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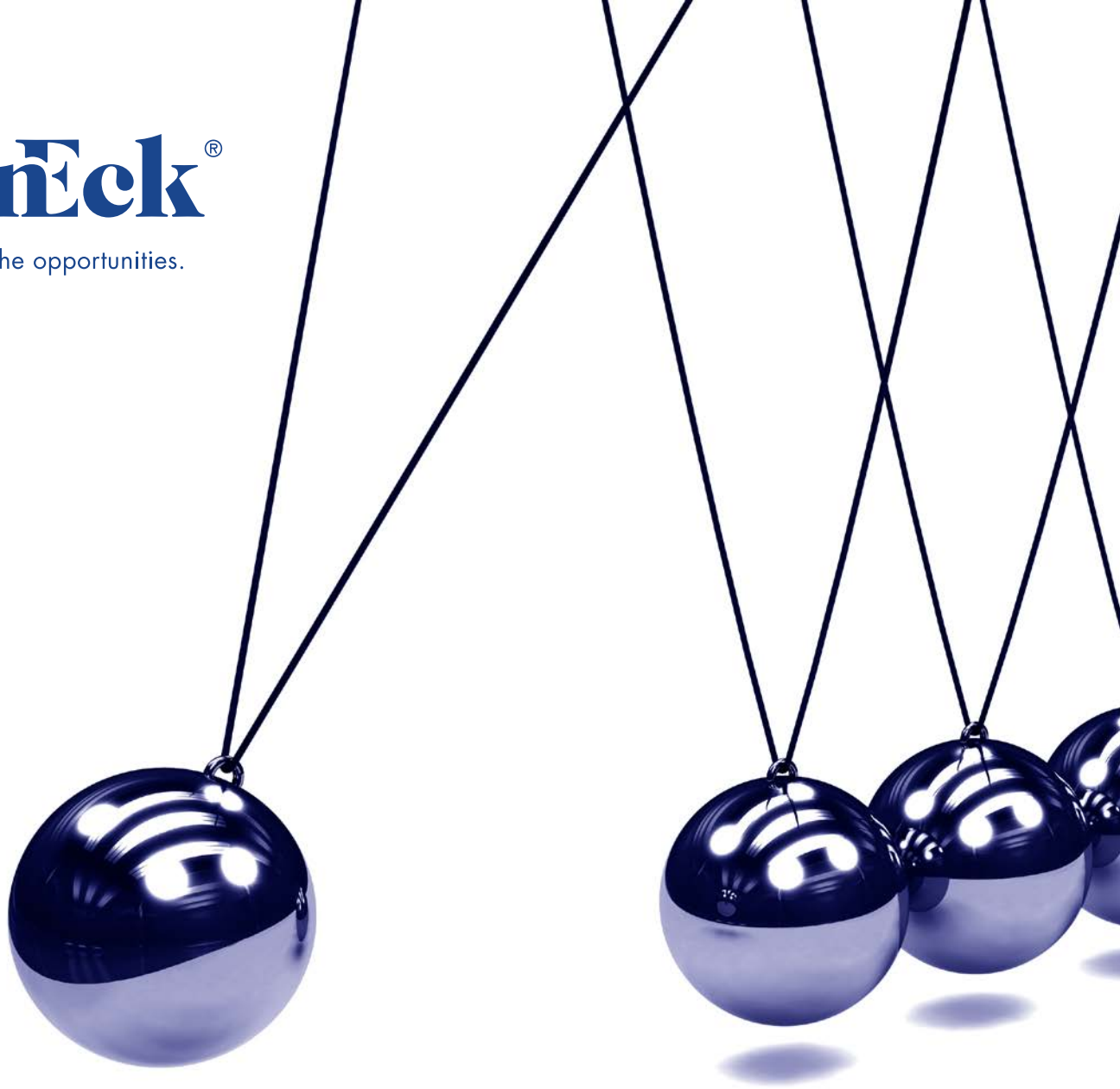


The Australian Concentration Conundrum

Why factors are not pronounced in Australian Equities

Research Paper | 2022

Executive summary

Factor investing, once only the realm of institutional investors, has grown in popularity among all investor types over the past two decades with the emergence of exchange traded funds (ETFs) that track factor-based indices. Globally, factor-based ETFs assets under management is approximately $1 trillion as at 17 June 2022[1], with the majority of strategies covering global, European and US equity markets. In this paper we explore whether factor investing can be replicated effectively in the Australian equity market.

The Australian equities market is one of the most concentrated by stock and sector. The universe is also small relative to global markets. This paper shows that these nuances present challenges when assessing factor strategy efficacy.

We will show that despite these challenges, there is an alternative way to invest in a diversified portfolio of Australian equities that has historically achieved excess returns over the long term and is supported by academic research.

Factor investing

Introduction

Factor investing selects a set of companies with similar fundamentals, price behaviour or a combination of both. These strategies are implemented with the aim of achieving targeted investment outcomes. Factor definitions are backed by a range of robust academic findings and empirical results. A lot of active manager outperformance can be attributed to factor exposures.

Over the past two decades, access to factor investing (also known as smart beta) has become readily available via ETFs. Factor-based ETFs combine the key aspects of active and passive management by tracking indices with defined rules, designed to deliver a targeted investment outcome, while retaining transparency, liquidity and ease of trading for investors. MSCI is a global leader in constructing factor index strategies.

For the purposes of this paper, we assess the performance and characteristics of the factor strategies: momentum, growth, value and quality. MSCI's measures of these factors, as well as its academic foundations, are outlined in Exhibit 1.

Exhibit 1: Single factor strategy definitions

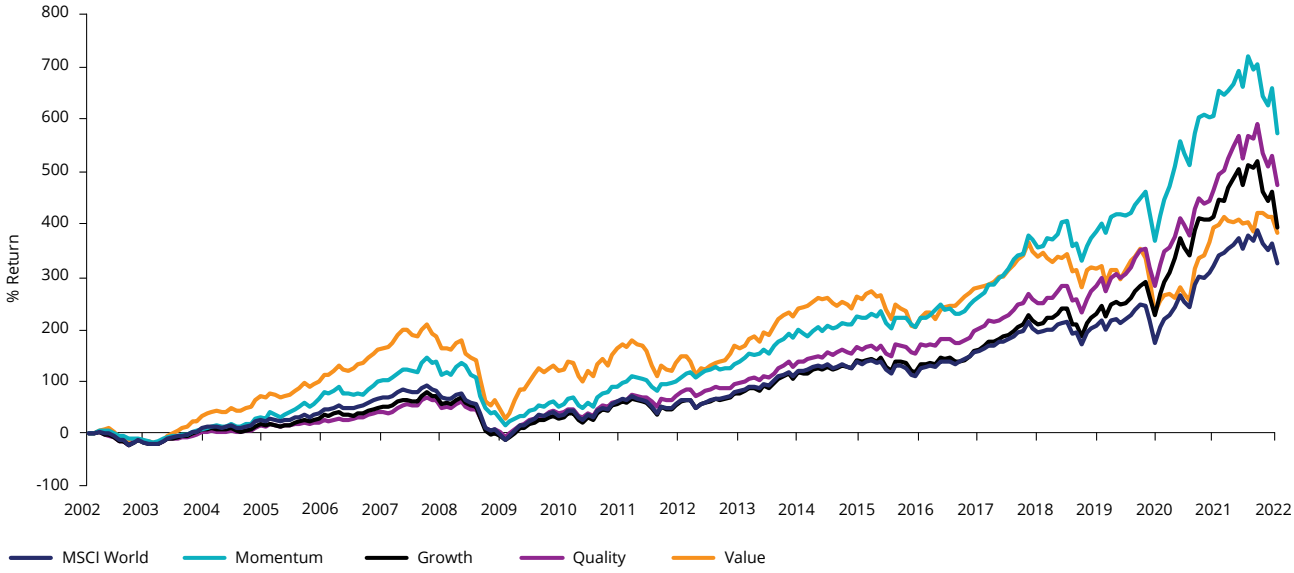
Factor	Objective	Academic research	MSCI single factor criterion
Value	Value investing selects 'cheap' companies trading a low price to valuation multiples relative to peers. Value seeks to provide excess returns as company valuations relative to price return to market average.	The value factor is also grounded on the work of Benjamin Graham and David Dodd in the 1930s and academic research by Basu (1977)[2] and Fama and French (1992)[3].	• Book value to price ratio • Forward price to earnings • Enterprise value to cash flow from operations.
Growth	Growth investing selects companies that have achieved strong earnings and sales growth. Growth seeks to provide excess returns by investing in companies with historically strong company growth with the intention this will continue in the future.	Growth is paired against value by academics including Fama and French (1992)[3], Lakonishok et al. (1994)[4] and Haugen (1995)[5].	• Long-term forward earnings per share (EPS) growth rate • Short-term forward EPS growth rate • Current internal growth rate • Long-term historical EPS growth trend • Long-term historical sales per share growth trend.
Quality	Quality investing selects companies considered financially healthy, providing stable earnings growth, high return on equity and low financial leverage. Quality is a defensive strategy as it seeks to outperform in late cycle economic environments.	Research supporting quality includes Benjamin Graham and David Dodd in the 1930s. Subsequent empirical studies show that quality growth stocks have historically outperformed the market with relatively low volatility over long time periods (Novy-Marx 2014)[6] and a portfolio of quality stocks produces better Sharp ratios (risk-adjusted returns) than the market (Asness, Frazzini, and Pedersen 2013)[7].	• High return on equity • Stable year on year earnings growth • Low debt to equity ratio.
Momentum	Momentum investing select companies that recently had strong positive pricing sentiment. The strategy seeks to provide excess returns by investing in companies with strong pricing historical performance tailwinds.	Momentum, as a factor, is supported by academic research by Jegadeesh and Titman (1993)[8] which was reinforced by Carhart (1997)[9] and Rowenhorst (1998)[10].	• 6 month local share price return • 12 month local share price return.

Benefits of factor investing

Factor investing has historically achieved excess market returns over the long term in global equity strategies, with different factors performing well in different macroeconomic environments. Between 2002 and 2006, value companies consistently outperformed during an era of high growth and high inflation. In contrast, between 2007 and 2020, quality consistently outperformed as these companies were rewarded for their ability to generate sustainable earnings amid a backdrop of stagnate economic growth. This is highlighted in Exhibit 3, comparing calendar year performance ranking of single factor strategies.

When active managers succeed it is often due to their assessment of the macroeconomic environment. That is why it is important that factor strategies perform as designed, that is, they exhibit factor efficacy.

