

USING LIVESTOCK TO GROW EQUITY AND THE RELEVANCE OF OUR INDUSTRY INDICES BW/PW/LW

Grant Jackson¹ and Paul Edwards²

¹LIC, ²PGG Wrightson

Introduction

The objective of this discussion is to provide the reader with some proven guidelines of how to invest into dairy livestock and then maximise the growth of their invested equity, with particular reference to dairy cows and heifers. We will make a deliberate reference to mitigating the risks that can erode your gains either by market fluctuations, speculation trading, poor advice and common misbeliefs about this topic. By definition, this discussion will focus on investment, being longer-term ownership of multiple animals, not short-term individual animal trading. It is our intention that after reading through the below document, investors will feel confident and prepared to achieve their equity growth aspirations by their intended means of dairy herd investment.

Risks

The single biggest risk is to investing in livestock and the eventual return on sale proceeds is market fluctuation. An awareness of the key contributors to this risk can assist market speculators, who target equity gains through high risk trading. Success in speculation is the rarity rather than the norm and such a route to equity growth is not the recommendation of the authors. The higher the risk, the bigger the reward. Essentially the market is supply and demand driven and factors such as forecast payout, dairy conversion volume and live export activity will influence prices.

Further risk can be associated with poor advice, leading to poor buying and selling decisions as well as ignoring some key aspects of your herd management in between.

Mitigating Market Fluctuations

Talk to any established financial lender and they will concur that the most effective way to minimise your exposure to market risk is to invest in Good People and Good Assets. On any one day, speculators can gain from investing outside of these parameters for short term gains, but there are often as many bad days as there are good. For long term investment into dairy livestock for asset gain, it is advisable to invest in quality livestock, defined simply as assets with market attractive qualities. There are many attractive qualities in dairy livestock, dependant on one's individual viewpoint, but from the perspective of the "market", the following features are important to buyers when selecting dairy livestock to invest in:

Attributes Attractive to Sth Island buyers
High BW/PW
Younger
Early Calving
Strong index reliability (from Herd Testing)
low SCC (from Herd Testing)
Cow Condition at time of sale
Breed split (>F9)
Strong dairy confirmation

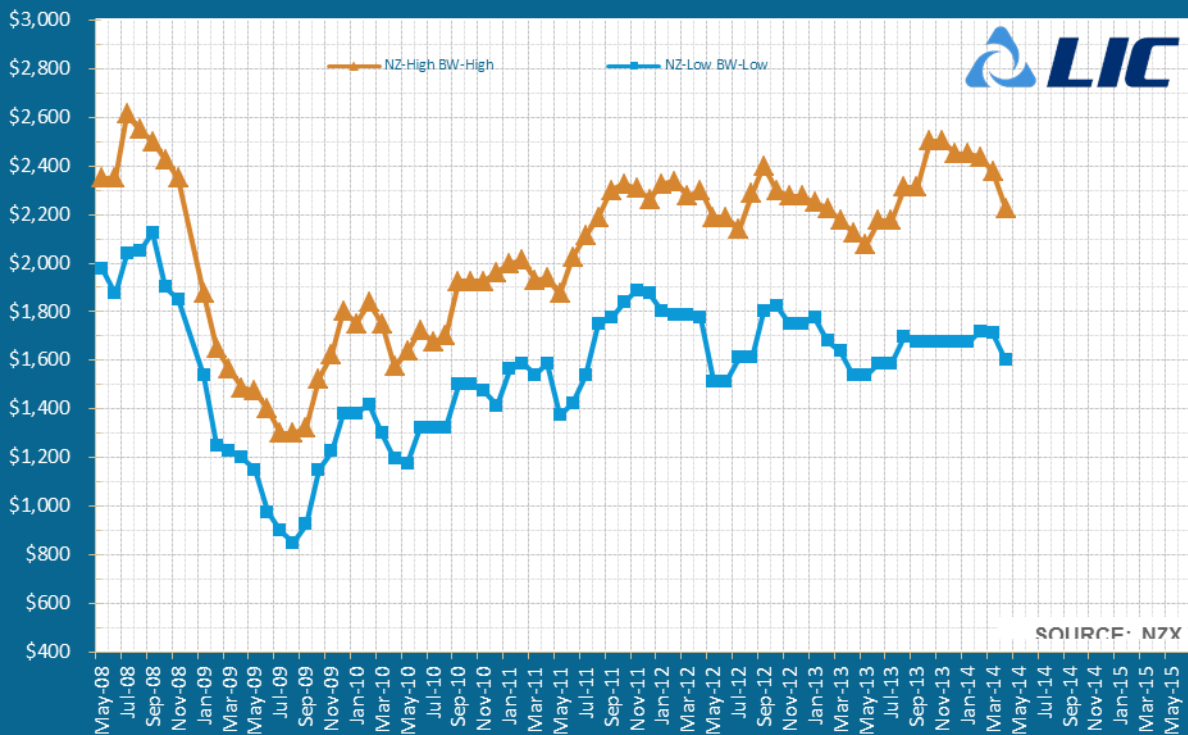
Many of the above characteristics are self-explanatory and this paper will not seek to define these individually, but rather validate some of their selection.

