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RECENT CHANGES IN THE FINANCIAL STATUS OF NEW ZEALAND SHEEP FARMERS

by

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Summary

Through market changes and a phase-down of Government support New Zealand sheep farmer's incomes have fallen in real terms since 1984 and considerable resource use adjustment brought about. These changes have also caused a marked adjustment in perceptions of risk. Less certainty in markets and institutional pricing arrangements have raised the level of operating risk, while lower incomes have increased the vulnerability to financial risk. There appears to be a movement towards risk-averse management techniques and financial arrangements with consequences for output levels, resource use and efficiency. Some recent policies in the agricultural sector appear inconsistent with these trends.

KEY WORDS: Risk, Risk-aversity, Debt-Equity Ratios, Policy.

Introduction

It is proposed to discuss changes in the financial status of sheep and beef farmers in this paper. Sheep and beef farmers are the single largest farm-type group in New Zealand and represent about 30 per cent of all farms and about 80 per cent of the farmed area. In general, sheep and beef farming systems are integrated in New Zealand agriculture with quite wide scope for substitution between systems. Dairy farms, arable farms, and horticultural enterprises tend to be managed on a more specialised product basis.

The period to be reviewed is 1980 to 1988. In this period, commodity prices were depressed at first but since 1986 have been reasonably favourable but with internal inflation of costs rising. From 1980 to 1985, the Government provided price support for sheep meat, beef and wool thus stabilising net incomes at certain target levels. Income support arrangements were removed in 1984-85 season, but net income rose above previous levels, due to a 20 per cent devaluation in July 1984. In the following year the floating of the exchange rate brought $NZ prices of commodities down as the $NZ appreciated somewhat unexpectedly. This has continued to prevent world price trends reaching New Zealand producers. High rates of inflation raised costs and the sheep and beef sector entered a debt-reducing conservative phase of management as it attempted to ride out relatively low product prices, higher costs and high costs of borrowing, without Government assistance.

The proportion of sheep and beef farms in a low equity trap increased markedly. For example, sheep farms with 50 per cent or less equity in total assets were 6 per cent of the population in 1984 and this rose to 24 per cent in 1986. Most recent estimates indicate this ratio to be 19 per cent in 1988-1989 (NZ MWBES, 1988).

In the period from 1984 to 1988, total livestock capital declined by 2.6 per cent, and new investment in building and construction declined by 44 per cent; in tractors and machinery by 44 per cent; and in land development by 61 per cent. On sheep and beef farms, fertiliser expenditure fell by 38 per cent (49 per cent in real terms), repairs and maintenance by 31 per cent, and debt servicing rose by 38 per cent. Net income fell 26 per cent in nominal terms and 49 per cent in real terms (Johnson, Schroder and Taylor, forthcoming).

The capital structure of sheep and beef farms over the period 1980 to 1989 reflects these trends (Table 1). Total farm assets averaged $750,000 -850,000 in the period 1980 to 1985, but thereafter fell back to $600,000-675,000. This calculation of assets includes land at market valuation and non-farm assets. Total liabilities were rising in the early 1980's at a faster rate than assets hence farmers were even then accepting lower levels of equity. Since 1985, total liabilities have stabilised, and possibly fallen in 1988-89. The income cost of servicing debt has risen with the deregulation of interest rates and the fall of gross revenue per farm. For low equity/high debt farmers with equities less than 50 per cent, the income cost of debt servicing had reached 44 per cent in 1988 (Johnston and Sandrey, 1989). Over the period under review, average debt-equity ratios have risen from 18 per cent to 45 per cent (in 1985-86) and have since stabilised around 34 per cent (Table I). A 50 per cent debt-equity ratio is of course a 33 per cent debt-asset ratio. Currently, sheep and beef farms have 3 $^1/_2$ dollars of debt for every 10 of equity (75 per cent equity-asset ratio).

