

A comparison of sharemilking and equity management as pathways to farm ownership

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Introduction

Achieving farm ownership without family assistance is no longer possible. This sentiment is commonly expressed by the media and many of my peers and was at the forefront of my mind when I set about deciding on a subject for my dissertation. The New Zealand dairy industry has had a history of innovative owner-operators progressing through the industry on the historical wages to sharemilking to farm ownership pathway. The path to farm ownership taken by these farmers has become increasingly difficult to follow with increasing farm size and land values. An alternate pathway has been suggested, a position as an 'equity manager'. It was unclear whether sharemilking or equity management was a more effective path to farm ownership, or even if farm ownership is a realistic goal without significant inherited assets.

Sharemilking and Equity Partnerships

Lower order sharemilking and 50/50 sharemilking are contracts between a land owner and a sharemilker. A lower order sharemilker receives between 15% and 35% of the milk cheque and is only required to provide limited capital assets. A 50/50 sharemilker receives 50% of the milk cheque and is required to provide cows, labour, some or all machinery and pay 50% of working expenses and all expenses relating to the herd.

An equity partnership refers to a group of people who invest into a dairy farm and run the business under a company structure. The business may be managed by an equity manager who owns a share of the business, thereby participating as a shareholder. He is also the day-to-day manager of the operation and receives a salary. The popularity of equity partnerships has increased in recent years, enabling aspiring farm owners a chance participate in land ownership.

Operating environment of the New Zealand dairy industry

The operating environment of the dairy industry over the last 30 years has been characterised by the following; large payout fluctuations, increasing in nominal terms while remaining steady in real terms. The price of land has increased significantly, both in real and nominal dollars. The number of herds has decreased from greater than 17,000 in 1978 to less than 12,000 in 2008. Average herd sizes have increased from 120 to 340 during the same period. Herd sizes in the South Island have expanded rapidly, with average herd size greater than 500. Cow prices have shown strong variation over the last 30 years, with no clear trend from 1990 to the present day as shown in figure 1