Industry Breeding and Production Indices Breeding Worth (BW) and Production Worth (PW) are very much still the anchoring currency usually used to define dairy cow/heifer value and are therefore critical to any investment in dairy cattle. BW, by definition is the estimated annual profitability forecast of the progeny of a sire or dam, as it compares to the New Zealand base cow. The base cow can be understood simply as a fictitious cow, born in the year 2000 holding a nationwide average of all the characteristics of her generation important to dairy production. Therefore an investor can see that BW is important as an indicator of the likely return on their investment in regards to the quality of heifer calves to be gained from this initial investment.

BW is a system of ranking dairy stock by profitability that is owned and governed by New Zealand Animal Evaluation Limited (a subsidiary of DairyNZ). BW is made up of seven breeding values (Protein, Fat, Volume, Liveweight, SCC, Fertility and Residual Survival) multiplied by an economic integer relevant to the current economic conditions at the time. Please refer to www.nzael.co.nz for further clarification.

The graph below plots the difference over six years of actual market sale prices of dairy herds between high genetic merit herds and low genetic merit herds. The strong demand over this period due to fairly consistent internal growth and export demand has meant good cows continue to fetch higher prices and consistently significantly higher than poorer cows.

PRICES OF DAIRY COWS



Production Worth (PW) is an index that forecasts the average annual profitability of that individual cow over its expected lactation lifetime. It is made up of just four production values multiplied by a relevant economic factor as above (Protein, Fat, Volume and Liveweight) and is influenced heavily by an animal's actual proofs via sanctioned Herd Tests. This ranking index is therefore also critical to a buyer as it indicates the direct profitability of the specific asset they are looking to invest in (in the shorter term).

Lactation Worth (LW) is a snapshot of a cow's PW in any one particular year she is being evaluated in. Based on the same four Production Values, this is a good tool to assess the attractiveness of mature cows as negative environmental factors experienced throughout a cow's lifetime can negatively affect her profitability and therefore LW without significantly dropping her PW.

Each of these indexes are a forecast of the investor's Return on Investment, either over the longer term (BW) or the shorter term via cashflow (PW). As with any ROI indicator, it is important to identify just how accurate this forecast is and determine if in fact it is mere speculation. This reassurance is provided by the figure following the stated BW or PW index of an animal, being the percentage reliability one can attest to that forecast. The reliability simply indicates the amount of information that has contributed to this evaluation. The higher the reliability the less likely the BW or PW evaluation is to change with further validation, the lower the reliability, the higher the chance and therefore the risk.

The main contributors to Index Reliability are Herd Ancestry and Herd Testing. When investing in dairy cows, it is very important to firstly maintain your Herd Records with up to date calving and

mating information to maintain herd ancestry as well as complete at least four annual herd tests. Four tests are important in order to gain accumulated lactation data from your herd test provider that has a significant impact on your PW reliability in particular. Indices with reliabilities below 50% should be treated with some caution and risk awareness. A buyer should be realistic though about the expected reliability relative to an animal's age and it often pays to further validate younger animals with a cow or heifers dam information.