Changes in the Risk Environment

In this discussion I propose to base the analysis on a simple model of the risk adjusted reward to equity. The model divides total risk faced by the farm firm into operating or business risk and financial risk. Operating risks are the inherent risks caused by market and weather variations and are defined to be invariant to financial leverage. Financial risk is the additional risk taken on by borrowing and is thought to vary considerably with leverage. In the non-leveraged situation, the desired equity return to the proprietor is defined as that rate of return on equity that provides a satisfactory margin for risk over the risk-free cost of borrowed funds. As leverage increases, an additional risk margin is required on the desired rate of return on equity to compensate for increased financial exposure.

The position for the agricultural proprietor is shown in Figure 1. The lower curve expresses the idea that the cost of borrowing rises at the margin as lenders perceive their risks to increase. The upper curve expresses the idea that risk aversity is typical of agricultural producers and that the required rate of return on equity rises geometrically as debt-equity ratios rise. The middle curve is the weighted average cost of capital (the weights being debt percentage and equity percentage) (WACC) and indicates that generally there is some advantage in the presence of business risk for the

Table I

New Zealand Sheep and Beef Sector; Trends in Debt Structure

June Year	Total Farm Assets**	Total Liabilities	Average Interest Paid	Debt-Equity Ratio	Income cost of Debt Servicing (%)
1980-81	$753,681	$114,131	$8,964	0.18	10.8
1981-82	858,047	139,370	12,137	0.19	12.7
1982-83	815,145	155,528	14,782	0.24	14.0
1983-84	856,356	169,553	16,305	0.25	15.6
1984-85	783,126	176,989	17,736	0.29	13.4
1985-86	661,927	187,823	21,509	0.45	20.2
1986-87	662,397	185,164	22,619	0.39	19.3
1987-88	674,000	186,667	23,862	0.38	18.9
1988-89*	675,000	170,000	23,000	0.34	18.1

* Estimate

** Includes non-farm capital and investments

SOURCE: NZ Meat and Wool Boards' Economic Service, Wellington.

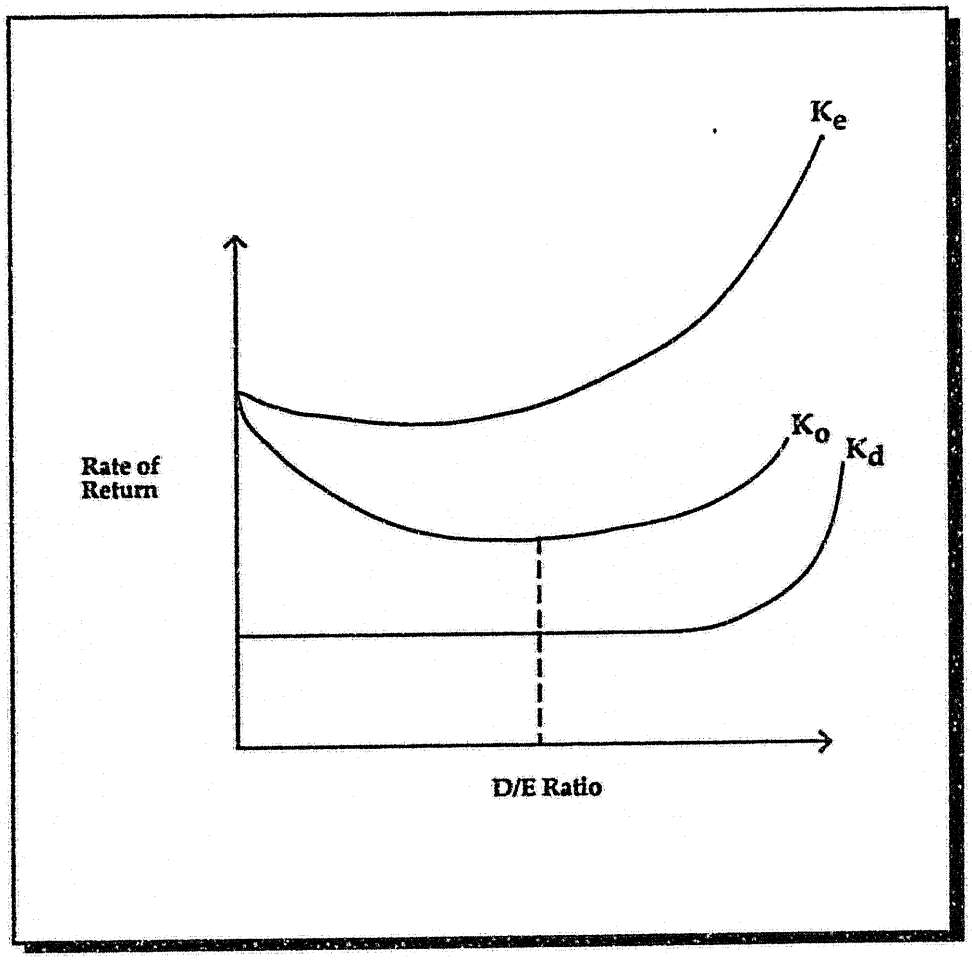
proprietor to have some debt. Where debt charges are tax deductible, the advantage is slightly increased. But when excessive debt is entered into, the rising level of required return on equity indicates that the proprietor views all such developments with considerable scepticism.

