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**THE MARKET FOR NEW ZEALAND DAIRY FARMS
FOLLOWING THE FORMATION OF FONTERRA
COOPERATIVE GROUP**

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Introduction

Rapid rationalisation of the New Zealand Dairy Industry has occurred in recent years with twelve separate dairy company mergers since 1995, culminating in the mega merger to form Fonterra Cooperative Group in 2001. The possibility of deregulation was the driving factor behind the mergers throughout the 1990s as the two major companies in the industry (New Zealand Co-op Dairy Ltd (NZCD) and Kiwi Co-op Dairies Ltd (Kiwi)) worked to gain a majority share of the New Zealand Dairy Board. The battle between these two is now over; Fonterra has been formed with the support of Government and dairy farmers and New Zealand has a deregulated dairy industry with a monopsonist company manufacturing and marketing the bulk of exported dairy products.

While dairy companies were fighting for scale they were also restructuring their business to more accurately reflect the value of off-farm assets. The value of dairy farmers' shareholding has increased and now comprises a significant proportion of the assets of a dairy farm. Under the fair value entry and exit established for Fonterra the value of shareholding is likely to continue to increase if Fonterra performs according to its stated projections.

In this paper I present background information on the capital structure of Fonterra. I then give an historical overview of the market for dairy farms and dairy farm assets and provide projections for the future of the market under Fonterra's capital structure.

The Structure of Fonterra

Fonterra has a cooperative structure with 100 percent dairy farmer ownership. There is no payment or shareholding differentiation between the commodity, quota and high value product, and the marketing of value added product is retained within the cooperative structure.

The equity of the company comprises retained earnings, shares and minority shareholders in subsidiaries. Peak notes, capital notes and other debts finance the debt. Dairy farmers who are supplying shareholders to Fonterra are required to hold shares and peak notes in proportion to milksolids production and seasonal milk flow.

Shares

The share standard for Fonterra is one share for each kilogram of milksolids supplied to the company in that season. The value of shares is determined annually by independent valuation of the company. Discounted cash flow methodology is most likely to be applied with projected free cash flow¹ discounted at the weighted average cost of capital. This is to be an independent process critical to the efficient operation of the cooperative. Fonterra will announce an estimated fair value range for the following dairy season on December 15 each year and the final value will be set between 15 May and 1 June. The fair value for shares for the 2000/2001 season was set at \$3 per share and this value also applied in the 2001/2002 season. The estimated fair value for 2002/2003 is \$3.85 per share.

¹ Total post tax cash flow (EBITDA less taxation, change in working capital, and capital expenditure)

As farmers increase production they will be required to purchase additional shares at the fair value for the season in which increased production occurred. If a farmer holds more shares than are required in any season they have the option of surrendering excess shares or taking a supply redemption right. Payment for the surrender of shares is most likely to be in capital notes. Supply redemption rights may be exchanged for fair value shares as required (at no cost) or surrendered at any time. Supply redemption rights can only be transferred on sale of the property. Subject to certain restrictions shares may be transferred.

Shareholders will need to consider carefully the choice between resuming and retaining surplus shareholding. If they are likely to increase production in subsequent seasons and the value of Fonterra is increasing then retaining shares will be the best option. However if they are scaling down their operation they are best to resume the shares, as the value of supply redemption rights will not change over time.

Peak Notes

The value of peak notes, and the justification for introducing them, relates to the incremental cost of processing each new litre of milk. Farmers are required to hold peak notes in proportion to litres supplied during the highest consecutive ten days of supply. The notes will cost \$30 (approximately equates to \$1/kgms) until the end of the 2003/2004 season. As with shares, excess peak notes can be either held or redeemed. Redemption and surrender price is the same as issue price (currently \$30/note) as the notes are considered to be a debt. Payment for the surrender of peak notes is most likely to be in capital notes. Peak notes can be transferred to other shareholders.

Capital Notes

Capital notes will pay interest, quarterly in arrears, at a margin (currently 1.7%) above the Government Stock Rate. It is intended that they will be traded on the New Zealand Stock Exchange. When issuing capital notes to shareholders Fonterra will determine value with reference to the volume weighted average sale price of the notes on the stock exchange. In unusual circumstances the Fonterra Board can determine fair value.

