

## RESEARCH NOTE

### PROJECTING ASSET RETURNS FROM FARMLAND INVESTMENTS

**Farmland values can be volatile, but they tend to appreciate in step changes interspersed with periods of minimal growth. The key drivers of farmland land prices are obvious, but forecasting, or even explaining, agricultural land value movements with models has proven challenging. This paper outlines an approach to project farmland returns and value farmland assets so that the prices paid for assets do not erode future fund returns.**

#### SUMMARY

Projecting the returns of any asset class is a combination of art and science. Whilst many of the factors that drive returns in farmland are similar to other asset classes (e.g. commodity prices and interest rates), farmland returns are best projected using a methodology that is based on empirical observations and supported by investment theory.

The confluence of the cyclical nature of individual assets, variable climatic conditions and investors chasing last year's seasons and margins creates a powerful advantage for patient, disciplined, value-oriented investors. Thus, the approach to projecting asset returns needs to ensure that prices paid for assets do not erode future fund returns.

Modelling also needs to be thorough, complex and flexible enough to encompass a wide range of factors, generating a series of base, best and worst cases. These can be used to evaluate an initial investment and its progress over time.

#### BELIEFS AND OBSERVATIONS

Farmland can produce income from a range of farming activities. Similar to other assets, farmland is bought by investors on the basis of the future earnings it will produce. Land values thus derive their economic value from the market consensus on these future earnings. The extent to which these earnings are capitalised into land values is influenced by the cap rate applied by the market.

Farmland assets do not generally degrade if carefully managed. Furthermore, with little cost, capturing value generated just from inflationary pressure over time is possible. Broad-based improvements in productivity, from such changes as updating equipment, the release of new herbicides and improvements in plant and animal genetics, may also be capitalised into land values.

Farm manager capability, commodity prices and the scale of an enterprise determine the annual operating performance. Compared with their peers, top-tier farm operators reasonably consistently produce outsized earnings. Larger farmland enterprises also tend to outperform average and small farms.

Farmland assets, however, are typically valued by the market on the basis of commodity prices (usually lagged by some modest period) and district average productivity performance. Consequently, farmland values may not fully reflect the income of an individual farm enterprise

at the time of sale. Thus the exceptional performance of an individual asset is not likely to be fully capitalised into the value of the land until the factors that drove it are widely adopted.

Significant changes in district average performance (i.e. farm revenue) can lead to step changes in land values once the factors producing that improvement in performance have become widely adopted (and the improvement is replicable by managers of at least average capability).

Improvements in the productive capability of biological assets (i.e. the genetic quality of livestock and maturity of permanent crops) are capitalised into their value if sufficient evidence exists to support the perceived results.

Nonetheless, individual farmland assets may sell at a large premium compared with district average consensus forecasts of productivity and earnings. We have observed this when the local demand exceeds the supply, and aggregating a large-scale asset is difficult. Similarly, it can occur if the asset has embedded high-value-added farming systems that are not easily replicable, or if the asset has a significant pricing advantage because of its scale and/or offtake agreements.

### REFLECTING ON THESE OBSERVATIONS AND LAGUNA BAY'S BASE CASE

Laguna Bay incorporates these observations into a methodology that projects returns for each asset considered for acquisition. Many other factors are also taken into account when assessing the value of an asset and its inclusion in the portfolio. These factors include, but are not limited to, the following:

- Identification and appointment of a top-performing operator to manage the asset
- The fundamentals of the market for the commodity being produced
- Availability of long-term offtake agreements to manage price risk

Importantly, the approach ensures that our base case meets fund performance hurdles with a fair margin of safety. It also ensures consistency and allows quick and simple comparisons between competing deals.

### COMMODITY AND COST PRICE INPUTS

Laguna Bay selects commodity price inputs with reference to long-term historical averages adjusted for inflation and with due regard for volatility, long-term cycles and mean reversion over time. This method is conservative, as it avoids underwriting assets using prevailing spot or forward market prices.