Exhibit 2: Global equity cumulative factor returns



Source: MSCI, USD returns, January 2002 to April 2022, MSCI World Factor Indices, Value as MSCI World Enhanced Value.

Exhibit 3: Calendar year global factor performance ranking

2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
-14.8%	56.1%	28.1%	27.8%	30.4%	19.4%	-33.8%	41.1%	16.1%	4.2%	16.1%	31.9%	8.4%	4.1%	8.1%	32.1%	-2.8%	36.1%	33.8%	25.7%
-15.6%	33.1%	20.9%	16.8%	20.1%	16.2%	-40.2%	33.3%	14.5%	3.8%	15.8%	29.7%	6.5%	3.7%	7.5%	28.0%	-5.5%	33.7%	28.3%	21.8%
-16.8%	28.1%	14.7%	9.5%	18.7%	14.8%	-40.7%	32.6%	11.8%	-5.5%	14.3%	27.1%	6.1%	3.1%	4.6%	26.0%	-6.7%	27.7%	22.2%	21.2%
-19.9%	25.4%	12.2%	9.4%	16.2%	9.8%	-41.1%	30.0%	10.7%	-5.5%	14.1%	26.7%	4.9%	-0.9%	4.2%	22.4%	-8.7%	27.7%	15.9%	20.0%
-19.9%	21.4%	10.9%	5.5%	15.1%	9.0%	-43.0%	14.2%	8.6%	-11.6%	13.0%	26.7%	4.0%	-3.3%	2.8%	22.2%	-13.9%	19.0%	-4.0%	14.6%

MSCI World Momentum Growth Quality Value

Source: MSCI, USD calendar year returns, MSCI World Factor Indices, Value as MSCI World Enhanced Value.

Qualifying single factor efficacy

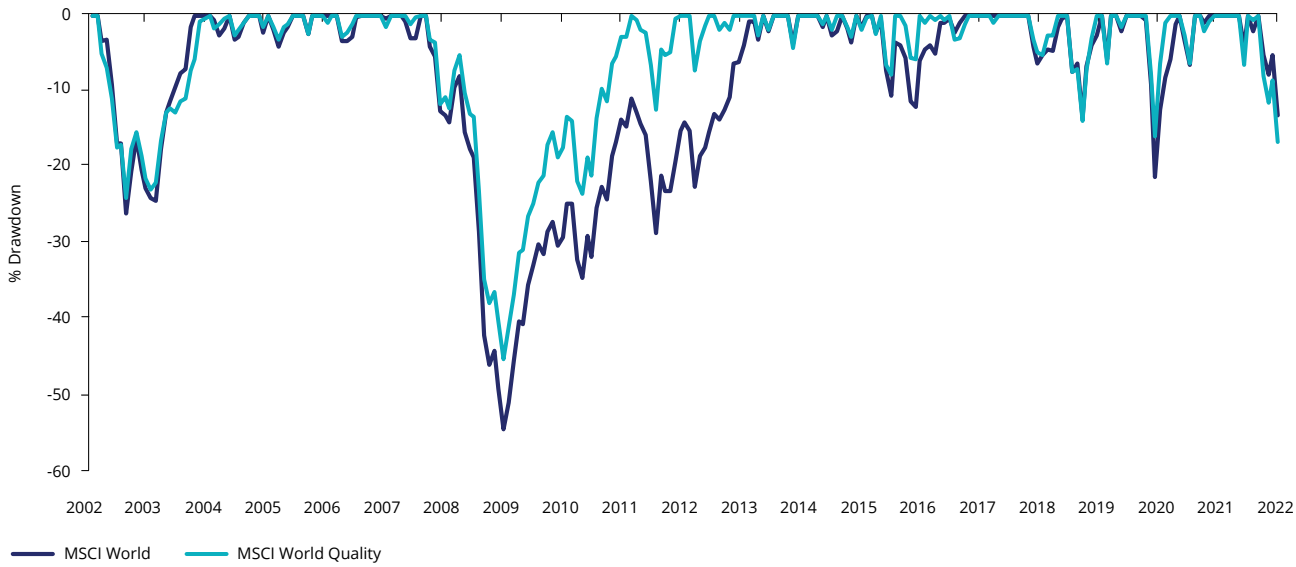
Converting the concept of a factor into implementable rules can be challenging. Let us then take a look at a successful implementation of the quality factor.

The quality factor is a defensive strategy designed to outperform during periods of heightened market volatility. Benjamin Graham wrote about it in The Intelligent Investor[11] in 1949, where he said investors should demand from a company "a sufficiently strong financial position and the potential that its earnings will at least be maintained over the years."

Such companies, he claimed, show resilience by falling less in a downturn and recovering to previous highs quicker than other companies. MSCI's implementation of the quality factor shows that while it does tend to behave defensively in downturns, it also tends to capture a fair share of the upside in subsequent bull runs.

This is seen when comparing the drawdown of MSCI World Quality against MSCI World following the global financial crisis (GFC). Quality returned to pre-GFC and COVID-19 levels 27 and 4 months, respectively, faster than the broader index.

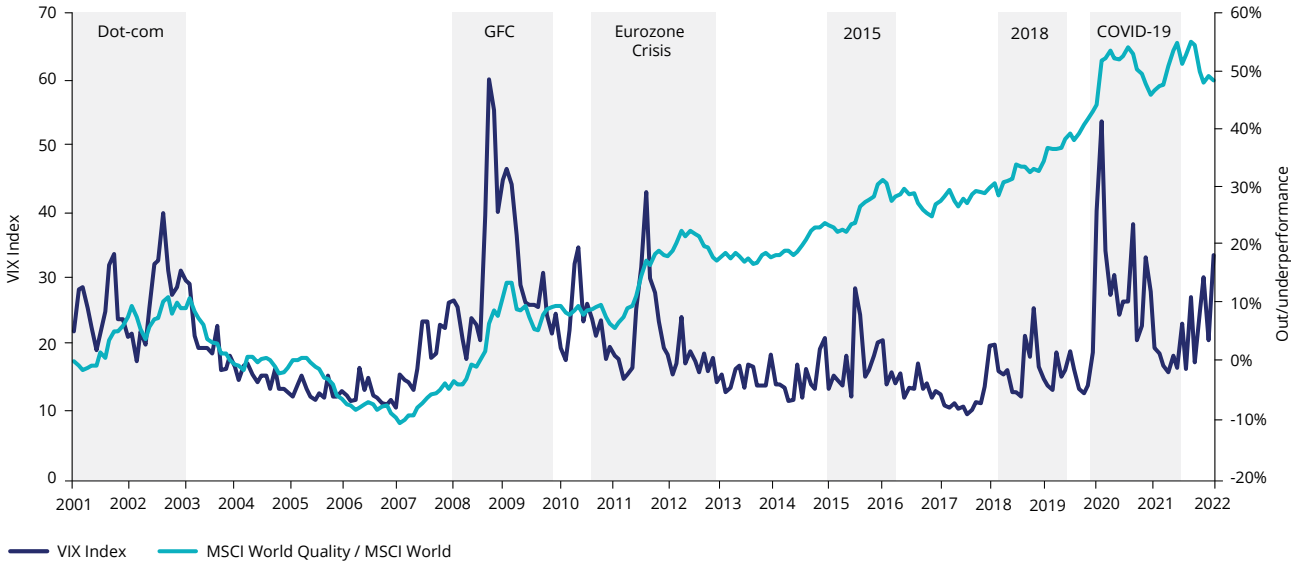
Exhibit 4: MSCI World Quality versus MSCI World drawdown



Source: MSCI, USD returns, January 2002 to April 2022.

Quality also outperformed during periods of heightened volatility represented by the Chicago Board Options Exchange Volatility Index (VIX). A higher VIX index value corresponds with higher expected volatility of the S&P 500. You can see in Exhibit 5, when the light blue line is going up quality is outperforming, and there are notable periods of outperformance including the dot-com recession, GFC, Eurozone crisis, 2015/2018 market shocks and COVID-19 market drawdown.

Exhibit 5: MSCI World Quality relative performance to MSCI World versus VIX index



Source: Bloomberg, MSCI, USD returns, January 2001 to April 2022, VIX Index as Chicago Board Options Exchange Volatility Index.

These examples confirm that quality, as a global single factor strategy, performed as intended. Similar observations are also true when looking at how value, growth and momentum performed historically (see appendix for value investing).

Now that we have confirmed that single factor strategies work in global markets, let us assess whether the Australian equities complex is fit for implementing single factor investing.

Australian equities market

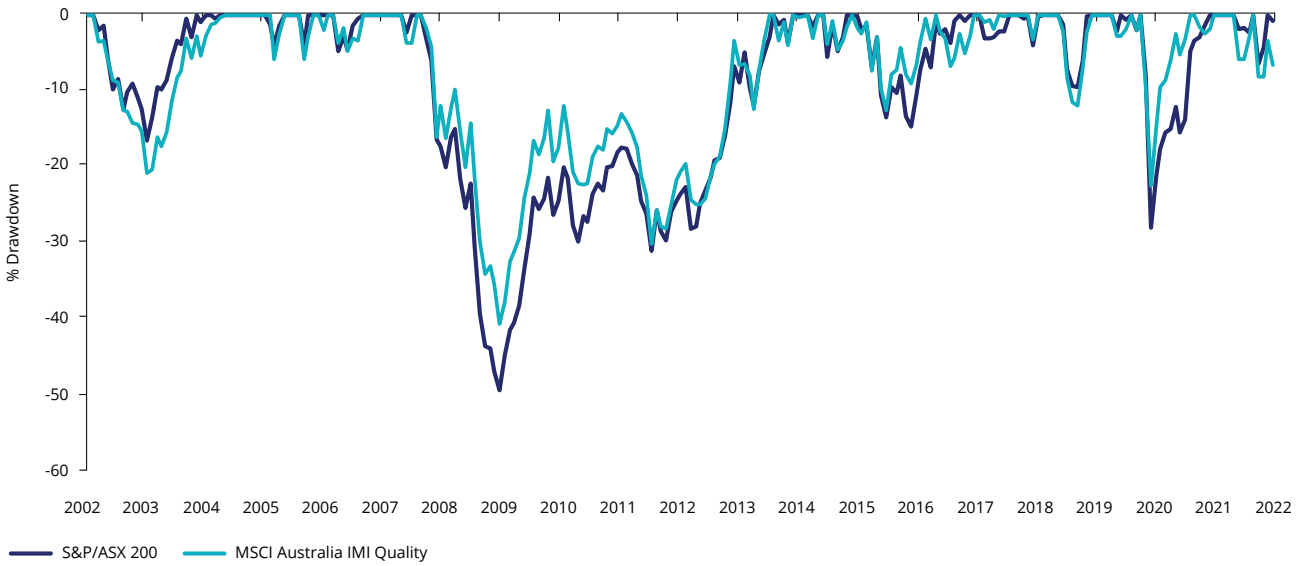
Overview

Australia is a developed economy with stringent financial reporting requirements and high shareholder transparency. In this respect, it would be logical for investors to believe that single factor strategies in Australia should be comparable to global factor performance. However, this has not been the case for three distinct reasons that we will highlight after first analysing the performance of factors in Australian equities.