The literature recognises that institutional arrangements affect individual risk perceptions (Gabriel and Baker, 1980). Such policies as price stabilisation and floor prices are designed to reduce business risk as defined above. Such measures as insurance, Government income programmes, and irrigation schemes, are all collective means of reducing risk to the individual. As well as collective measures, individuals may take risk-averting actions such as disease prevention, maintaining savings, storing fodder and so on. It is hypothesised that the transfer of risk away from individuals leads to a greater acceptance of financial risk. Farmers are encouraged to move out along the debt-equity curve if they perceive that they have the back-up arrangements of collective stabilisation schemes and their individual risk prevention strategies. It is plausible that farmers will lower their required level of return on equity that normally covers business risk before borrowing commences, and that the shape of the curve will generally be flatter.

When such Government support is withdrawn, the whole risk environment changes. Producer exposure to increased business risk requires greater margins of safety in the capital planning budget and Ke-Kd must increase. The required rate of return on equity must rise and the slope of the curve must increase as borrowing increases. More conservative financing procedures will need to be followed, although as long as interest is tax deductible, some debt financing is always advantageous. Generally, in the situation where Government support withdrawal changes the risk environment, it would be expected that debt-equity ratios would be reduced, that less new capital projects would be entered into, that lower prices would be paid for the land asset at purchase, and that new entrants would be discouraged. On the other hand the efficient management of risk would be improved in the new situation.

It should be noted that these are risk adjustments. When the change of Government policy allows higher interest rates, or commodity prices decline for whatever reason, then other adjustments in capital plans are also required. Sometimes the latter could overwhelm the former and the risk adjustment distinction could be lost.

Figure 1



With reference to Table I, average debt-equity ratios in an industry group clearly represent all all of these factors at work. Major movements of the ratio are due to the land price affect coming through in the valuation of assets and this in turn represents the general loss of profitability in sheep farming as well as heightened risk perceptions of farmers in the new macro environment. The curtailment of net new debt by sheep farmers also reflects the loss of profitability in new projects, the decline in land turnover and the enhanced risk that high debt places on the proprietor. Higher interest rates of themselves raise the average cost of borrowed capital and hence shift the level of both the required return on equity and the WACC upwards. This is thus an additional rationing device on new projects of development or diversification.

Economics of Leasehold Restructuring

The particular policy development I wish to address in this context is the programme to sell state leaseholds to the lease-holders. These properties are normally sheep and beef farms and hence fit in appropriately with the general discussion so far.