Capital notes will rank ahead of peak notes, supply redemption rights, redeemable preference shares, cooperative shares and obligations to shareholders (once payments over \$3/kgms have been met).

The \$200 million Capital Notes offer of November 2001 was fully allocated. The notes had an initial minimum interest rate of 7% with the 1.7% margin applying after 10 July 2002.

Resumption Value versus Cost of Shares

Under Fonterra's constitution the cost of shares for new entrants and the resumption price for those exiting the industry are the same. Under previous shareholding structures, in years when the share standard changed, there was a difference between resumption value for an exiting supplier and cost for a new supplier. This created some confusion in assessing a fair

price for the sale or purchase of shares. The most appropriate method of valuation for these periods was to discount the cost of share purchase for the time period from the start of the new season until the company required payment.

This was not an issue in the transition from the 2000/2001 season to the 2001/2002 season. Farmers who ceased supply at the end of the 2000/2001 season had the option of converting their Kiwi or NZCD shareholding to Fonterra shares, supply redemption rights and peak notes and then resuming these according to the Fonterra constitution. Alternatively they could resume their Kiwi or NZCD shareholding at the 2000/2001 share standard (an equivalent of \$2 per kgms for Kiwi).

The Value of Dairy Farm Assets

The changing structure of the dairy industry will affect the value of dairy farm land and the way valuers approach the valuation of dairy farms. As shareholding alters to reflect the value of off-farm assets those in the market will need to give careful and separate consideration to the land, improvements and shareholding that they are buying or selling.

From an investment perspective farm values should represent the present value of future income streams. The future income from a dairy farm comes from the annual cash flow and from changes in asset value over time. Wide ranges of factors influence this future income stream. Property features that affect productivity (soil type and fertility, cover, local climate, level of structural improvements) will impact on the annual cash flow. External economic factors such as product price and demand for alternative land use will influence changes in property value and the present value of future dairy earnings, as assessed under the fair value proposal, will determine changes in shareholding value. The combination of physical and economic characteristics will determine the highest and best use to which that land can be put and shape the market perception of value.

Figure 1 shows dairy farm prices², dairy payout³ and shareholding value from 1983 to 2003⁴. This graph illustrates the cyclical nature of the industry and shows that land prices tend to closely follow changes (both actual and anticipated) in payout levels. The ratio of sale price to payout shows the years in which the greatest gains from farm purchase have been made (1989, 1992 and 2001). The value of shareholding has increased markedly since 1998 and is now a significant portion of the value of the farm asset.

² National average net sale price sourced from Quotable Value Rural Property Sales Statistics