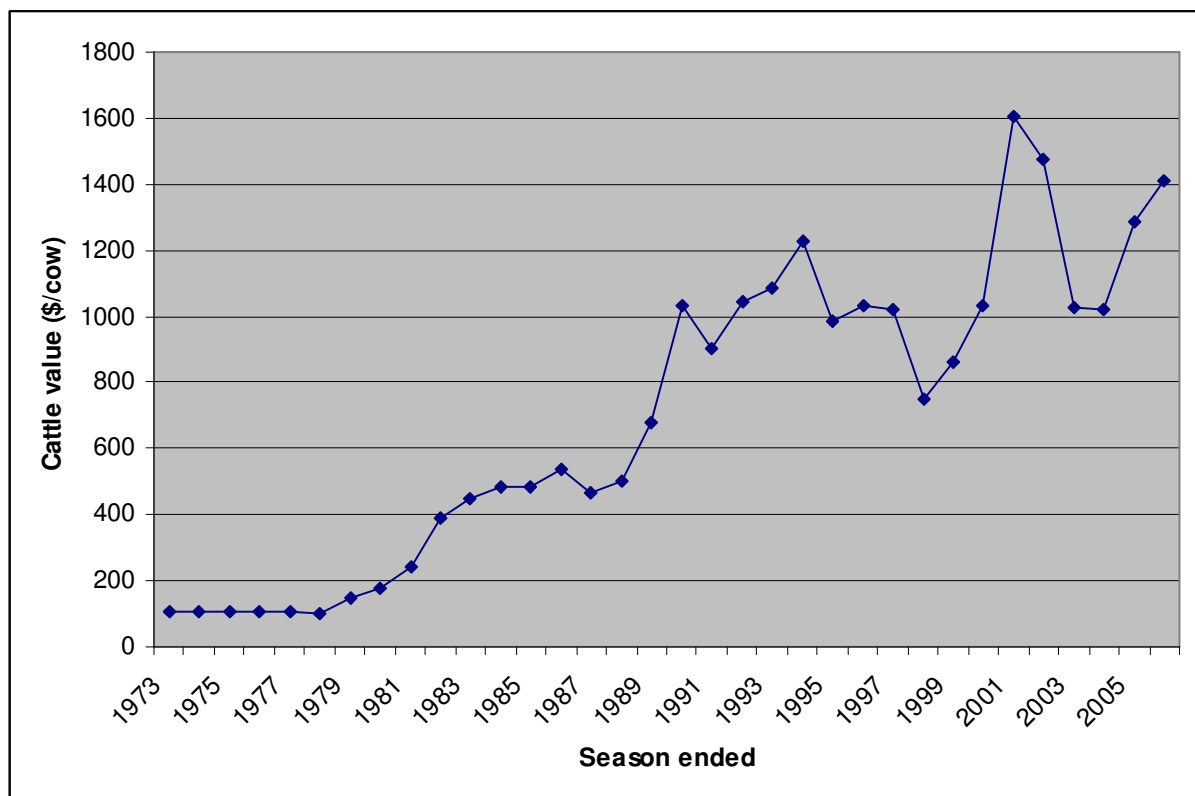


Figure 1 Cattle values 1973 – 2006 (Adapted from LIC: 2008)

Effectiveness of pathways to farm ownership

The literature identified that 50/50 sharemilking following a period of lower order sharemilking has historically been an effective path to farm ownership. Equity managers have increased their equity significantly in previous studies. A 50/50 sharemilker typically carries a larger degree of risk than an equity manager, largely due to the nature of the asset. What is not known is the profitability of each system when compared alongside each other, and how sensitive the two structures are to economic forces. Physical farm data

Table 1 Physical parameters for the Canterbury dairy model 2007/2008 (Source: MAF, 2008)

Payout	\$5.50
Payout increase	5.6%
Land value increase	9.3%
Share value increase	7.1%
Cattle value increase	6.3%
Inflation	2.7%
Interest rate	9.0%
Living expenses	\$30,000
Milksolids per ha (kg/ha)	1 424
Milksolids per cow milked (kg/cow)	424

Financial farm data

Table 2 Financial farm data (Source: MAF: 2008)

	Income/KGMS	FWE/KGMS	Interest
Lower order sharemilker (25%)	1.38	1.04	N/A
50/50 sharemilker	3.15	2.42	N/A
Equity manager	5.90	3.82	1.03

Personal scenario

The stylised entrant was 21 years old, had a tertiary qualification in agriculture, no savings, no debt, and had some dairying experience. In both scenarios the young person worked for wages for three years in order to accumulate equity and skills. The wages paid were \$50,000, \$70,000 and \$80,000 for the first three years. Living expenses were \$30,000. Both entrants were taxed as individuals at this stage. Any free cash was deposited into a bank account, which has a post tax return of 6%.

Lower order sharemilking

The sharemilking scenario was based on a lower order sharemilking contract on the MAF 299,000 kilograms milk solids farm. The income and expenditure was derived from MAF data, as

shown in Table 1, compounded at the rates outlined in Table 2. Total income and expenditure was derived from \$/kilograms milk solids multiplied by kilograms milk solids. The lower order sharemilker was required to purchase 50% of the plant stated in the MAF monitor farm (\$104,970). This was financed from savings and a bank loan. If the security was insufficient, it was assumed that the farm owner would guarantee the outstanding amount. The sharemilker had formed a company at this stage so any surplus was taxed at 30%. Interest repayments and FWE were tax deductible.

50/50 sharemilking

In the 7th year, the sharemilker entered into a 50/50 sharemilking contract, the number of cows that could be purchased was calculated as follows;

$$\frac{\text{Total Equity} - (\text{Plant value}/2)}{\text{Cow value} * 0.45}$$

The figure 0.45 refers to the sharemilker's borrowing capacity. This was based on a financial institution lending 65% of standard value the cows. Standard value was the average value that a financial institution placed on an animal, taking into account deaths, disease and market fluctuations. As a general rule it was typically 80-90% of market value (Carmody, 2008). The number of cows stayed stable in each contract. The number of cows was recalculated after each three years in preparation for the next contract: the sharemilker had three contracts in total. There was no natural increase calculated. All other factors were the same as the lower order sharemilking contract.

