

# Harbour Investment Horizon

## Behavioural biases and equity quant research

### Harbour Investment Research

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By Susanna Lee, Director and Portfolio Manager

Harbour's quantitative equity research spans many signals including growth, value, yield and quality. This report will focus on growth signals. Growth signals include many metrics such as return on equity, earnings per share, operating profit and sales numbers and upgrades to these components.

Harbour uses a mixture of quantitative (quant) and qualitative equity research to make investment decisions. Qualitative research by the Harbour analyst looks at a firms' business models, competitive advantage, corporate governance, sustainability, and engagement with management to identify expected outperforming companies. Quantitative research is used to break down the investment universe, pick potential outperformers and underperformers, and anchor analyst and portfolio manager views to more tangible numbers.

Both quantitative and qualitative research have pros and cons. Qualitative research is often exploratory and can probe in-depth into long term expectations, as well as reasons and motivations. Quantitative research uses a formal, systematic numerical process, such as utilising actual or expected earnings or growth metrics. Conversely, qualitative research can be subject to human prejudices such as confirmation bias, gambler's fallacy, anchoring, prudence and overconfidence. At Harbour, we believe a mixture of quantitative and qualitative approaches result in the best outcome for portfolios and clients.

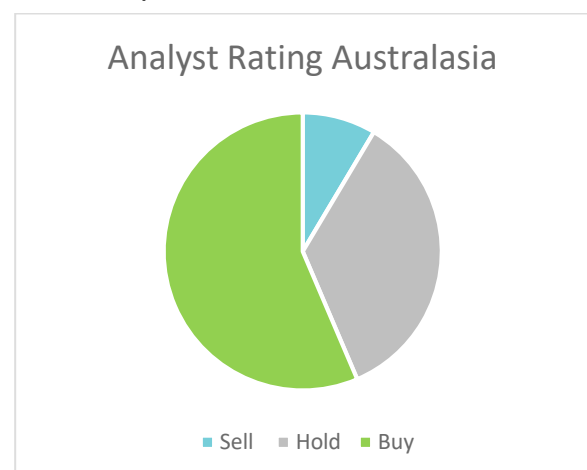
## Consensus Analyst Ratings

### Australasia

The Harbour investment universe is Australasian and spans stocks in the S&P/ASX 300 and the S&P/NZSE Indices. For the purpose of this report, we'll only use stocks in the S&P/NZSE Index that are large enough to be covered by at least one analyst.

Bloomberg collects data on all broker ratings in Australia and New Zealand and forms an aggregate score for each company. In the Australasian universe, there are over six times the amount of buy-rated stocks (buys) than there are currently sell rated stocks (sells).

**Figure 1: Australasian universe Buy, Sell, and Hold ratings from sell side analysts:**



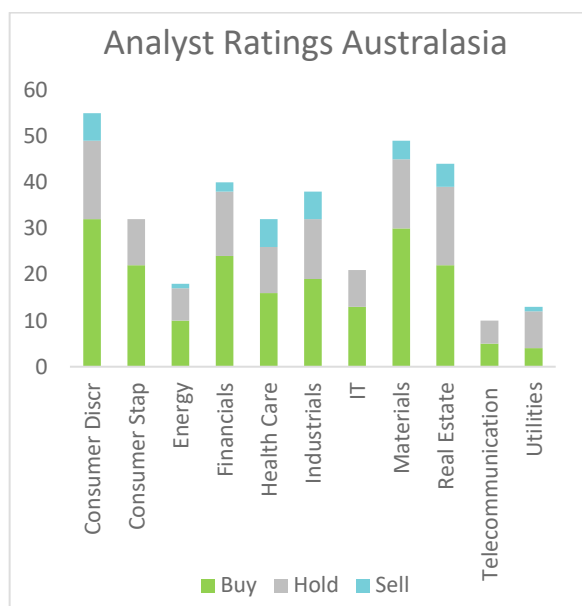
Buy, hold and sell ratings are an aggregate analyst rating per stock which ranges from 1 to 5. 3 is neutral, above that is an aggregate buy, and below that is a sell. Source: Bloomberg and Harbour 2018

Sell side analysts may have human biases, and can also face extra pressures, such as the relationship with the company they cover, the relationship with management and investment banking operations,

as well as the pressure to sell research, and to have ideas to present to clients. Because of this, analysts may be reluctant to move buys to holds, or to publish a company sell rating.