³ New Zealand weighted average

⁴ Estimated figures for 2002 and 2003

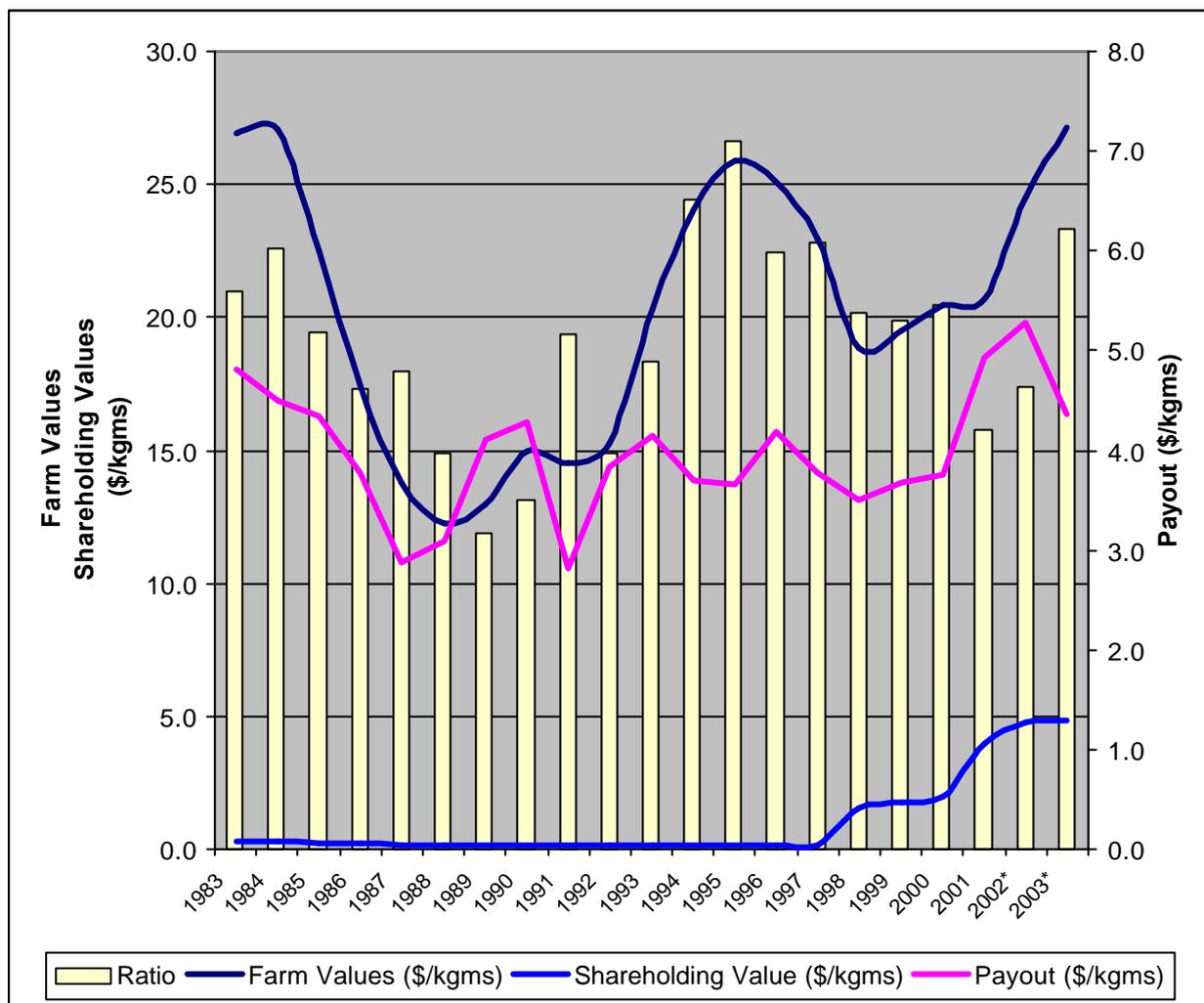


Figure 1. Payout, farm and shareholding values (real terms - 2000 dollars)
 * Indicates estimated figures in 2002 and 2003

The influence of income earning potential and potential for capital gain have varied in impact on farm value over time. In the early 1990s values were influenced by an expectation of capital gain. Farm purchasers expected the national economy to improve and reacted to the age-old belief that “what is dear today is cheap tomorrow”. There were also expectations for higher farm incomes as a result of the GATT agreement, lower interest rates, continuing low inflation and stable Government. During the period 1991 to 1995 farm values increased strongly.

McDermott (1995) noted that changes in farm values in the early 1990s did not reflect farm incomes. He stated that prices of \$25,000 per hectare for dairy farm land in the Taranaki were not sustainable given predicted returns. At that time, given that farmers were returning less than 5% on their invested capital and that they generally required greater than 70% equity to service the debt, his conclusion was that dairy land was overpriced. The relatively sudden rise in farmland values was unsupported by rising incomes.

Dairy farm land values started to fall from 1996 with a decline in payout, an increase in the cost of dairy company shareholding and an increase in interest rates (Rauniyar et al, 1998). This trend was reversed in 1999 and throughout 2001 we saw a lift in confidence amongst dairy farmers. This was due to a number of factors including improved commodity markets, higher payout levels, lower interest rates, a continuing low New Zealand exchange rate and perhaps an anticipation of Fonterra bringing future benefits. As in previous periods of buoyancy, prices paid for dairy farms increased rapidly. In November 2001 Murray Cleland, the rural spokesperson for the Real Estate Institute of New Zealand, noted that the volume and price of dairy farm sales was much higher in 2001 compared with levels in 2000.