Equity manager

The equity manager used his saved wages to buy into the equity partnership. The equity partnership owned the 299,000 kilograms milk solids Canterbury MAF farm. The other equity partners were assumed to provide a guarantee if security was not sufficient. The manager received income from his wage which remained at \$80,000 and increased at the rate of inflation. Interest was tax deductible and the manager was taxed as an individual. Tax-paid dividends were then added to (wage-interest-tax) to generate the free cash figure. (Dividends from the business were assumed to be 50% of discretionary business cash from which the equity manager was paid a share according to his stake in the business). The equity manager purchased a greater share in the business as his free cash allowed: he was required to buy a minimum of 1% equity at a time. The farm production in the equity manager scenario increased at the per hectare value outlined in Table 9.

Sharemilker

Table 3 Number of cows, free cash, liabilities, assets, equity and equity growth for sharemilker over 15 years (baseline scenario)

	Year 1-3 Wages	Year 4-6 LOSM	Year 7-9 50/50 No.1	Year 10-12 50/50 No.2	Year 13-15 50/50 No.3
No of cows			255	504	826
Liabilities		43,573	436,295	1,089,083	1,754,168
Assets		104,970	893,948	1,978,112	3,794,096
Equity	61,397	366,511	672,646	1,613,763	3,808,633
Equity growth	91%	50%	25%	33%	32%

Equity manager

The equity manager worked for wages for three years, before entering into an equity partnership, in which he was an equity manager. Table 4 shows financial data for the equity manager. He initially purchased a 4% share of the business and increased his shareholding to 7%.

Table 4 Percentage share of business, free cash, asset value, liabilities, equity and equity growth for equity manager over 15 years (baseline scenario)

	Year 1-3 Wages	Year 4-6 EM	Year 7-9 EM	Year 10-12 EM	Year 13-15 EM
% Share		5%	5%	6%	7%
Liabilities		633,614	633,614	848,223	1,121,846
Assets		884,583	1,141,801	1,771,082	2,674,176
Equity	61,397	250,865	521,938	944,417	1,580,858
Equity growth	91%	39%	24%	19%	17%

Payout

Figure 2 shows the effect of payout on final equity (bars) and farm size (lines). Decreases in payout reduced equity for both scenarios. The sharemilking scenario was more sensitive to changes in payout than the equity manager scenario. The sharemilkers equity showed an exponential response to changes in payout. The sharemilker has negative equity at the two lowest payouts.

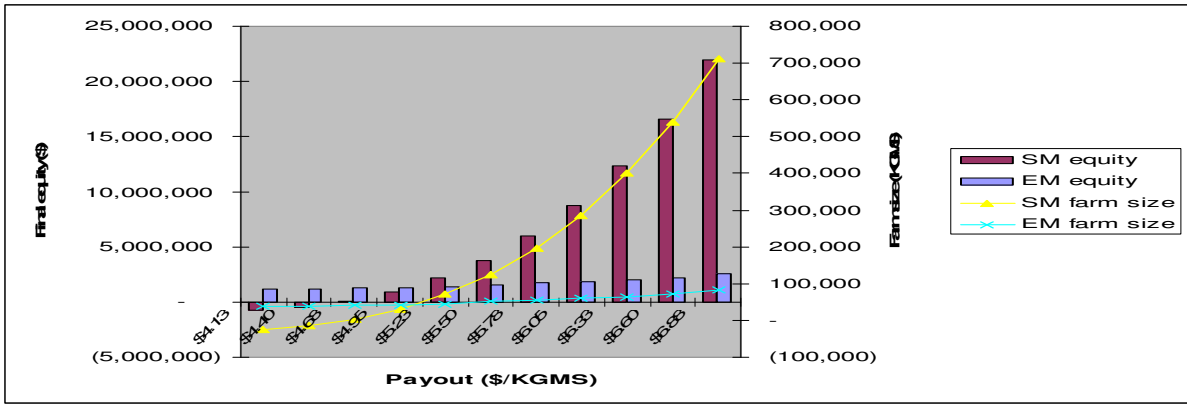


Figure 2 Effect of payout change on equity

Production

Figure 3 shows the effect of changes in production on final equity (bars) and farm size (lines). Decreasing production decreased final equity and farm size in both cases. The sharemilker had greater sensitivity to changes in production than the equity manager.

