (1994) found that farmers who had adopted formal and regular financial management had also sharpened their decision-making in all areas of the business. Four of the five farmers in the Brazendale & Parker (1993) case studies adopted computerised financial management after the introduction of GST.

The development of electronic banking services is particularly useful for farmers remote from business centres and their use will grow as banks further rationalise to reduce the number of branches, primarily in rural towns. Financial management, as well as the requirement to comply to further edicts, meet quality assurance recording standards and access market information will "force" farmers to use computers more extensively than at present.

CURRENT SITUATION

Rauniyar & Parker (1996) obtained an assessment of recent (1991-1996) farm business management in a national survey (Table 2). Sheep and cattle farmers, in particular, are continuing to struggle with low product returns and this is manifested in their dissatisfaction with current marketing arrangements. Thus, the industry areas in which farmers would like to see change were primarily concerned with marketing. This probably reflects the very low beef prices of 1996 and poor wool returns, but interestingly dairy farmers also indicated concerns in these areas.

Table 2: Farm financial conditions satisfaction with current marketing arrangements and areas in which industry change is required according to a 1996 national survey of farmers (% respondents).

Indicator	Farm Type				Overall	Chi-square statistics (d.f.)
	Dairy	Sheep, beef, deer su>500	Sheep, beef, deer su>50-500	Hobby su<50		
Over the past 5 years farmers have been able to maintain their property	n=69 70	n=74 57	n=82 72	n=76 75	n=301 68	6.7 (3) *
Farmers had to reschedule their financial obligations during the past 5 years	n=65 51	n=74 58	n=75 40	n=75 51	n=289 50	5.0 (3) NS
Farmers have been able to repay their mortgage on time	n=65 98	n=67 82	n=69 94	n=67 94	n=268 90	7.2 (3) *
Farmers are satisfied with current marketing arrangements	n=69 68	n=73 26	n=80 41	n=67 58	n=289 48	29.6 (3) ***
Areas of change	n=22	n=48	n=38	n=18	n=126	
A. Pricing structure	36	38	47	22	38	13.6 (9) NS
B. Market organisation	36	38	34	28	35	
C. Market promotion	9	17	18	39	19	
D. Market info/research	18	8	-	11	8	
Chi-square						

(Source: Parker & Rauniyar, 1996).

*Note: ***,**,* refers to statistical significance at the 1,5 and 10% level based on the chi square statistic testing the independence between farmers views (agree, neutral, disagree) and type of farm (dairy, commercial sheep-beef-deer, smaller livestock units and hobby farms)*

Although NZMWBES data show an improvement in mean net worth from 69% in 85/86 to 85% in 94/95 and a reduction in interest as a percentage of Gross Farm Income from 20% to 11% in the same time frame (NZMWBES,1987 & 1997b) most (> 70%) respondents from the larger sheep and cattle properties and dairy farms in the survey by Rauniyar & Parker (1996) indicated that they would retire debt, if their income improved by 10%. Only 2% of the sheep and cattle farmers would invest in farm development and maintenance, suggesting a perception of poor returns to this expenditure relative to the other options such as off-farm investment and expansion of the farm business.

The future outlook of farmers, plans for intergenerational transfer, and participation in saving for retirement on different types of farms is summarised in Table 3. About one third of the dairy farmers and those on smaller units expect to be on a different property by 2006, few, except dairy farmers, expect to hire labour, and the majority (ca. 90% or more) expect to be still farming. About one third are planning to transfer the farm to their children. Savings for retirement were relatively low (19-35% of respondents).

Table 3: Expectations of farmers about their farming status in 10 years time (1996).

Characteristics	Farm type			Chi-square Statistics (d.f.)
	Dairy	Sheep, beef, deer larger units su > 500	Sheep, beef, deer smaller units su > 50-500	
Farmer expectations	**n=69**	**n=72**	**n=82**	
Farming as they are now	26	55	41	15.8 (3) ***
On the same farm, but changed enterprise	4	11	12	4.9 (3) NS
On a different farm	35	18	30	10.9 (3) **
Employing somebody to run the farm	32	7	2	40.0 (3) ***
No longer involved in farming	1	12	10	6.1 (3) *
Retired	20	22	21	1.2 (3) NS
Farmers with children planning to pass their farm on to them	**n=64**	**n=70**	**n=77**	
Yes	34	26	42	
Uncertain	45	46	39	9.7 (6) NS
Farmers saving part of their income each year for retirement	35	33	19	28

(Source: Rauniyar & Parker, 1996).

SUMMARY

Farmers, in general, do not wish to return to a highly regulated economy (Robinson 1995). They have been through the pain of adjusting to a new market-led economy and they now see that other industries, such as the financial, servicing, processing and transport sectors have become more efficient to their benefit. They are, however, concerned that the

monetary policy to control inflation is preventing a lowering of interest rates and contributing to an appreciation in the New Zealand dollar relative to the US dollar, which is more rapid than they, or processors, can compensate for through increases in efficiency. Political uncertainty associated with the introduction of mixed member proportional (MMP) representation has exacerbated this situation.

As farmers respond to international market signals, they demand more market information and a number of organisations are now providing this. However, better forecasting of market demand and prices is required. Farmers have increased their business management efficiency, changed their mix of enterprises and adopted improved risk management practices including diversification and a more flexible farm management approach to allow them to take advantage of market opportunities. They have also absorbed, sometimes at a high personal and family cost, the stress associated with rapid change and financial hardship. They have pushed very hard for reforms in the rest of the economy recognising that to regain farm profitability about 75% of the potential gains need to be made beyond the farm gate. Further reform to these sectors is required.

New Zealand farmers continue to grapple with the uncertainties of the world markets and the expectations being placed on them by consumers and the wider community. They need to become even smarter in their interpretation of market signals and to develop stronger business management skills. These improvements have and will ensure they are soundly positioned to competitively manage their farm businesses through the volatility of an international free market economy.

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