When buying an entire herd, ask only to view the actual sale cows and heifers, not the older cull cows or those that don't fit the original criteria you provided to your agent. From there, once you have assessed the sale cows physically and on herd average BW and Ancestry, negotiate your price and rejection rate. When accessing your rejection cows, it is then important to demand a Herd Profile Report and critic individual animal data, particularly calving dates, PW, LW and reliabilities. Purchasing simply on a single Herd Test Report is risky as this information often is more of a testimony to the manager's ability rather than the animals.

If you are buying a line of cows that have already been extracted from a herd, be cautious about the motives of the seller and be particularly vigilant with regard to assessing traits other than production (TOPs) such as feet quality, capacity and overall dairy conformation. If you are buying heifers, assess the dams as well; if you are absent, ask the agent to assess these for you. This leads us to the importance to Quality People in your investment.

Mitigating Poor Advice

Too much advice often leads to poor advice. The key element to stress is to utilise key influencers within your area, the top operators who are willing to share advice. These are your best advisors but they are often the least forthcoming.

Another key factor is to seek advice and use a respected stock agent from a reputable company. There is a cost to selling through an agent but they have the networks, market knowledge and contracts to provide peace of mind. Note that it should cost no more to deal with the best or the worst agent. Interview them after seeking a referral from your Herd improvement consultant, Farm consultant or other trusted advisor, and see if they fit with your needs.

It is also advisable to utilise advice from your financier and keep them up to date as to your plans and aspirations. If you intend to act promptly either in a purchase or a trade, you will need the support of a banker and an appropriate facility in which to transact the deal.

A final factor to be aware of is to avoid the influence of emotion within your buying and selling decisions. Stick to your original objective and criteria, ensuring every decision you make and seek advice on moves you further towards your end goal. A good rule of thumb is "if it seems too good to be true – it probably is!!"

Managing your Herd Investment

As highlighted earlier, there are two ways to maximise your asset investment into dairy livestock; the first is to buy correctly and the second is what you do to create equity growth while in ownership of the animals/herd. There can be equity to be made through stock trading from a percentage of your

herd. The other factor is how you manage your herd to increase its overall sale value as well as its cash flow return during your ownership tenure.

Trading

Success when trading dairy cattle is determined by your eventual margin. The risk is that the demand for your particular class of stock will fall between your market assessment at purchasing and the demand at the time of sale. Buying quality livestock by enforcing strict records criteria, sticking to your criteria and not purchasing “budget” animals will minimise some of this risk and give you the safest chance of a margin. The key element is timing and the cost of holding the stock.

The age of the animal also contributes to the risk of market demand fluctuating at the time of sale. The demand for younger cows/heifers is more stable and their value is more likely to appreciate during your ownership tenure compared to mixed age or older cows.

For example, at the time of writing, an attractive short term investment is to buy R2yo In-calf heifers in May, leasing into a top operator that herd tests and sell out as a Rising 2nd calver, resulting in a potential \$500 - \$700 Gross profit.

It is our recommendation that if considering leasing out your investment rather than managing your herd yourself, that you use a robust legal contract to safeguard the quality and value of the asset that you receive on completion of the lease. Advice should be sought from your Farm Consultant or Livestock Agent.

Herd Improvement

When it comes to extracting the greatest asset growth from your herd while under your ownership, you need to manage the herd with the fundamental basics; Firstly, focus on a tight calving spread, with consideration to using all AB rather than natural bulls. Maximising your six week in calf rate will create not only more days in milk to add to your cashflow, but also more heifer replacements. These replacements can either be used to grow your herd naturally, or excess heifers sold as calves, in calf heifers or in milk heifers for various returns.

NZX Agrifax latest stock prices	Rearing costs	Other costs & income	Net Profit
In-milk Cows (\$1900-\$2400)	1400	120 days in milk at 1.3Kgms/day @\$8.65 = \$1350 less Feed costs 15kgDM/day@\$0.20x120days = \$360	2400-1400+1350-360 = \$1990
In-calf Heifers (\$1650-\$2000)	1000		2000-1000 = \$1000
R1 Heifers (\$750-\$1125)	350		1125-350 = \$775

Ref: D Chin, LIC

There are various ways in which to maximise your In-calf rate, including via forms of artificial intervention through your vet. Simply up skilling on your heat detection and focusing on cow condition at critical times of the year will deliver the best dividends over the longer term.