Assessing Australian equity single factor performance

One would intuitively expect constructing a quality strategy in Australia would produce similar outcomes to quality in global equities. However, comparing the performance of MSCI Australian IMI Quality to the benchmark S&P/ASX 200 by drawdown and relative to the VIX index illustrates a disconnect. During the dot-com bubble burst, quality underperformed the benchmark in Australia and following the GFC, quality performance was not materially different to the benchmark.

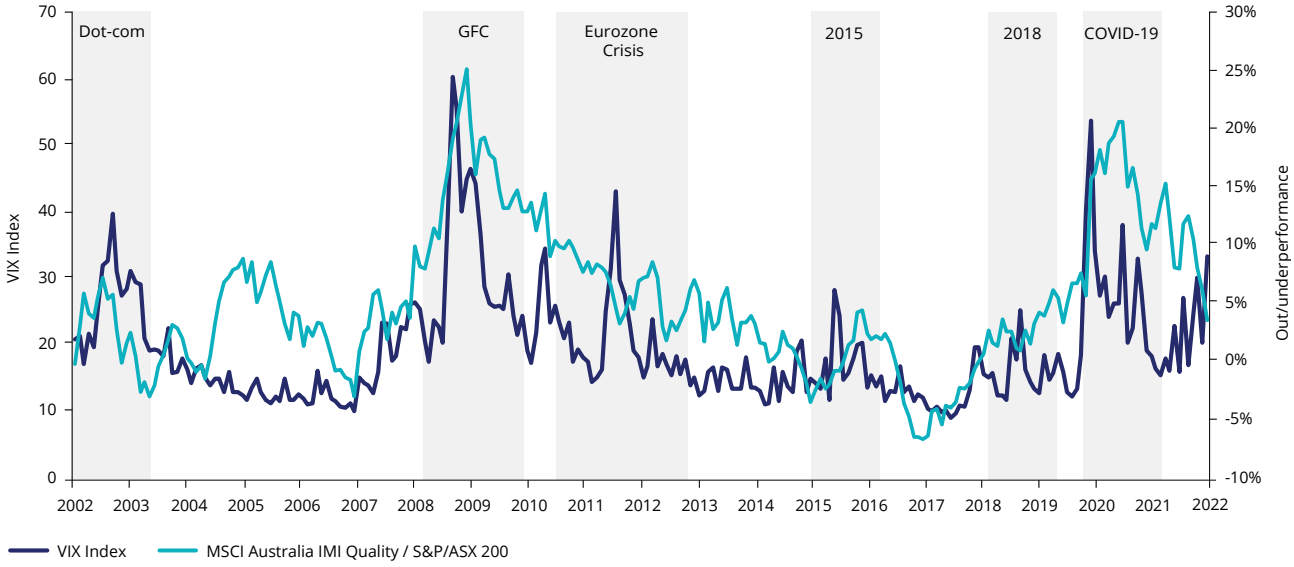
Exhibit 6: MSCI Australia IMI Quality versus S&P/ASX 200



Source: MSCI, AUD returns, January 2002 to April 2022.

There is also no correlation between when quality in Australia outperformed and the VIX index increasing.

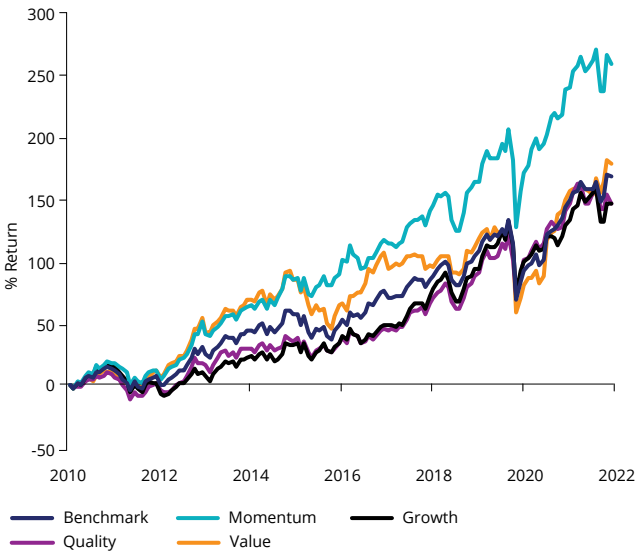
Exhibit 7: MSCI Australia IMI Quality versus VIX index



Source: Bloomberg, MSCI, S&P, AUD returns, January 2001 to April 2022, VIX Index as Chicago Board Options Exchange Volatility Index.

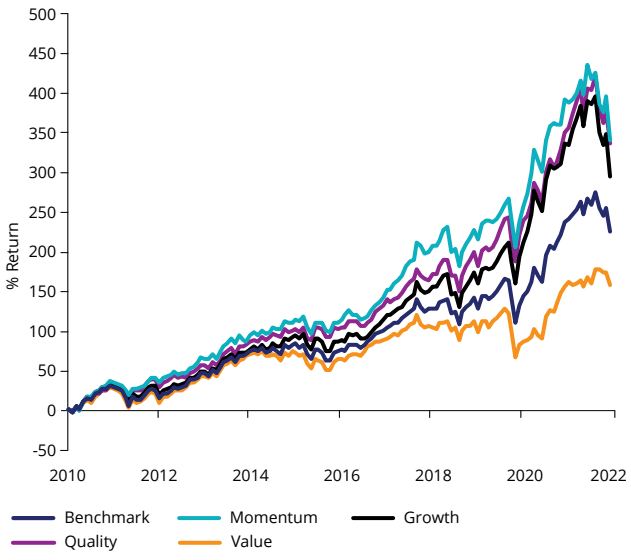
This failure of a quality factor strategy in Australia compared to global equities is also true for growth and value strategies (see Appendix 1 for value investing). The period between the GFC and the emergence of COVID-19 was the ideal macro-economic environment for growth and quality factor strategies. Growth companies trading at high valuations benefited from the low interest rate environment and quality companies were rewarded for their ability to generate sustainable earnings amid a backdrop of sluggish economic growth. MSCI World Quality and Growth consistently outperformed over this period. MSCI Australia IMI Quality and Growth underperformed whereas value outperformed, contrary to expectations, highlighted in Exhibits 8 and 9.

Exhibit 8: MSCI Australia IMI Factor Performance



Source: MSCI Australia IMI Factor indices, May 2010 to April 2022, AUD returns, Value as MSCI Australia IMI Enhanced Value.

Exhibit 9: MSCI World Factor Performance

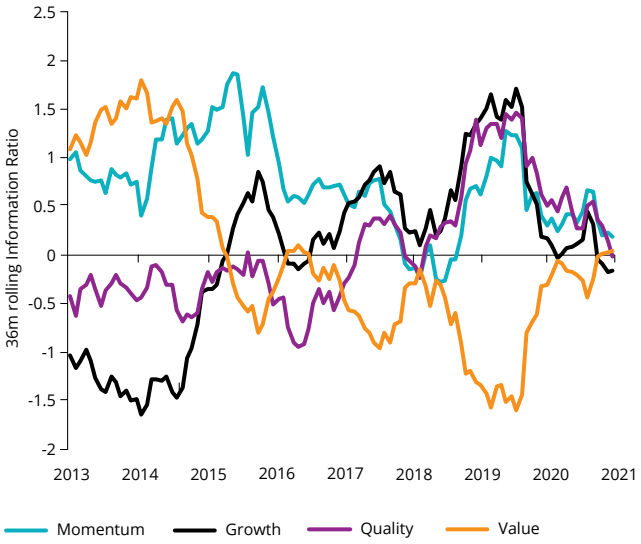


Source: MSCI, USD returns, May 2010 to April 2022, MSCI World Factor Indices, Value as MSCI World Enhanced Value.

Now, we take a deeper look at factor returns by considering risk. One way to do this is to consider the Information Ratio a calculation of the active returns relative to risk as measured by volatility of returns. Exhibit 11 shows the 36 month rolling Information Ratios of MSCI World Quality, Momentum and Growth and it shows they generated consistent risk-adjusted outperformance. The corresponding MSCI Australia IMI factor strategies' active returns relative to risk were not pronounced and were not consistent (Exhibit 10).

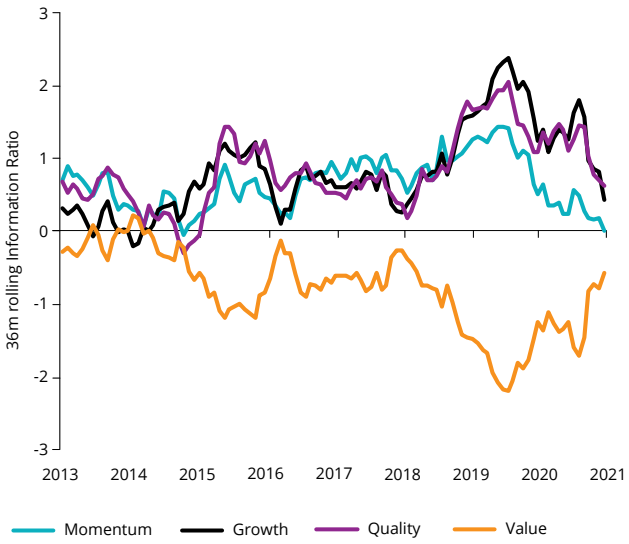
It is worthwhile acknowledging one exception, momentum. This factor outperformed across both Australian and global markets but it is important to qualify that real world observations do not often replicate the factor-index returns. Momentum has the highest turnover, increasing trading costs and capital gains tax liabilities, eroding potential excess returns. In addition, to track a momentum index requires its constituents be liquid, due to the need to frequently switch investment positions. This liquidity is not always available especially as assets under management increases. In addition to the trading costs and liquidity issues, the performance of momentum is difficult to align with macroeconomic environments, as the factor is primarily investor driven.