Land value increase

Figure 3 shows the effect of land value increase on final equity (bars) and farm size (lines). Land value increase is commonly referred to as capital gain. The figure shows that changes in capital gain did not affect the equity of the sharemilker. The sharemilker’s farm size decreased as capital gain increased, farm ownership was only achievable if capital gain was lower than the baseline scenario (9%). The equity manager’s final equity increased as capital gain increased. Farm size stayed stable over changing capital gain values as increased equity was compensated for by higher asset values.

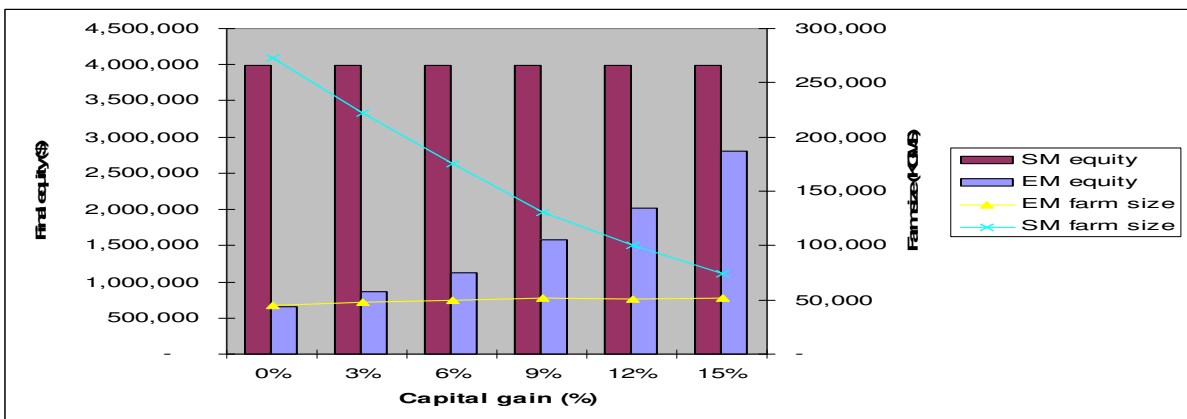


Figure 3 Effect of land value increase on final equity

Cattle value increase

Figure 4 shows the effect of changing cattle value increase on final equity (bars) and farm size purchased (lines). The manager's equity grew larger as cattle value increase became greater while farm size remained stable. The sharemilker's farm size decreased with higher cattle value increased, increases greater than the baseline scenario result precluded the sharemilker from purchasing an economic farm unit. The equity manager was unable to purchase an economic farm unit, his equity and farm size was found to remain stable.

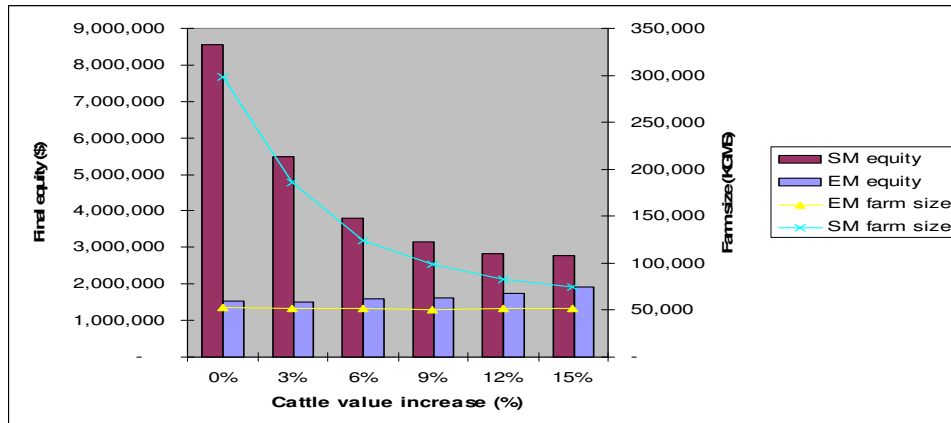


Figure 4 Effect of cattle value increase on final equity and farm size.

