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Indexing and Factor Investing

The United States is a thought leader. Measuring innovation is difficult, but the Global Innovation Index, published by Cornell University, INSEAD, and the World Intellectual Property Organisation goes some way to comparing countries. From 140 countries, the US was in the top five for quality and quantity of innovation output. As well as the more obvious innovation success stories in the technology sector, financial services has also benefited from the environment the US provides.

Both the idea and implementation of indexing a portfolio originated from the US. The efficient market hypothesis, formulated by Eugene Fama, implies that stock prices fully reflect all available information. If this were true, it would be very difficult for an investor to do better than the broader market. From a practical perspective, the performance of active mutual fund managers, especially after fees and taxes, seemed to confirm the futility of active investing. The data was and is compelling: over seventy years, the average equity fund has underperformed the S&P 500 Index by 1.6% per annum. For a long term buy and hold investor, this makes a large difference. Investing $1 in the S&P 500 in 1945 resulted in $174,181 by 2015, but investing into the average equity mutual fund produced only $63,184. However, it was not until John Bogle implemented the idea of indexing as a mutual fund product that the strategy became available to investors. It was a difficult idea to get off the ground. Nevertheless, assets following indices went from $10 million in 1976 to nearly $4 trillion today. The academic and empirical support for indexing and the growth of index products within the US continue to influence investment decisions around the world.

Factor investing is another innovation from the US that has affected the approach of asset managers and owners. Factors are a way to separate a group of stocks into different portfolios, depending on particular stock characteristics. For example, we can order all the stocks in the S&P/ASX 300 by price to book, from cheapest to most expensive. We would expect the cheapest 20% to outperform the most expensive 20%. Many different stock characteristics can be used to build portfolios. For example, momentum (stocks that have performed well are more likely to outperform), size (smaller stocks outperform large ones), and value (cheap stocks outperform expensive ones) are well-established factors that often serve as a starting point for factor investors. Factor portfolios serve as a new benchmark for active management: active funds should be able to outperform both the index and a simple combination of factor portfolios. This can be difficult to do.

Australia compared to the United States

The academic research originating from elite US universities that supported both indexing and factor investing was commonly based on US equities data. We think that applying this research directly to other global markets has to be done with care. We use the Australian market as an example.

Indexing

Table 1 details some differences between the markets. The Australian market is 5% of the size of the US, has more weight concentrated in fewer names and across fewer sectors. The US market seems like a natural candidate for indexing – the index provides a broadly diversified stock portfolio, with exposure to the global economy.

One way to think about the difference between the US market and the Australian market is to use active share. Active share is used to measure the difference between a portfolio and an index. To give some context, an index portfolio compared to itself has an active share of 0%, and a portfolio that has no stocks in the benchmark index has an active share of 100%. The active share of the Platypus high conviction portfolio as at December 2017 is 68%. We force the US market to have the same sector concentration as Australia, then measure the active share of this portfolio compared to the S&P 500. This results in an active share of 42%.

In the US, active equity managers have an average active share of 30%, implying that buying the Australian index compared to the US market is a more active bet than buying the average active mutual fund manager in the US. We use price-to-book value to look at the performance of value compared to growth through the cycle. The value portfolio is constructed from the cheapest 20% of stocks in the S&P ASX 300 as measured by price-to-book, and the growth portfolio from the most expensive 20%.

Table 1: Comparison between S&P ASX 300 and S&P 500 (at 30/11/2017)

	S&P ASX 300	S&P 500
Number of stock	299	505
Largest stock	8.5%	3.5%
Total weight of largest 15 stocks	52%	28%
Largest stock (USD)	$107bn	$881bn
Total size of market (USD)	$125.4bn	$24.818bn
Consumer Discretionary	5%	12%
Consumer Staples	7%	9%
Energy	5%	5%
Financials	35%	14%
Health Care	7%	13%
Industrials	8%	10%
Information Technology	2%	26%
Materials	17%	3%
Real Estate	8%	3%
Telecommunication Services	3%	2%
Utilities	2%	3%

Although this is a rudimentary comparison, it highlights the concentration risk in the Australian market. For higher active share, investors should be compensated with higher returns. Simply put, buying the index in Australia is an active decision, and one that not necessarily provides investors with better returns.