Exhibit 10: 36m rolling MSCI Australia IMI Factor Information Ratio



Source: MSCI Australia IMI Factor indices, May 2010 to April 2022, AUD returns, Value as MSCI Australia IMI Enhanced Value.

Exhibit 11: 36m rolling MSCI World Factor Information Ratio



Source: MSCI, USD returns, May 2010 to April 2022, MSCI World Factor Indices, Value as MSCI World Enhanced Value.

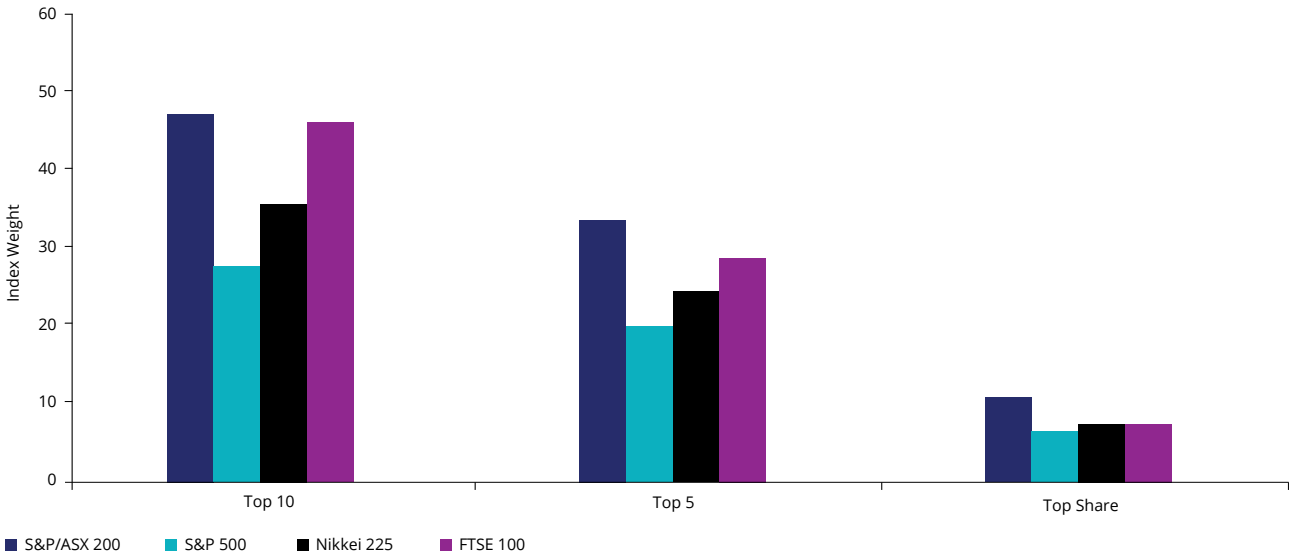
Factor strategies are implemented by investors for their potential to achieve for excess returns in certain macroeconomic environments and enhance diversification, but if strategies aren't performing as intended or they lack factor efficacy, the feasibility of the approach in that market is dubious.

Why can't the characteristics of global single factor strategies be replicated in Australian equities? It is worth then to consider the characteristics of the Australian equities market and the companies and sectors included.

Stock concentration

The Australian equities market is one of the most stock concentrated developed markets in the world. Top 10 holdings by market capitalisation consists of Australia's big five banks, resource miners BHP and Rio Tinto, healthcare juggernaut CSL, Telstra and Westfarmers. The unification of BHP effective 31 January 2022 (London stock exchange listing conversion to Australian stock exchange) further increased the stock concentration of Australia's equity benchmark S&P/ASX 200 accounting for 11 percent of exposure. Top 10 holdings account for 48 percent of total exposure, highest out of major market benchmark indices below.

Exhibit 12 : Major developed equity market share comparison



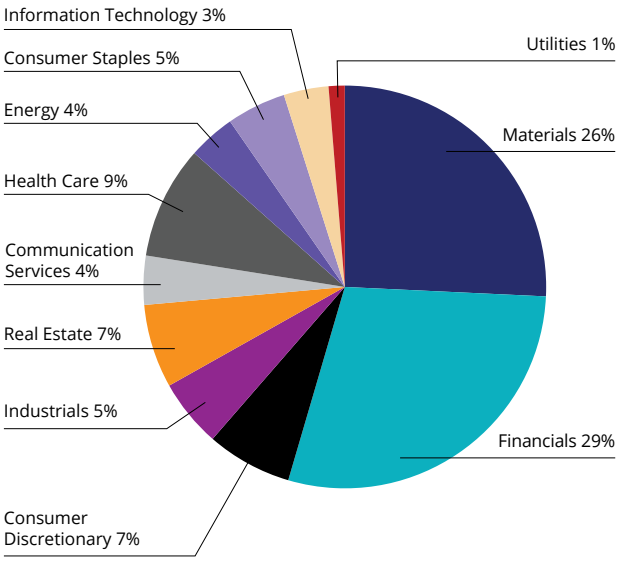
Source: Factset, as at 15 May 2022.

A concentrated market means that the lion share of performance is attributed to mega caps, limiting stock diversification and performance attribution to companies smaller than these mega-caps.

Sector concentration

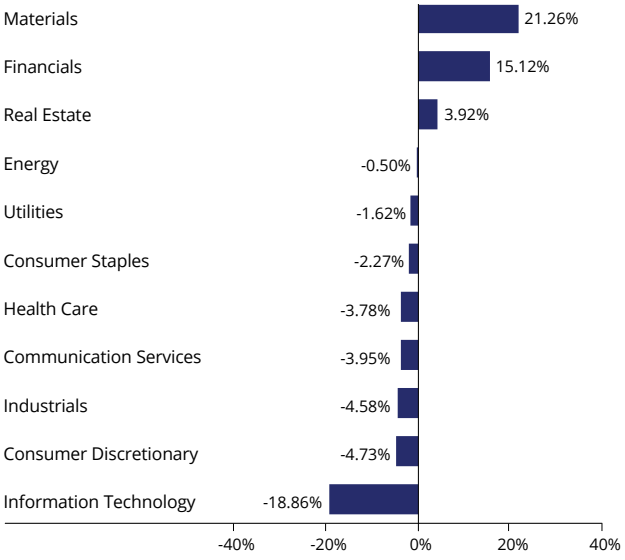
The Australian equities market is highly concentrated across financials and resource companies, accounting for more than 50 percent of S&P/ASX 200 exposure. These two sectors account for less than 20 percent of the global market. Large sector concentration in financials and resources restricts the ability to achieve factor efficacy as these sectors behave differently to other sectors.

Exhibit 13: S&P/ASX 200 sector weights



Source: Factset, as at 31 March 2022.

Exhibit 14: GICS Sector Weight Differential: S&P/ASX 200 versus MSCI World



The materials sector is cyclical, earnings and share price movements are primarily attributed to commodity cycle changes opposed to broader business trends. Financials such as banks and insurance companies are highly leveraged due to the inherit nature of this type of business compared to other sectors, exacerbating sector biases in quality and value strategies. Value strategies overweight financials as they trade at low price to valuations. Quality underweights financials as one screen often used is low financial leverage.

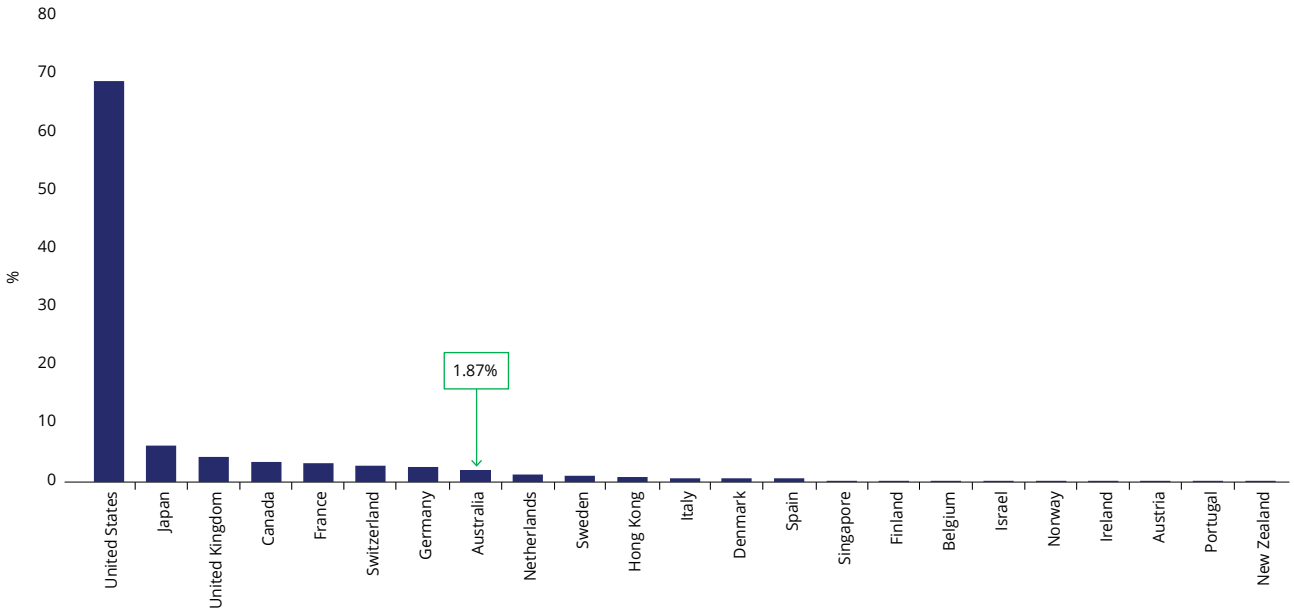
The inherit differences in business make up of materials and financials to other sectors makes it difficult to compare “apples with apples” business fundamentals, distorting the ability to construct factor strategies in the Australian market.

Market size

An effective factor strategy is a balance between managing the stock concentration risk and achieving active exposure. Implementing a portfolio with a small number of stocks exposes the portfolio to high company-specific risk. On the flip side, a high stock count relative to the benchmark limits the ability for a portfolio to achieve risk-adjusted outperformance against a market capitalisation benchmark.

Australia accounts for less than 2 percent of developed markets performance benchmark MSCI World. MSCI World covers approximately 1500 holdings compared to 200 holdings in the S&P/ASX 200.