Living expenses

A reduction in living expenses from \$30,000 to \$20,000 increased final equity by over \$1.5 million for the sharemilker and \$400,000 for the equity manager. An increase in drawings had the similar opposite effect.

An increase in wages from \$80,000 to \$120,000 for the equity manager resulted in final equity of \$4.5 million which was greater than the sharemilkers final equity.

Conclusions

- The sharemilking scenario achieved consistently higher returns than the equity manager scenario, however the sharemilker final equity was negative under several economic variables while the equity managers final equity remained stable.
- The sharemilker purchased an economic farm unit after 15 years of 124,347 KGMS with \$3,808,633 of equity. The model found that the sharemilker would be required to move to a smaller property than the sharemilking contract. The number of cows increased from 225 to 540 to 826 in three contracts.
- A role as an equity manager was identified as profitable in the model with \$1,580,858 of equity. The EM did not achieve farm ownership.
- The sharemilker's equity and farm size had greater sensitivity to payout than the equity manager.
- The sharemilker had greater sensitivity to production than the equity manager. On the basis of the data presented it is logical to suggest that a sharemilker would have *greater* motivation to increase production than an equity manager. If this were true, one could assert that a sharemilker is more likely to increase production than an equity manager.
- Increased capital gain resulted in greater equity for the EM but did not increase final farm size purchased.
- Cattle value increase and the sharemilking scenarios final equity and farm size were found to have a negative relationship. In the model, cattle value increase was calculated from Year 1, however cattle were not purchased until Year 7.
- Decreasing annual drawings from \$30,000 to \$20,000 increased final equity by \$1,623,662 for the sharemilker.
- Increasing wages from \$80,000 to \$120,000 resulted in the equity manager achieving farm ownership.

Sharemilking evaluation

- The major barrier to entry concerned the first sharemilking contract of 255 cows. The model was based in Canterbury and it would be difficult to find a herd of this size in the region, the aspiring farm owner may be required to the North Island.
- If current trends are maintained, farm size and land price will continue to increase. The future national environment may mirror the current Canterbury sharemilking situation which the author was exposed to. Features noted including a sharemilking company who employed an 'equity manager' who owned 33% of the business as well as being paid a wage.
- Risks of sharemilking will remain high: however this risk has a return payoff. The sharemilking path to ownership will remain the only viable option for people entering the industry with no capital, those who successfully mitigate these risks may achieve farm ownership.

Equity manager evaluation

- The major barrier to entry for the equity manager was entering the equity partnership initially. A \$61,397 deposit was given for a \$487,748 asset (4% of the business) which gave an equity ratio of 19%. A guarantee was required from the other partners to provide security for this loan.
- The strategy of the equity manager was to accumulate equity by purchasing a larger proportion of the business. This was funded through wages and possible dividends. The strategy of the equity partnership is to maximise returns to shareholders.
- The two strategies appear to have several conflicts of interest and the success of the equity manager is dependant to some extent on the benevolence of other shareholders.

Limitations and future areas of research

Income from partners was not accounted for in the model. Natural increase was not taken into consideration. Family assistance was not considered. Recent economic events, both offshore and domestically have dramatically altered the operating environment of the dairy industry, making many of the future predictions unrealistic.

A period of 50/50 sharemilking followed by a role as an equity manager could be investigated. An equity manager operating under a LOSM agreed may be pursued. The structure and operating environment of sharemilking equity partnerships could be discovered.