Implications of Fonterra for Dairy Farm Assets

The main difference that Fonterra will have on the market for dairy farm property is the effect of fair value shareholding on entry into and exit from the industry. The value of shareholding, determined annually and based on predicted future industry returns, should send a more balanced signal to dairy farmers about asset values and return on investment. It will be critical for Fonterra to set payout and shareholding price at levels that give the desired balance between entry and exit. In the first year of operation the value of a Fonterra share was \$3 per kgms. The merger proposal document stated that this share value was determined at fair value in accordance with the constitution. The business case for Fonterra assumed the initial fair value of Fonterra net assets to be \$5.50 per kgms, with net assets being represented by the sum of share and peak note value. If the value of Fonterra increases as predicted, share values should increase and it is possible that shares will soon be worth \$4 to \$6 per kgms, a value more in line with the business case assumption.

As changes occur, the makeup of the bundle of dairy farm assets changes. Figure 2 illustrates how the bundle of assets has changed from 1999 to 2001 and suggests possibilities for future years. Upon the formation of Fonterra, shares and peak notes accounted for approximately 20% of the value of farm assets. Models presented by the dairy industry show the bundle increasing in value in much the same way as illustrated below for 2002 and 2003. However the market is cyclical and downturns are inevitable. The graph proposes a decrease in value of the total farm bundle in 2004, similar to that which occurred in the late 1980s and again in the late 1990s. The fair value of shares should be responsive to a decrease in payout but if it is not equity in land will quickly be eroded. In this scenario we may see large regional differences in the value of dairy farm land depending on profitability of alternative land uses. In areas where competing uses underpin land value at a high level it could be attractive for dairy farm owners to cash up their interest in Fonterra and move to an alternative land use.

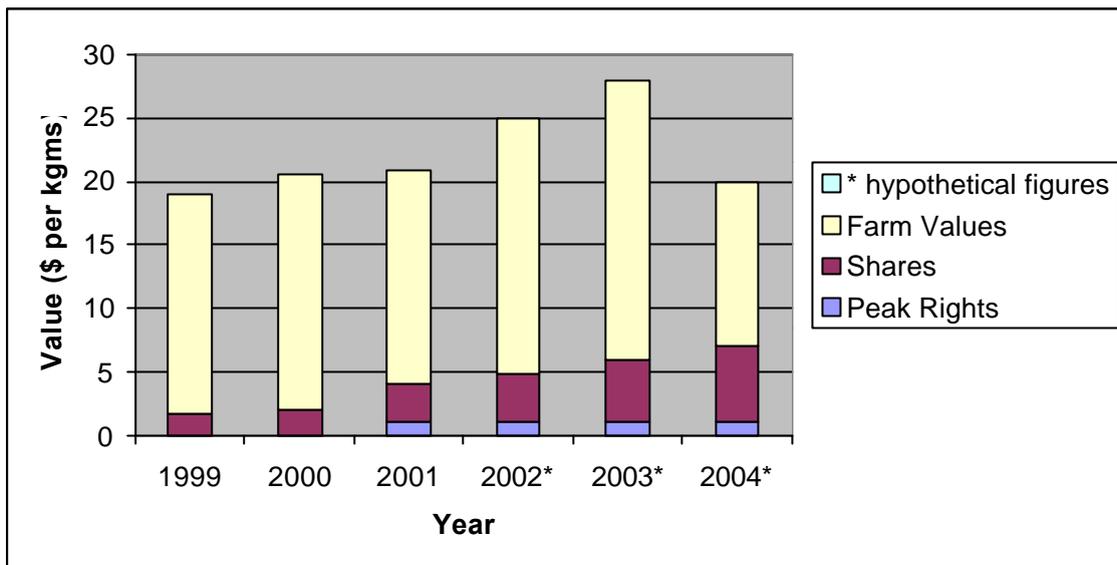


Figure 2. The changing bundle of dairy farm assets

In the current buoyant dairying market we are seeing a reduction in regional differences following the formation of Fonterra. Throughout the 1990s prices paid for dairy farms in the South Island were considerably lower than prices paid in the traditional dairying areas of the North Island. However the South Island now offers the opportunity for large scale farming with a payout that is currently equivalent. There has been a noticeable increase in prices paid for South Island dairy farms in 2000/2001 as illustrated in Figure 3.