Exhibit 15: MSCI World country weights



Source: MSCI, as at 30 April 2022.

Factor strategies constructed across global equities have a deep universe and offer the ability to develop a well-diversified portfolio often across many companies, with many sectors well represented, with similar fundamentals reducing stock and sector concentration, while also deriving active exposure.

The experience of factors in Australia has not been as effective as global equities because of three distinct reasons:

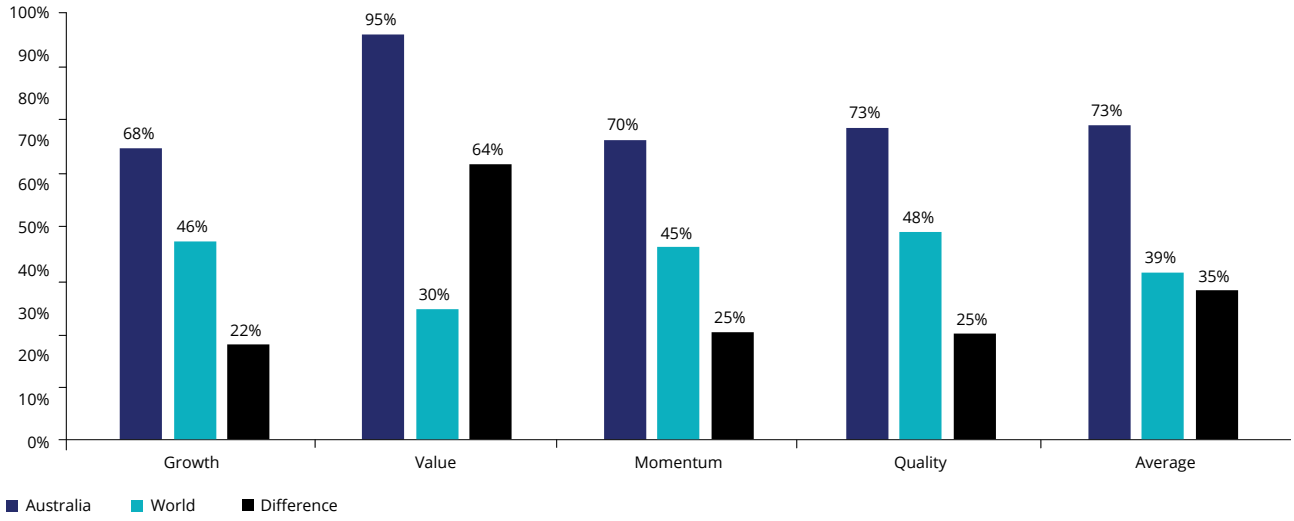
1. The market is too concentrated by stock.
2. The market is to concentrated by sector.
3. The market is too small by number of companies and by market capitalisation.

Single factor strategy holdings breakdown in Australia and globally

These constraints cause stock and sector concentration within factors and crossover of constituents between factor strategies in Australia, limiting factor efficacy.

Exhibit 16 shows the percentage allocation of each factor index to the top 20 holdings. The chart illustrates that the stock weighting to the largest 20 holdings in single factor strategies in Australia is on average 35 percent higher compared to global. Top 20 holdings for MSCI Australia IMI factor strategies account for on average 73 percent of total exposure compared to MSCI World ex Australia factor strategies which is 39 percent.

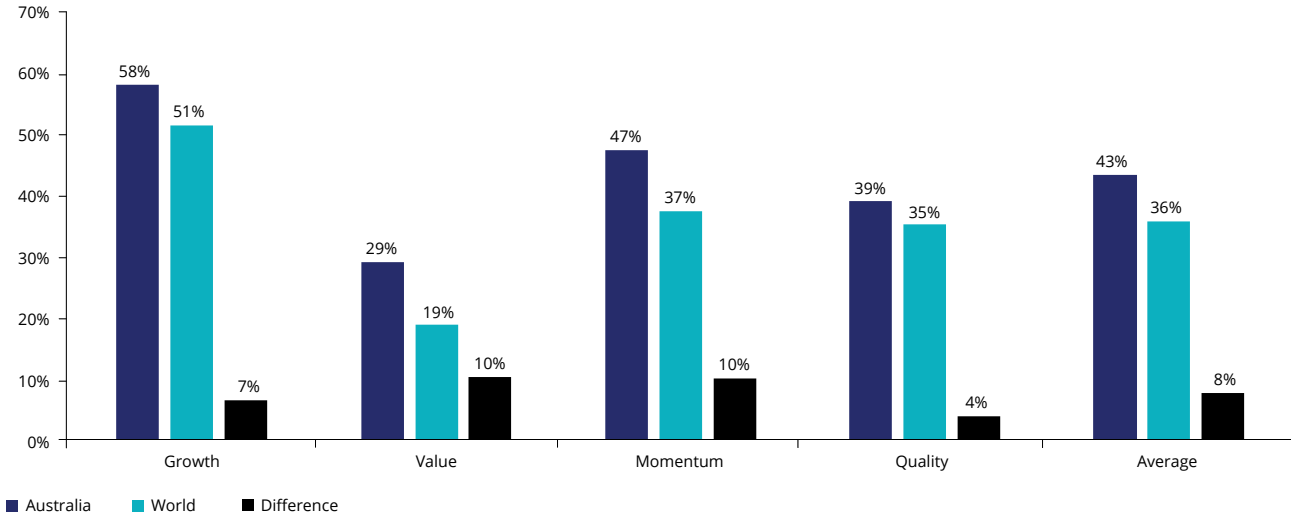
Exhibit 16: Top 20 holdings as a percentage of total weight



Source: MSCI, as at 30 April 2022, MSCI World Factor Indices, MSCI Australia IMI Factor indices, Value as MSCI World Enhanced Value and MSCI Australia IMI.

Australian factor strategies also have a higher exposure to the benchmark. In Exhibit 17 you can see Australian factor crossover is, on average, 8 percent higher compared to global.

Exhibit 17: Factor weights as a percentage of benchmark

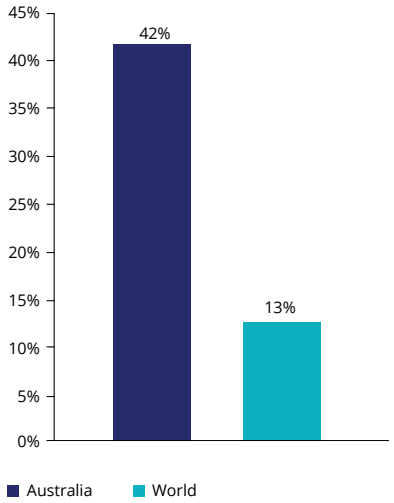


Source: MSCI, as at 30 April 2022, MSCI World Factor Indices, MSCI Australia IMI Factor indices, Value as MSCI World Enhanced Value and MSCI Australia IMI.

The differences in holdings exposure and stock crossover between Australia and globally highlights the limitations of Australian single factor strategies. High stock concentration and small universe in Australia reduces the breadth of unique coverage.

This is also illustrated when comparing holdings crossover between growth and value factors. Intuitively, the crossover should be low, as growth and value strategies are dissimilar. Growth targets companies that have delivered strong earnings and sales growth which trade at higher price-to-valuation ratios. Value targets cheap companies that trade at low price-to-valuation ratios. In Australia, growth has a 42 percent holdings crossover with value, far higher than the 13 percent crossover globally, which limits the efficacy of single factor strategies in the local stock market.

Exhibit 18 – Growth holdings as a percentage of value



Source: MSCI, as at 30 April 2022, Australia as MSCI Australia IMI Growth holdings crossover with MSCI Australia IMI Enhanced Value. World as MSCI World Growth holdings crossover with MSCI World Enhanced Value.

Investment approaches beyond single factors

The Australian equities complex is not fit for constructing single factor strategies. The starting point does not have the breadth and depth of companies for factor strategies to perform as expected.

There are many ways, beyond single factor investing, to invest in a diversified portfolio of Australian equities. Investing in an active Australian equity funds is popular, but as the 2021 S&P Indices Versus Active (SPIVA) Australia report shows, 62 percent of managers failed to beat the S&P/ASX 200 over 3 years to 31 December 2021 and the fail rate increases the longer the time period[12]. Picking the outperforming fund manager is as hard as picking the winning stock.

A different approach: Equal weighting

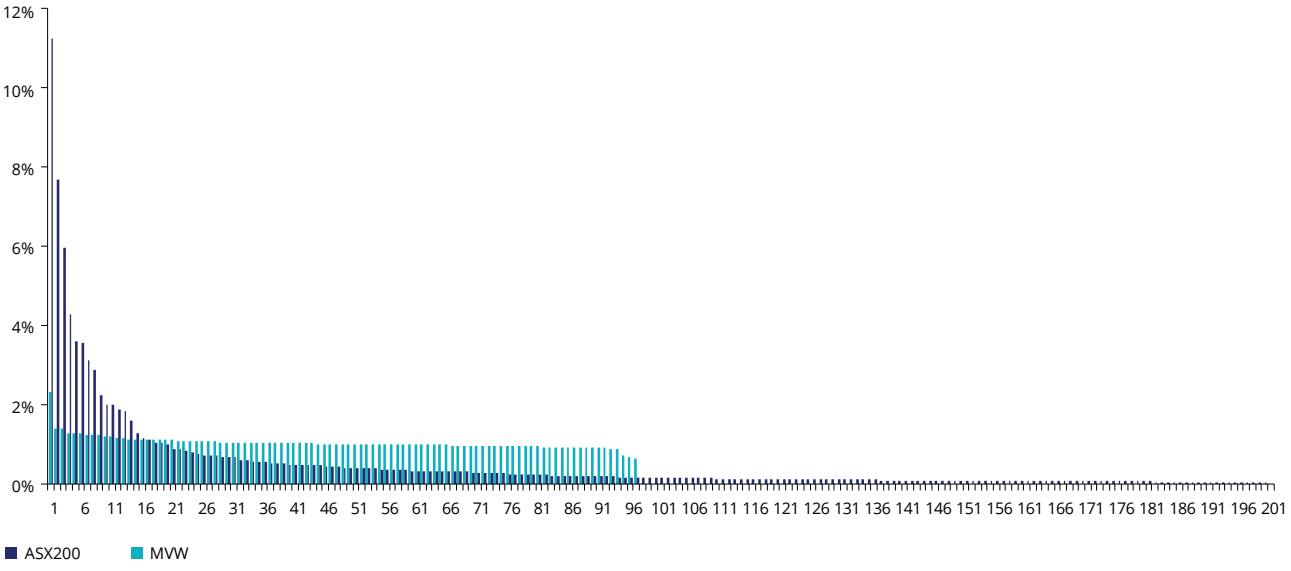
Introducing equal weighting

Equal weighting, as the names suggests, gives the same importance to each stock in a portfolio, regardless of a company's size.