The decision on an appropriate period is made with regard to prevailing spot and forward prices, commodity fundamentals/cyclicality and to general market conditions during that period.

Spot prices with adjustments for any significant variances to long-term averages are used for variable inputs, such as fertiliser, chemicals and fuel. Current rates are used for wages and other overheads, such as electricity, repairs and maintenance, rates and taxes. Spot prices are used for input costs, as they are less volatile and less prone to cyclicality than input prices are.

### FORECASTING EARNINGS

Annual forecast earnings are based on expected farm operator performance, including development and change of use activities, and determined with the use of historical commodity prices, as discussed above. The expected farm operator return is derived from extensive due diligence of the operator's historical performance, where available.

Laguna Bay then discounts the operator's planned performance with due regard for the delivery risk and variability of the operating results. This extends to development activities, where a discount is applied to earnings derived from significant development projects. This approach provides a further margin of safety with respect to the annual earnings inputs.

Unless a tangible activity, technology or method is being applied to a farming enterprise (i.e. land use changes, pasture renovation or the implementation of new farming systems), Laguna Bay will usually not include any assumptions related to 'background' productivity improvements. Background improvements, for example, may include improvements in varietal genetics (e.g. yield and input costs), more efficient machinery (e.g. speed, fuel and maintenance), or new strategies (e.g. R&D) in the livestock/cropping cycles.

These drivers are too unpredictable to model. Laguna Bay is more comfortable taking a conservative position and allowing these drivers to 'surprise' on the upside.

### CAPITALISING EARNINGS INTO ASSET VALUES

We adopt an earnings multiple approach to asset valuation, but are cognisant that the exceptional performance of an individual asset is not likely to be fully capitalised into the value of the land.

The earnings multiple is established at the point of acquisition based on district average earnings and/or vendor earnings and benchmarked against comparable sales/transactions to ensure the multiple is market supported. The projected earnings applied to the multiple are based on the average projected earnings across several years, discounted to the extent that Laguna Bay believes its practices or technology are proprietary and not likely to be adopted by the district/market over the term of its ownership.

Laguna Bay favours the adoption of readily available new technology. It also participates in local research groups dedicated to improving farming systems and advocates for its proprietary systems within its farming districts. It does so to demonstrate the technology/practices for sufficient period of time to improve market acceptance by the district (and therefore buyers) at exit.

Additionally, Laguna Bay will also consider whether any goodwill to sell likely exists (above market contracts, vertical supply chain integration, aggregation/scale premium, etc.).

Variables, such as climate, are factored into the modelling through the average production from the asset, which considers climatic variability (both favourable and unfavourable), and scenario analysis, which accounts for the timing of a serious climatic event, such as a drought, in the initial life of the asset.

### BEST-CASE AND WORST-CASE SCENARIOS

*Best-* and *worst-case* scenarios project the most optimistic and pessimistic cases. Laguna Bay may adjust any of the inputs to reflect the *best-* and *worst-case* scenarios.

For example, the *worst-case* scenario will typically stress-test the preservation of capital. It may be based on the lowest historical commodity prices, assume no or limited uplift in productivity or earnings from development activities, assume the full costs of development activity and may incorporate adverse climatic conditions.

The *best-case* scenario is a guide to the potential and realistic upside in each farmland asset. It may reflect, for example, OECD forecast commodity prices, achievement of the full extent of the planned uplift in productivity and earnings from development activities, capitalisation of some or all of these uplifts and an expansion in exit multiples.

### DISAGGREGATION OF PROJECTED RETURNS

Disaggregating projected returns (IRRs and yields) into their constituent components is also important. This approach shows, for example, the projected inflation impact on commodity prices, productivity improvements, the impact of transformation and that of leverage. It facilitates a sensitivity analysis of individual return components and improves our understanding and attribution of the components of future returns.

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