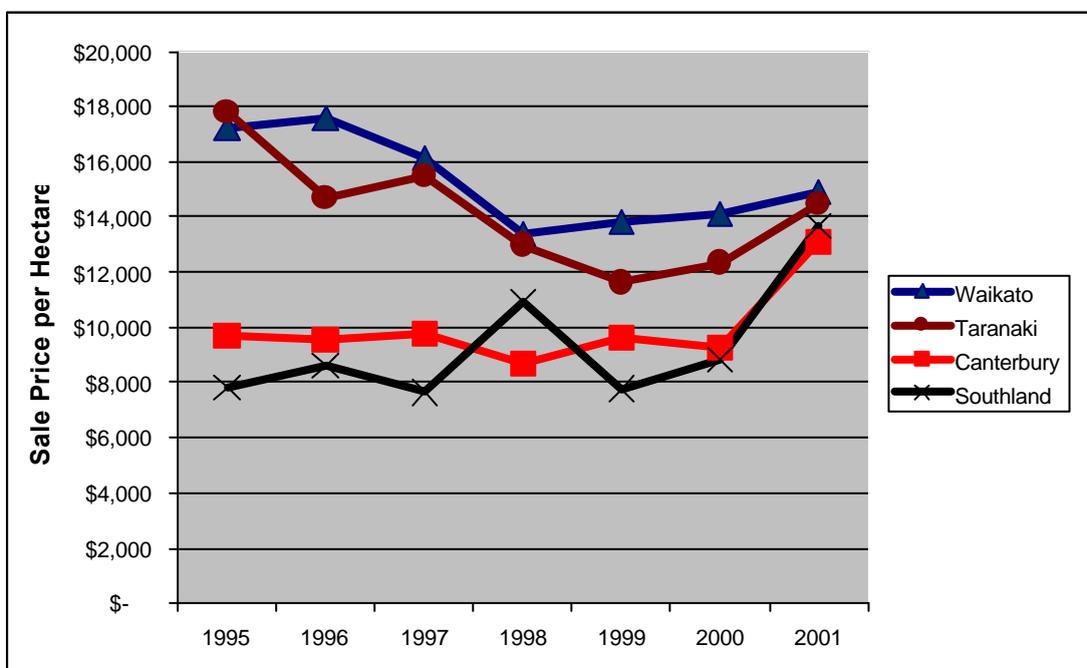


Figure 3. Regional sale prices of dairy land

The cost, value and requirements for peak notes also has farm asset value implications. Peak notes currently account for approximately 25% of the value of a shareholder's holding in Fonterra with requirements varying according to the farm's supply curve. The difference between number of peak notes held by a high peak as opposed to a low peak supplier may equate to as much as 50 cents per kgms. Farmers with a more pronounced peak production period will need to have a higher percentage of peak notes. In the first instance this will benefit those with the higher peak, as they will hold greater value in peak notes issued. A new supplier will be advantaged by low peak supply with a lower capital cost of entry. The bulk of new supply is now coming from the South Island where production curves tend to be flat. The relevance of peak notes is questionable and perhaps the value of non-peak milk should be recognised by a differential payment.

With a deregulated industry it will be possible, although probably difficult, for other milk processors to enter the market for milk supply. It is possible that there will be a differential pricing system in place in the future to combat competition for supply. This may also extend to differential payments to allow for transport costs and variation in supply curve. This could impact on farm values with values decreasing in the more distant localities, or those localities that do not have an optimum supply pattern and increasing in areas of intensive dairy development.

The unbundling of dairy farm assets has had an impact on lending security available to banks; initially banks were not prepared to take security over shares. This has been addressed by the BNZ who are now prepared to take 100% security over shares, peak notes and supply redemption rights. Loan repayments are to be deducted from the monthly milk cheque.

Conclusion

Dairy farmers are hopeful that they will see the benefits projected by the business case for Fonterra. If the new company is successful in achieving cost savings and growth this should be reflected in the value of dairy farm assets. The capital structure of Fonterra should ensure that the value of off-farm assets is not capitalised into land value but is instead reflected in the fair value of shares. Over time we may see land and buildings becoming a lesser proportion of the value of dairy farm assets and shares increasing in importance. However the value of dairying land will continue to be underpinned by alternative land uses.

At present there is no proposal for a differential payment system. This is still a possibility for the future and if such a system is implemented it will impact on regional dairy farm values.

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