The Australian equities universe is stock and sector concentrated by market capitalisation weight but when you equal weight these biases disappear.

For the purposes of this paper, the MVIS Australia Equal Weight Index (MVW Index) is used as the primary method for assessing equal weighting. It currently equal weights 89 stocks, giving it a mid-cap bias.

Exhibit 19: Index weight comparison: MVW Index versus S&P/ASX 200



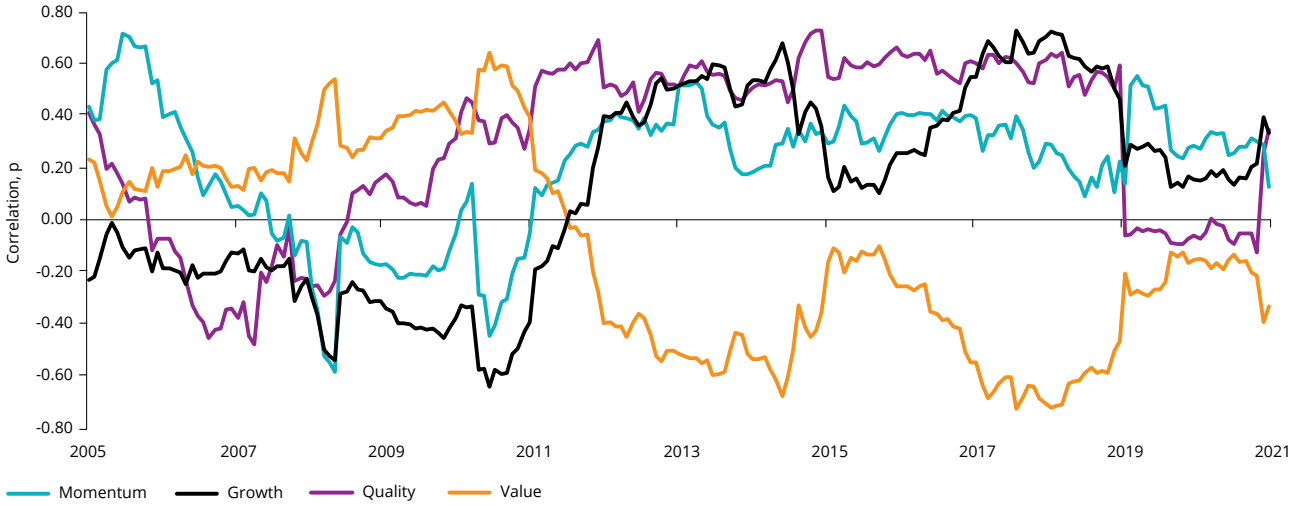
Source: Factset, 31 March 2022.

Equal weighting is factor agnostic

For equal weighting to be considered in Australia, we first need to verify that performance is not consistently correlated to any single factors because as the paper has demonstrated, factors in Australia have not performed as intended.

Below is the rolling 36 month active performance correlation between the MVW Index and MSCI Australia IMI factor indices. Exhibit 20 highlights that the MVW Index does not have a consistent positive correlation with any of the single factor strategies.

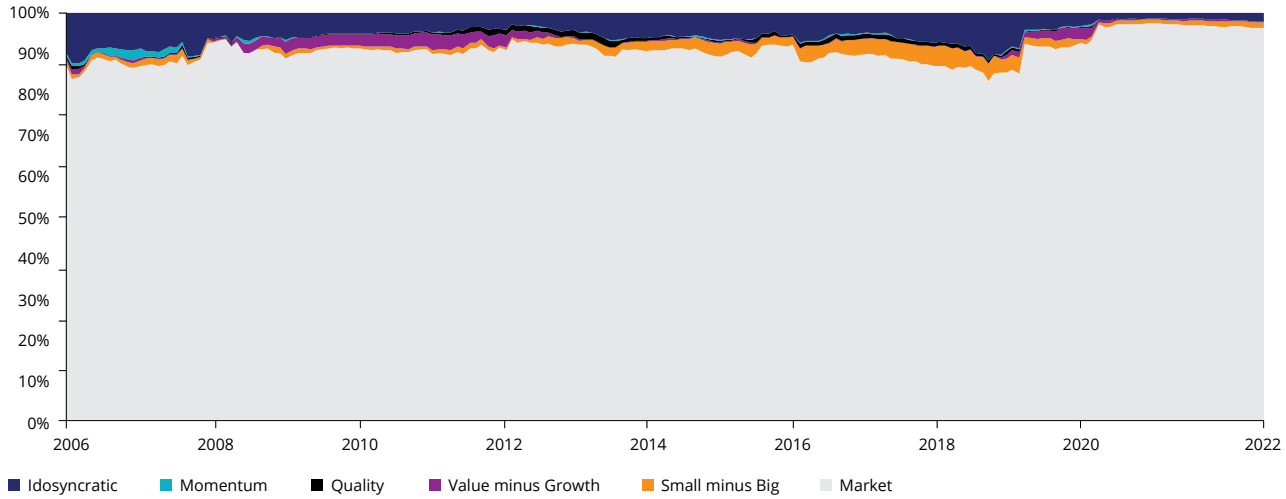
Exhibit 20: 36 month rolling active return correlation of MVW Index relative to Australian single factor strategies



Source: MSCI, MVIS, MSCI Australia IMI Factor indices, Value as MSCI Australia IMI Enhanced Value.

Exhibit 21 is the coefficient of discrimination (R^2) performance contribution of MVW Index relative to S&P/ASX 200 and factors; size, value/growth, quality and momentum. It is a way to determine, using regression analysis, how performance has been achieved. How much was due to the market and how much can be attributed to each factor. Idiosyncratic exposure is the performance contribution that cannot be attributed to the S&P/ASX 200 and the four factors. You can see that the analysis highlights MVW Index has a mid-cap bias (more Small minus Big) and it reaffirms there is no consistent factor bias. For much of its history, beyond the market, MVW Index's performance has been idiosyncratic.

Exhibit 21: Five factor R^2 36 month rolling performance contribution of MVW Index

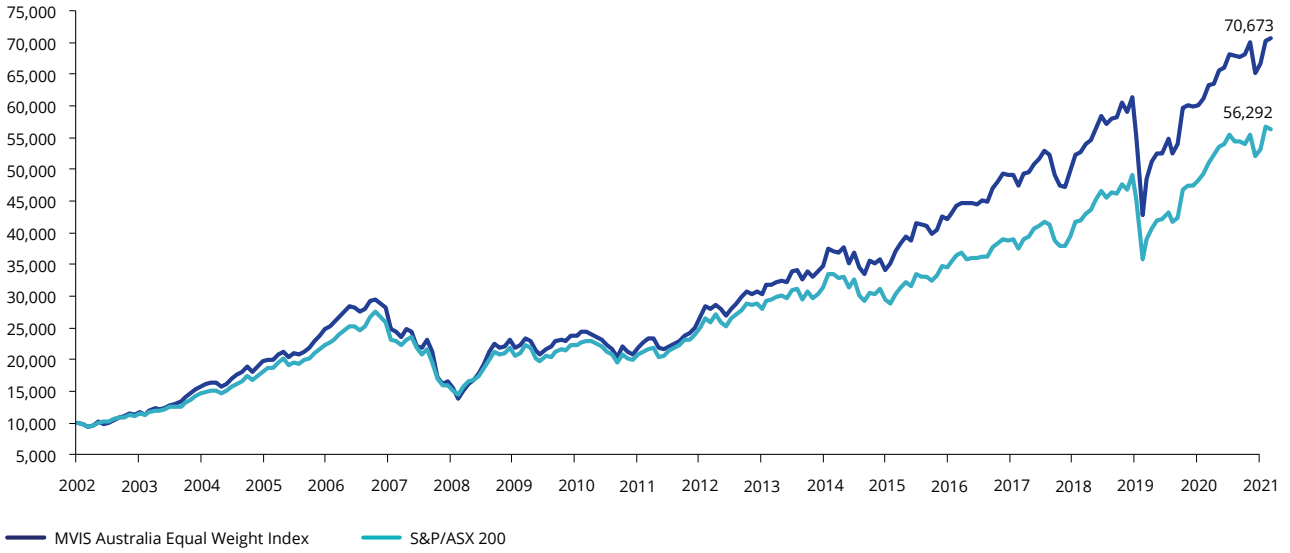


Source: Delta One; Market as S&P/ASX 200, Large as S&P/ASX 20, Small as S&P/ASX Small Ordinaries, Value as MSCI Australia IMI Enhanced Value, Growth as MSCI Australia IMI Growth, Quality as MSCI Australia IMI Quality, Momentum as MSCI Australia IMI Momentum.

Why equal weighting outperforms: The mathematical explanation

Equally weighted portfolios have historically outperformed their market capitalisation counterparts over the long term. There have been a number of studies which support this and it is demonstrated in Exhibit 22. Exhibit 22 shows the performance of MVW Index, against the S&P/ASX 200.

Exhibit 22: Hypothetical growth of 10,000 performance of equal weighting versus S&P/ASX 200



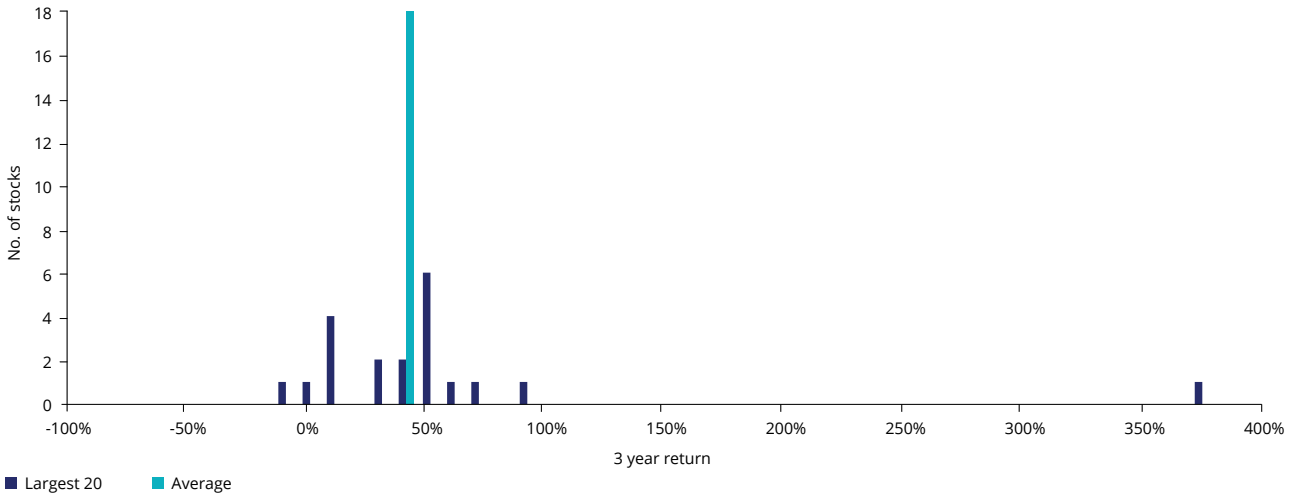
Source: VanEck, Morningstar Direct, as at 30 April 2022. The above performance graph shows the performance of the MVW Index vs the S&P/ASX 200 Index based to 10,000.