There are two sectors that have no aggregate sell ratings in Australasia - consumer staples and telecommunications. Energy, IT and utilities only have one company with an aggregate sell rating.

**Figure 2: Australasian universe Buy, Sell, and Hold ratings from sell side analysts per industry:**



LHS axis: Number of companies. Buy, hold and sell ratings are an aggregate analyst rating per stock which ranges from 1 to 5. 3 is neutral, above that is an aggregate buy, and below that is a sell. Source: Bloomberg and Harbour as at Feb 2018.

Sell side analyst research, regardless of buy, hold or sell recommendations, can be a valuable resource for qualitative and quantitative analysts. For qualitative research, analysts have specific insight and perspective on a company, its management and its strategy. Some quantitative research also uses forward-looking data provided by sell side analysts and company guidance.

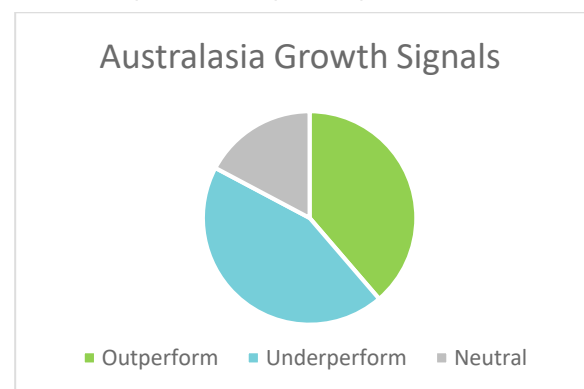
## Growth Signals Australasia

Decisions made by analysts include subjectivity, while signals based on only quantitative research are primarily objective. In figure 1, we can see there

are currently six times the number of buys than there are sells. Quantitative research removes many biases. Often the outcomes for quantitative research are more evenly spread out between buy and sell signals than those of analysts. This illustrates that quantitative research may be free from behavioural and cognitive biases, as well as other outside influences.

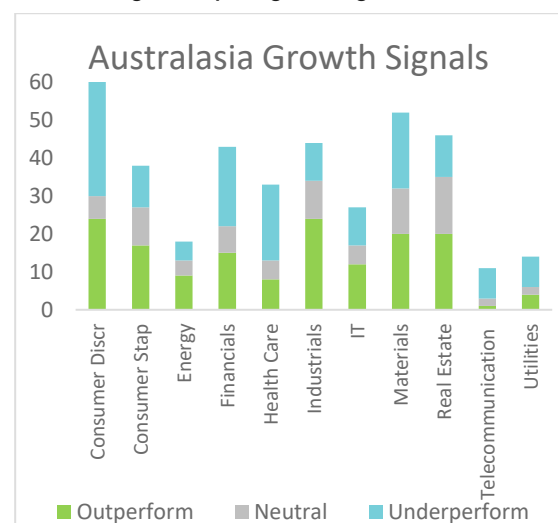
In this report, growth signals reflect data from earnings per share, operating profit, sales numbers and the number of upgrades. If the outcome has a positive skew, it is classed as an outperform. A negative skew is an underperform, while a neutral skew indicates no change.

**Figure 3: Australasian universe perform, underperform, and neutral ratings from quant growth signals:**



Bloomberg data and Harbour as at Feb 2018.

**Figure 4: Australasian universe perform, underperform, and neutral ratings from quant growth signals:**



LHS axis: Number of companies. Source: Bloomberg data and Harbour as at Feb 2018.