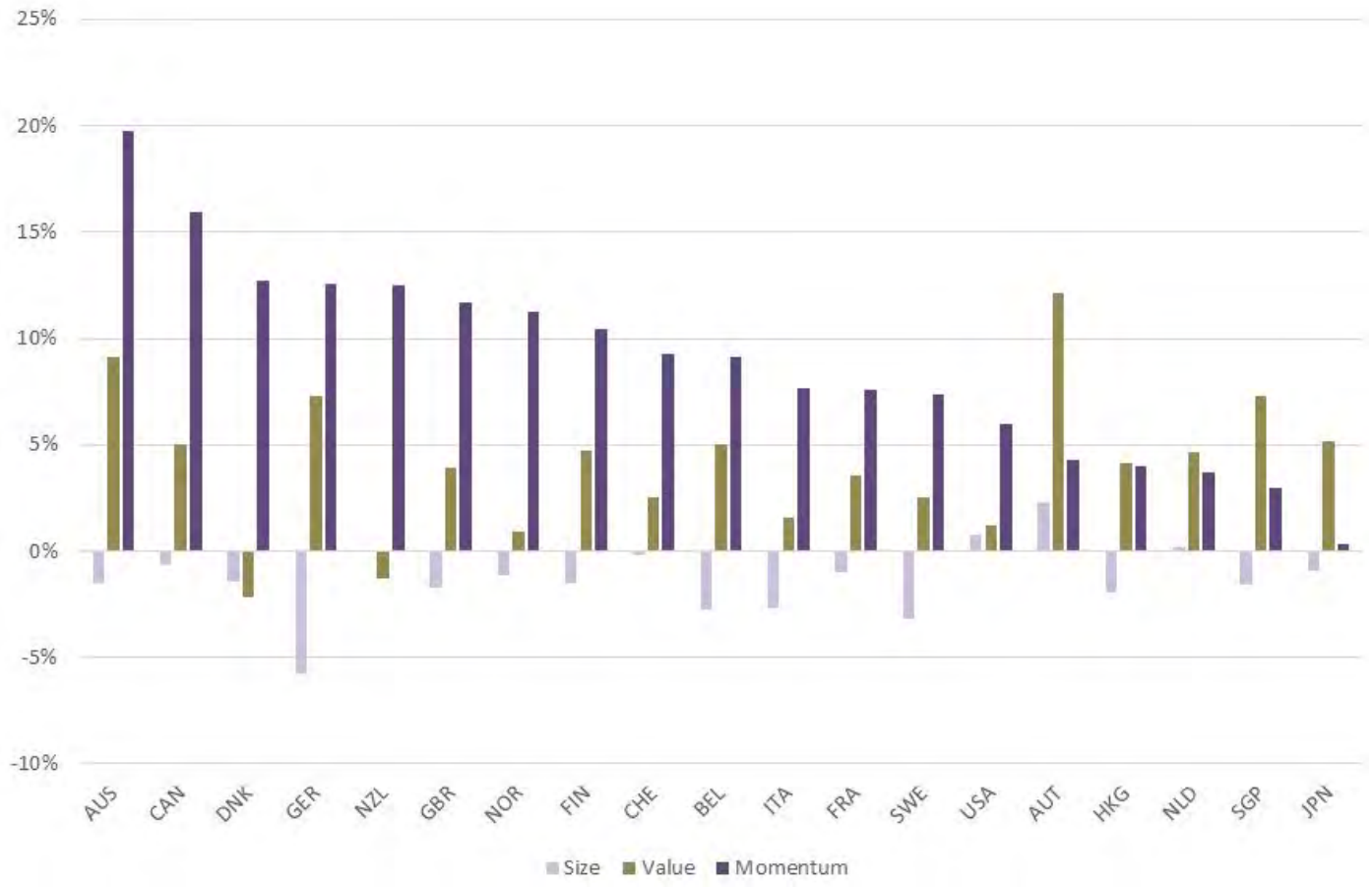
There is another side to this, however. There is some evidence, published by academics from the University of New South Wales, that the net excess return generated by active managers increases with market concentration (Feldman et al). From a practical perspective, this research is supported by long run evidence that the average active manager in Australia outperforms the S&P ASX300 (Bennett et al). Assuming managers charge a fair price, the support for indexing is far less compelling in Australia than the US.

Factor investing

The second area of difference is factor investing. Different markets with different structures, economies, and populations tend to support the performance of different factors. Chart 1 shows how different these returns can be. Size, value, and momentum all work to some extent in the US (the source of much factor research), but this is not the case for other markets around the world. In Germany, for example, size has returned -5% annually since 1987. In Japan, value is the best performing factor. Twenty years is a long investment horizon, and failing to account for these different factor performances has historically led to large differences in performance. It is important to consider local market nuances when investing in factors.

Annual long-short factor returns

Chart 1: Annual returns to size, value, and momentum since 1987 across markets. All factors outperform to some extent in the US, but this is the exception rather than the norm.



Once an asset manager has decided on which factors are suitable for a particular market, the consideration becomes to what extent the long term past performance may be extrapolated into the future. Take momentum as an example. There is long run evidence for the profitability of momentum across markets, across time, and across geographies (Asness et al.). Although there are periods of poor performance, momentum profitability is so pervasive that to make a compelling argument that it will no longer exist in the future is difficult. One argument for lacklustre returns going forward rests on the idea that the amount of funds chasing momentum will arbitrage away any excess returns. If all strategies were identical there is of course a risk of this happening. However, all momentum strategies are subtlety different, with implementation being as important as factor choice (Chen and Velikov), making the portfolio construction method critical. This will go some way towards mitigating this risk.

Importance of local knowledge

The depth and breadth of the ideas that originate from the US are remarkable. Both indexing and factor investing have increased the wealth of countless investors around the world. However, when implementing these ideas in markets that have different structures, the individual characteristics of the markets themselves can influence what is the best strategy.

PLATYPUS ASSET MANAGEMENT

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