Researchers have attempted to explain this phenomenon since it was first observed. In various studies it has been shown that equal weighting outperforms because of:

1. These three characteristics[13]
   a. Higher exposure to smaller stocks rather than to larger stocks;
   b. Higher exposure to so-called 'value stocks' meaning those stocks with a high book-to-market ratio; and
   c. Better market timing i.e. equal weighting extracts more returns when markets are rising and loses less when markets are falling.
2. Contrarian trading[14] which means at rebalance an equally weighted portfolio buys more of the stocks which have fallen since last rebalance and locks in gains by selling those that have gained the most since last rebalance.

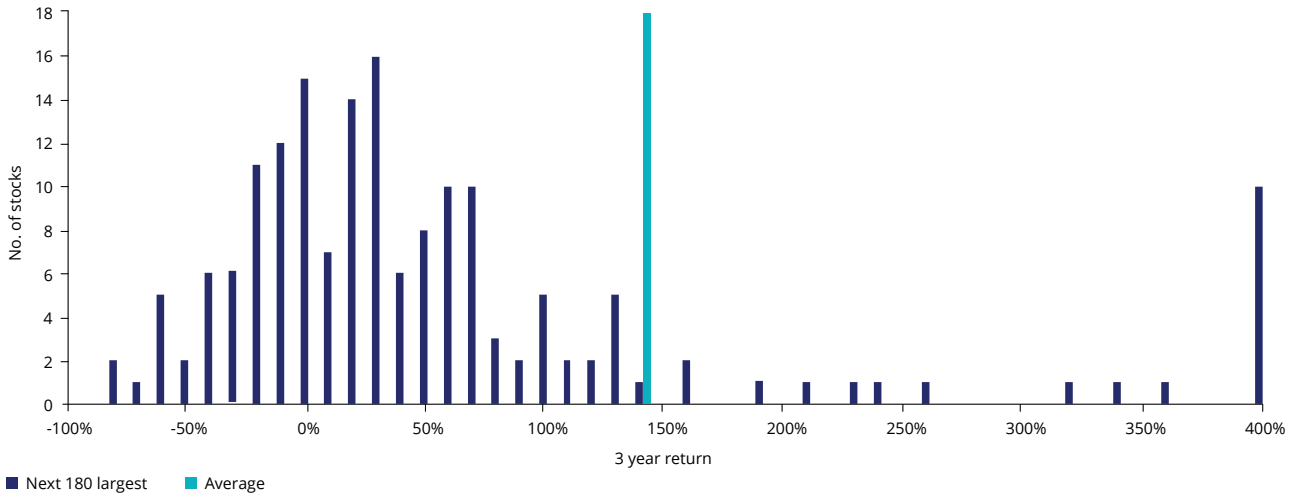
The benefit of higher exposure to smaller-sized companies is highlighted when comparing the average performance of mega-sized to smaller-sized companies over the last three years. Exhibits 23 and 24 show the respective 3 year performance of top 20 stocks compared to the next 180 largest Australian stocks over the past three years to 30 April 2022.

Exhibit 23: 3 year returns for the 20 largest Australian stocks versus their market capitalisation



Source: VanEck, S&P, 3 years to 30 April 2022.

Exhibit 24: 3 year returns for the next 180 largest stocks versus their market capitalisation



Source: VanEck, S&P, 3 years to 30 April 2022.

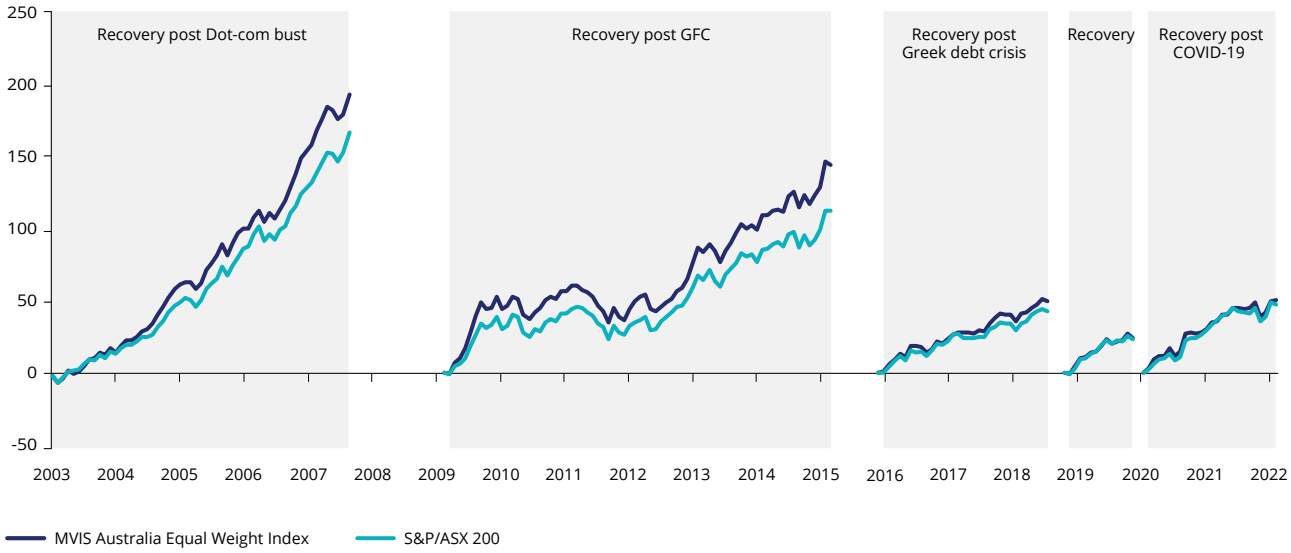
Higher dispersion of smaller-sized company returns results on average in higher average returns over the long term compared to mega-sized companies. Smaller-sized companies generally provide further upside performance potential. Mega caps are mostly established businesses with high market share relative to their industry, reducing opportunities for further expansion or growth..

If we consider Exhibit 22 again, and look at periods of equity markets recovery, we can see five distinct periods of incline.

1. After the dot-com bust of 2001, equity markets were recovering and MVW Index's base date is 31 December 2002;
2. After the GFC there was a period of sustained recovery;
3. After the 2015/16 European sovereign debt crisis;
4. In 2019, after the downturn in the fourth quarter of December 2018; and
5. Coronavirus recovery.

These are highlighted in Exhibit 25.

Exhibit 25: Cumulative performance during growth period of MVIS Australian Equal Weight Index



Source: VanEck, Bloomberg, FactSet, as at 30 April 2022.

For further details see VanEck's paper: Why Equal Weighting Outperforms: The Mathematical Explanation

Access to equal weighting

The VanEck Australian Equal Weight ETF (ASX: MVW) launched in March 2014 and is a passive strategy that tracks the MVIS Australia Equal Weight Index. Since March 2014 many investors have benefited from using MVW as the core of their Australian equities exposure.

The performance of the fund has been as follows.

Exhibit 26: MVW Performance

Performance as at 30 June 2022	YTD (%)	1 Yr (%)	3 Yr (%)	5 Yrs (% p.a.)	7 Yrs (% p.a.)	Since Inception (% p.a.)
MVW	-11.40	-5.75	2.88	6.37	8.06	8.02
S&P/ASX 200 Accumulation Index	-9.93	-6.47	3.33	6.82	6.90	6.61
Difference	**-1.47**	**+0.72**	**-0.45**	**-0.45**	**+1.16**	**+1.41**

Inception date is 4 March 2014.

Source: VanEck, Bloomberg, as at 30 June 2022. Results are calculated daily to the last business day of the month and assume immediate reinvestment of all dividends. MVW results are net of management fees and other costs incurred in the fund but do not include brokerage costs and buy/sell spreads incurred when investing in MVW. Past performance is not a reliable indicator of future performance.

Conclusion

Factor investing in global equities has been an effective way to achieve excess returns over the long term. However, when single factor strategies are applied in Australian equities they fail to achieve factor efficacy for three reasons; stock concentration, sector concentration and small starting universe.

One alternative to single factor investing is equal weighting. Equally weighted portfolios have historically outperformed their market capitalisation counterparts over the long term due to the size bias which single factor strategies fail to harness.

There is a range of a independent academic research that supports equal weighting. See Appendix 2 for examples.

Appendix 1: Value investing

The observation that cheaply priced stocks outperform pricier stocks in the long term is the foundation of value investing. Cheaply priced stocks are those that are trading lower than their 'intrinsic' or book 'value'. Value investing, therefore, is like bargain hunting, it is about buying companies that appear to be cheaper than they are worth. This often means buying companies that are out of favour with investors.

In some cases, these companies may have been oversold and investors can benefit when they return to their intrinsic value. In this regard, value is considered 'pro-cyclical' as the strategy historically outperforms when the economy is 'recovering' or 'expanding'. A recovery and expansionary environment is the period following a recession where the economy is starting to expand and growth is expanding at a faster rate than usual respectively. Periods of growth typically correspond with rising inflation and interest rates, benefiting value companies as they trade at lower valuations relative to peers and are less susceptible to changing bond yield movements.

Following the dot-com recession (2001) and prior to the GFC (2008), global value companies consistently outperformed during an era of high growth and high inflation. Average US CPI was 2.9 percent, sustainably above US Federal Reserve inflation target of 2 percent. US 10-year government bond yields steadily increased over this period, reflective of strong economic growth.