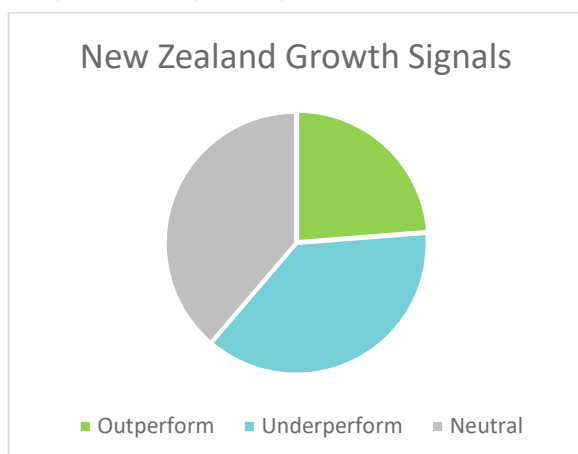
Using quantitative data, outperform and underperform ratings are evenly spread in Australasia, although some industries have more favourable fundamentals than others.

The New Zealand and Australian markets are different in terms of fundamental drivers (such as size, liquidity and market participants). It is often most effective to analyse quant signals for these markets separately.

## New Zealand Growth Signals

Outperform, underperform and neutral signals are spread somewhat evenly for New Zealand stocks. New Zealand has had strong equity returns over the last decade, underpinned by strong earnings growth and support from declining bond yields. With lower volatility and higher quality stocks, there has been less dispersion in growth forecasts. New Zealand also has less market depth, with fewer analysts making projections on the New Zealand market, which can add to lower forecast dispersion.

**Figure 5: New Zealand perform, underperform, and neutral ratings from quant growth signals:**

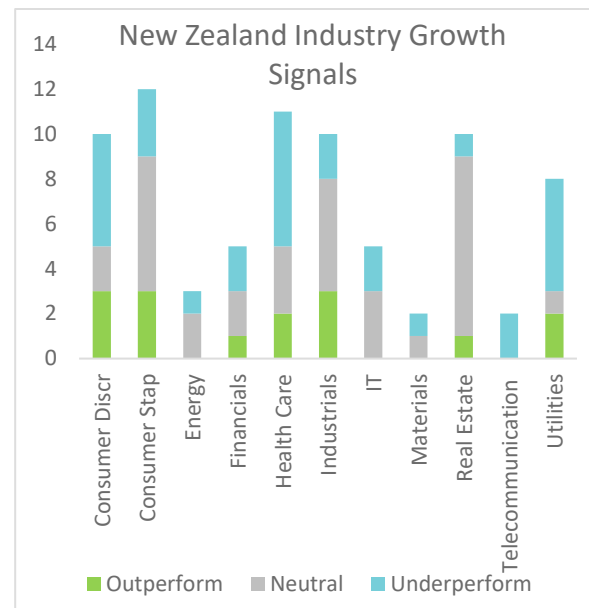


Bloomberg data and Harbour as at Feb 2018.

In New Zealand, industries which have more than five stocks have a spread of outperform, neutral and underperform ratings. New Zealand has a

much larger relative weighting to utilities and consumer staple stocks, compared to Australia.

**Figure 6: New Zealand Industry perform, underperform, and neutral ratings from quant growth signals:**

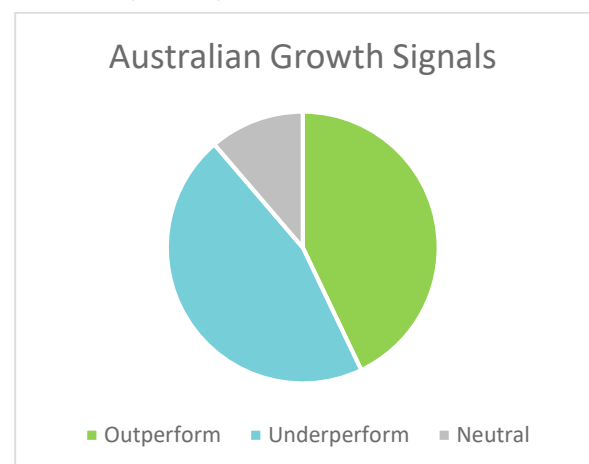


LHS axis: Number of companies. Source: Bloomberg data and Harbour as at Feb 2018.