A second non-negotiable is to cull annually on production. In order to reliably cull on the correct information, you need a full lactations Herd Test data by doing four herd tests. Lactation information from in line milk meters do not update herd indices and do not therefore strengthen index reliability. Cull on Production Worth (and Lactation Worth for mature cows) throughout the season rather than only at dry off. These cows may be costing you profit by consuming feed for a significantly lower return than other cows in the herd than have not yet meet their potential. These cows are also the very same you will be breeding from for replacements. Seek advice from your Herd improvement consultant. Retaining replacements from cows whose progeny BW is below your herd average will drastically slow your herd improvement.

It is generally not considered good practice to breed replacements for sale or retention from cows destined to be culled based on poor TOPs but that is a matter for one's own conscience.

A third basic to focus on is ensuring your heifers are reared adequately and to industry target weights. Unless a yearling heifer meets her puberty target weight prior to being exposed to a bull while out grazing or in time for Artificial Insemination, she will not cycle and therefore submit for mating. This has a significant impact on her value, either as an empty or late calving heifer. More frequently, South Island heifers fail to reach their target bodyweight at calving (90% of their potential mature cow liveweight). This has significant consequences on following submission rates and therefore ability to remain in the herd. The energy and therefore feed requirements for the growing heifer and her calf need to be considered in the nine months preceding calving, particularly in the later winter months. Tools such as LIC's Minda Weights provide accurate individual heifer target weights for owners and graziers alike to be guided by.

Lastly, breed replacement stock from proven high genetic merit sires which therefore improve your herd BW average and have the reliability of proven daughters behind them that eliminate the risk of replacements not staying in the herd to repay their rearing costs. It makes obvious sense also to eliminate any uncertain sired calves each year by using a DNA sire search service. These heifers will enter the herd as half recorded and loose up to \$1000 from their eventual value compared to the minimal cost of a DNA search.

Capturing or Liquidating your Equity

Maximising the value of your dairy herd at time of sale or at time of valuation is an obvious determinant of your eventual equity growth. You may be entering into a dairy business relationship, using your herd as share equity or you may be using the sale of your stock to liquidate funds for other means. In either situation it is critical to plan your timing by monitoring the market as best you can and on the day present your herd in the best possible light.

Ensure that your herd records are up to date, cow/heifer body condition is appropriate for the season and cows with Somatic Cell Count issues are either remedied or removed. If the timing of the sale can be planned in advance, our suggestion is to market early and hold for an acceptable price rather than attempt to beat the market and anticipate greater demand towards the end of the lactation year as this may not eventuate.

Conclusion

As you will have concluded yourself by this stage, the authors aim was not to promote a “silver bullet” type quick gain recipe for equity growth through dairy livestock. History has shown that a longer-term approach and using proven practices to buy, manage and sell stock is the most advisable method to ensure you attain your equity goals. From time to time there are openings due to normal market cycles that create opportunities for short term wins. Assess these for what they are and risk only what you can afford to potentially lose. Below are our key take-home messages we hope you will benefit from following this discussion.

Key Messages

- Buy Quality animals to reduce the risk associated with market fluctuations.
- Seek quality advice from people with proven track records to equity growth through dairy cattle.
- Deal with a reputable stock agent and company and follow a proven sales process.
- Maintain the value of your investment by maintaining your herd records and herd testing annually.
- Use DNA Sire Matching services to ensure maximum herd ancestry for any half recorded animals.
- Maximise your natural equity growth by focusing on optimal heifer replacement numbers through good mating performance.
- Invest carefully in the rearing of your heifers, the saving on lost heifers from the second calvers will easily offset the effort in this area.
- Prepare your herd well for valuation or sale with accurate records and physical presentation.

Acknowledgements

Special thanks to Jack Hooper, David Chin and Garth Stearn from LIC and Steve Lee from FarmWise for their thoughts and consideration on the above subject matter.

NZX Agrifax for current dairy livestock sale prices (March 2014).