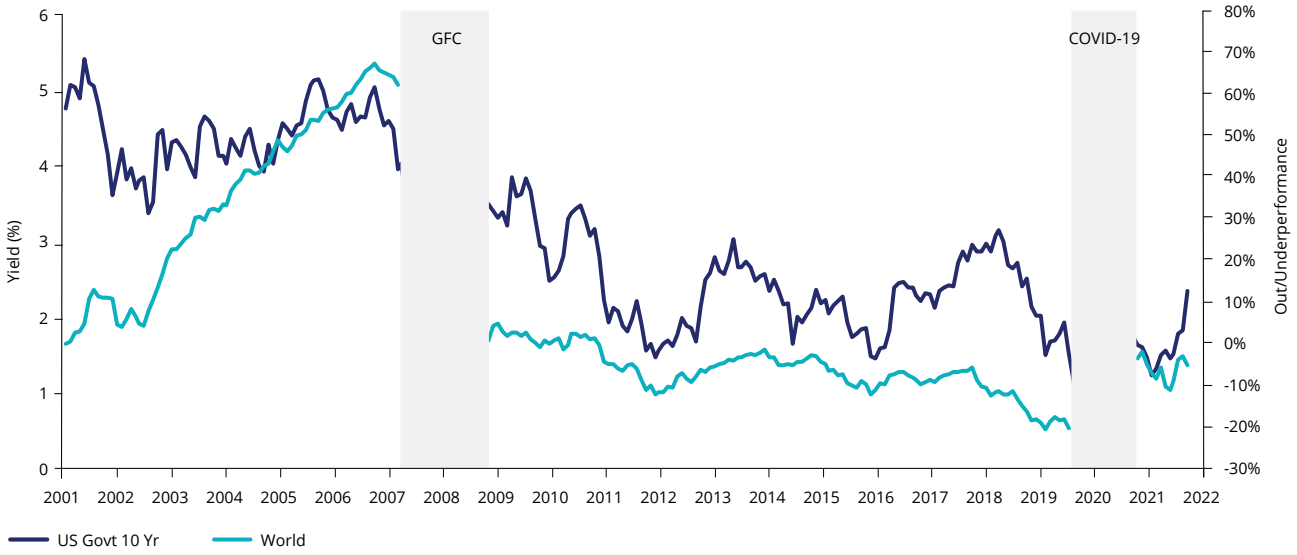
However, following the GFC and prior to the emergence of COVID-19, value consistently underperformed while the global economy entered a backdrop of stagnate economic growth and inflation. US Real GDP and inflation year on year averaged 2.2 and 1.8 percent respectively, below 2000s era. US Federal Reserve policy rate remained at a historic low of 0.25 percent for seven years and government bond yields steadily decreased contrary again to 2000s. Growth companies instead outperformed as lower interest rates fuelled valuations and were rewarded for their ability to generate earnings growth amid the sluggish economic environment. Growth and value performance is negatively correlated. In other words, when value outperforms, growth underperforms and visa versa.

Exhibit 27: US economic indicators comparison between US recessions

Economic indicators	2002 to 2007	2010 to 2019	Difference
Avg US CPI YoY	2.9	1.8	+1.1
Avg US Real GDP growth	2.7	2.2	+0.5
US Fed Reserve Policy Rate change (%)	+2.8	+1.5	+1.3
US Govt 10 year bond yield change (%)	1.5	-2.0	+3.5

Source: Bloomberg, Bureau of Labor Statistics, Federal Reserve.

Exhibit 28: MSCI World Enhanced Value performance relative to MSCI World versus US Government 10 year bond yield outside US recession periods



Source: MSCI, Bloomberg, November 2001 to March 2022, National Bureau of Economic Research, World as cumulative performance of MSCI World Enhanced Value relative to MSCI World.

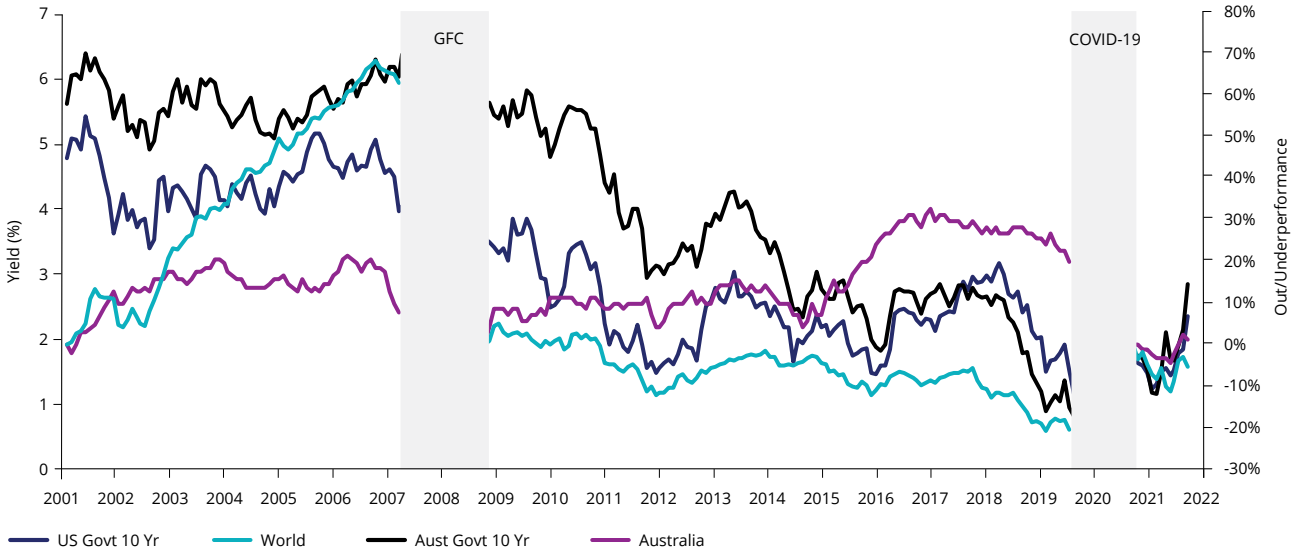
How did value in Australia perform? The Australian economy over the past 20 years behaved consistently with global trends. Australian CPI, Real GDP, RBA cash rate and 10-year government bond yields were all higher in 2000s compared to 2010s. However, despite the alignment of economic conditions, value marginally outperformed in the 2000s era and outperformed in the 2010s, contrary to expectations. This observation again discredits the reliability in executing value single factor strategies as the performance does not align with its target objective.

Exhibit 29: Australian economic indicators comparison between US recessions

Economic indicators	2002 to 2007	2010 to 2019	Difference
Average Australia CPI YoY	2.7	2.0	+0.7
Average Aus Real GDP growth	3.6	2.6	+1
RBA Cash Rate change (%)	+2	-2.3	+4.3
Australian Government 10 Year Bond Yield change (%)	+1.2	-4.7	+5.9

Source: Bloomberg, Australian Bureau of Statistics, Reserve Bank of Australia.

Exhibit 30: MSCI Australia Enhanced Value performance relative to S&P/ASX 200 versus Australian Government 10 year bond yield outside US recession periods



Source: MSCI, Bloomberg, November 2001 to March 2022, National Bureau of Economic Research, World as cumulative performance of MSCI World Enhanced Value relative to MSCI World. Australia as cumulative performance of MSCI Australia IMI Enhanced Value relative to S&P/ASX 200.

Appendix 2: Research papers

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DeMiguel, Victor and Garlappi, Lorenzo and Uppal, Raman. *Optimal Versus Naive Diversification: How Inefficient is the 1/N Portfolio Strategy?* (May 2009). The Review of Financial Studies, Vol. 22, Issue 5, pp. 1915–1953, 2009. Available at SSRN: https://ssrn.com/abstract=1376199

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Ernst, Philip, James Thompson and Yinsen Miao. *Portfolio Selection: The Power of Equal Weight* (February 2016). Available at: https://www.researchgate.net/ publication/301857457_Portfolio_Selection_The_Power_of_ Equal_Weight

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Plyakha, Yuliya, Raman Uppal and Grigory Vilkov. *Why Does An Equal-Weighted Portfolio Outperform Value- And Price-Weighted Portfolios?* (January 2012). Available at: http://docs.edhec-risk.com/mrk/000000/Press/EDHEC_ Working%20Paper_Equal-Weighted_Portfolio.pdf

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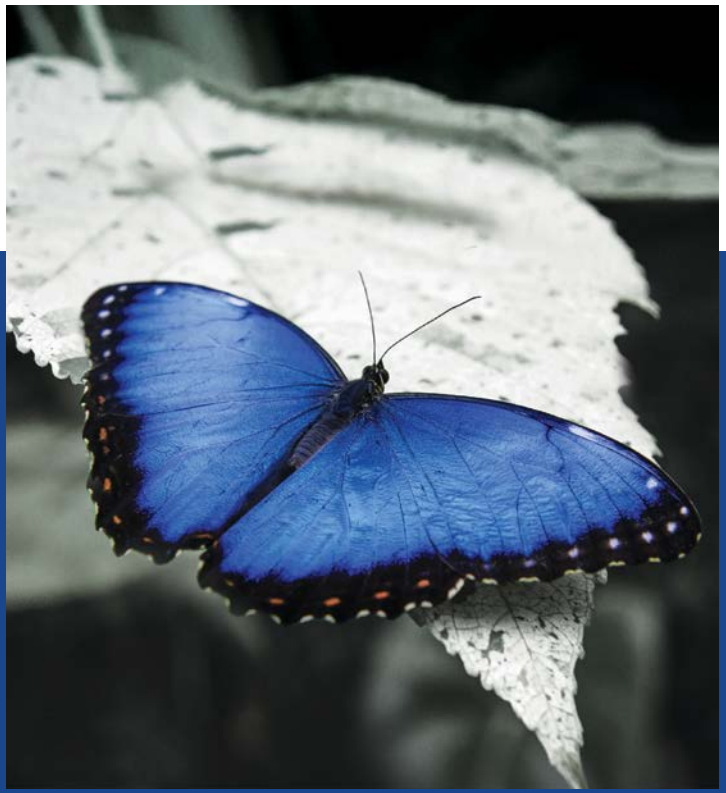
In Australia, VanEck is the fastest growing ETF provider in the country and a leader in 'smart beta' investment strategies. We have 30 ETFs on ASX that focus on delivering superior performance through beyond-the-usual approaches and providing access to asset classes typically unavailable to Australian investors.



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