## Australian Growth Signals

Australian equity returns over the last decade have been relatively variable compared to New Zealand. Hence, Australia has a larger dispersion of growth signals - 87% of stocks have an outperform or underperform signal, compared to only 13% with a neutral signal.

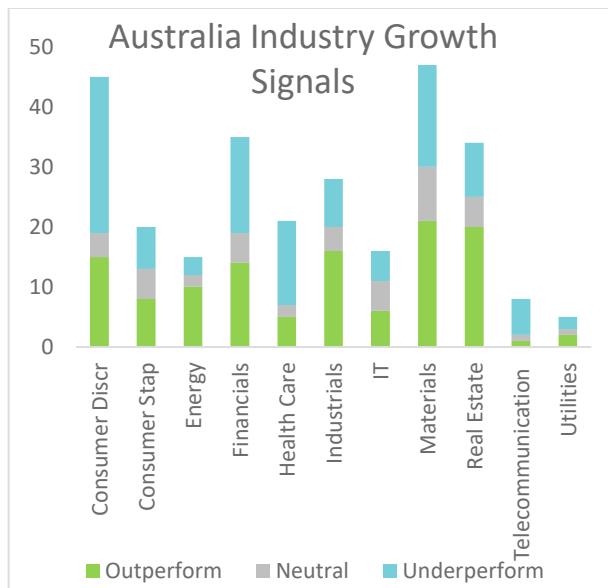
**Figure 7: Australian perform, underperform, and neutral ratings from quant growth signals:**



Bloomberg data and Harbour as at Feb 2018.

Although some industries are currently rated more attractive than others in Australia, all have a spread of outperform, neutral and underperform quant growth ratings. The spread is more even in Australia than in New Zealand, because the Australian equity market is much larger, and all industries hold five or more stocks. Australia has a much larger weighting to financials and materials stocks compared to New Zealand.

**Figure 8: Australian Industry perform, underperform, and neutral ratings from quant growth signals:**



LHS: Number of companies. Source: Bloomberg data and Harbour as at Feb 2018.

New Zealand and Australia have some similarities in terms of how quantitative growth signals are dispersed. Currently in both countries, 50% or more of consumer discretionary is rated underperform. Many companies in this sector have lower forecasts due to the 'Amazon effect'; recent downgrades to

earnings forecasts are expected to impact sales from the introduction of Amazon to the local market. We see a similar trend in healthcare where there is pricing pressure from the respective governments. Telecommunications companies also have significantly more negative growth ratings; this is an industry which includes legacy businesses that have been disrupted by technological change and have high competitive pressures. The data exhibits negative skews shared across both markets, but it does not exhibit positive skews across New Zealand and Australia.

## Quantitative or Qualitative

Combining both quantitative and qualitative research is a powerful way to deliver quality investment outcomes, though both have strengths and limitations. Numbers can give a robust picture of the growth prospects of a company. However, for the best investment outcomes, at Harbour we believe it is important to also consider unquantifiable aspects of a firm, such as the business model, competitive advantage, corporate governance, sustainability, and more intuitive aspects of engaging with management. This goes beyond just numbers.

This research highlights that if you have an active mandate to invest in more than one market, you can take advantage of times where the dispersion of growth opportunities in one market is wider than in the other.

**Susanna Lee, Director & Portfolio Manager at Harbour Asset Management Limited**

***This column does not constitute advice to any person.***

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