For a period in the 1890's and early 1900's, the New Zealand Government actively encouraged leasehold land tenure systems for new settlements. Although not continued as a policy after 1914, the structures have remained in place until recently. Characteristic of leasehold tenure was the setting of rents by statutory means based on bare land valuations at periodic review. Levels of rents have always been set at the rate of 4 per cent of valuation (rental value) and have been invariant to interest rate changes. Some tenures were not subject to periodic review and revaluation but that is a somewhat different matter.

The objective of leasehold tenure was to allow greater access to the land for people of few means and to conserve private capital for development and expansion. In the risk aversity framework, leasehold tenure lowers the borrowing requirements of the proprietor, substitutes a fixed rental change instead, and allows the proprietor to operate at a lower level of his risk-averse required equity return curve.

As part of the restructuring of land administration in New Zealand, some 2,400 renewable rural leases were first transferred to the Land Corporation of New Zealand from the Lands Department and subsequently put up for sale. It was resolved to offer

the leases to the existing leaseholders for purchase rather than work through open tender (Johnson, 1989). Many leaseholders also held mortgages from the Lands Department as well. The re-purchase plan offered by LandCorp provided a discount on the current face values of mortgages and rental values of leaseholds. Occupiers had to raise the finance for the purchase from the institutions.

From the point of view of the Government (as a shareholder in LandCorp) leasehold land investment is a poor use of taxpayers money and the asset should be disposed of. In addition, there may be efficiency gains from disposal. On top of this it appears Government was also driven by a simple demand for cash to meet its budget deficit (it needs to be appreciated that the disposal of LandCorp assets was only a small part of a far larger asset disposal process).

From the point of view of LandCorp, the leaseholds and mortgages had already been discounted when they were transferred from the Lands Department. The cash return they could obtain was probably near normal profits in these circumstances and hence was not an incentive to them for disposal. LandCorp could probably administer such financial instruments more efficiently than the State as well.

From the point of view of the leaseholder and mortgagee, the proposal represents a set of new problems he could probably do without. The proposal came at a time of low profits and high interest rates and hence the leaseholder had few extra resources to re-finance his farm. He also had to substitute a loan at 16 per cent interest for a rental agreement at 4 per cent of valuation. It would thus take a very heavy discount to compensate for such a quadrupling of service costs (it also identifies what a large transfer is involved when statutory rentals get out of line with interest rates).

From the risk aversity viewpoint the proposal increases the lessee's financial risk exposure (see Figure 1). The leasehold principle allows the leaseholder to share the risks of equity holding with another party and insulates the leaseholder in part from economic downturns. Now the leaseholder has to service increased debt and satisfy his requirements for a risk-averse rate of return on equity. It seems plausible that since purchase of the leasehold is almost forced on him, the proprietor must accommodate it by accepting a lower rate of return on equity than his former risk perceptions justified in the short run. In the longer run he must reduce debt or raise productivity to restore himself to his previous required rate of return, or a new level of required rate of return in the de-regulated economic environment.

Raising productivity probably means more investment hence more borrowing, hence this route could well be closed off in the short run. It seems more likely the proprietor will re-trench until he can get his debt-equity ratio back to desirable levels. New investments themselves require a higher rate of return than previously as his desired equity return has shifted to a higher position.

Thus it seems that selling the leaseholds to the lessee increases both the debt servicing load and the financial risk exposure of the lessee. From such a point of view it would be better to sell the instruments to a third party as this spreads the ownership of equity and lowers the lessee's exposure to financial risk. According to press reports at the time, neither Federated Farmers nor individual lessees were interested in such an alternative. This is interesting as a prominent trust company, New Zealand Rural Property Trust, has bought equity in over 50 holdings in the last two years. Presumably the freehold proprietors thought it worthwhile to exchange equity for cash and thus reduce if not eliminate completely their exposure to financial risk. In more confident times, these proprietors may well wish to buy back their equity.

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