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SINCE 1955

MARKET VECTORS® ETFs
by Van Eck® Global

Equal weight investing in Australia:
Twelve months on

April 2015

Executive Summary

- The Market Vectors Australian Equal Weight ETF (ASX code: MVW) was introduced to Australian investors in March 2014.
- Non-market capitalisation weighted indices have become the dominant theme in index innovation.
- Equal weight investing is not new. Equally weighted indices have demonstrable outperformance relative to their market capitalisation weighted counterparts.
- In its first full year **MVW outperformed the S&P/ASX 200 Accumulation Index (S&P/ASX 200) by 3.60% returning 18.16%**[1]. Additionally it achieved top quartile performance in its peer group of Australian Equity Managers.
- MVW is three times better diversified than S&P/ASX 200.
- The long term performance of the Market Vectors Australia Equal Weight Index demonstrates better risk characteristics than the market cap weighted equivalent. That is, the better performance is not the result of greater risk-taking. Equally weighting delivers better returns without excessive risk.
- Criticism of equal weight investing has concentrated on turnover and capacity. In practice neither is an issue with carefully developed index rules. In addition to being within acceptable ranges, the turnover at rebalance of the MVW is inherently contrarian and a source of outperformance for the portfolio.
- Researchers and academics from varied institutions such as The University of London's Cass Business School, EDHEC Business School, Goethe University and Australia's own Monash University, continue to demonstrate the long term outperformance of equal weight investing. These findings reinforce industry research by index companies S&P Dow Jones Indices and Market Vectors Index Solutions.

1 Source: FactSet, as at close of business 3 March 2015. MVW commenced on 4 March 2014.

Equal weight versus market capitalisation

Equal weight indexing has been around for decades in the US and Europe. It is an index construction methodology that gives all constituents an equal weighting regardless of market capitalisation. Equal weight investing is only twelve months old in Australia.

Traditionally, investors looking to get a cost effective and diversified exposure to Australian shares have had two options:

1. Actively managed funds; and
2. Passively managed funds.

Actively managed funds are managed by a professional fund manager who 'actively' aims to pick stocks that will perform best, with the intention of trying to beat the relevant benchmark index. For this they charge a relatively high management fee.

The shortcomings of active management are well documented. S&P Dow Jones Indices' SPIVA® Australia Scorecard found that 74.9% of Australian active fund managers underperform the S&P/ASX 200 over five years[2]. Investors are paying higher fees for returns below the benchmark.

Passively managed funds seek to give investors the returns of a reference index by replicating that index. This approach is increasingly popular for investors as they typically receive the performance of the index with relatively low fees. The major shortcoming of many traditional passively managed funds however is the reference index they seek to replicate. Many such funds simply seek to replicate the performance of a market capitalisation index.

Market capitalisation indices were designed as a guide to the health of the markets and they are used as such as the source of the market performance reported in the media. For example, in Australia the S&P/ASX 200 is the most quoted. It contains the 200 largest listed companies in Australia by market capitalisation. Many passive funds in Australia track market capitalisation indices.

The problems with passive funds that track market capitalisation indices are:

1. **Excessive concentration risk** – The S&P/ASX 200 provides an example of how an index may expose investors to excessive concentration risk. The top 10 companies represent over 50% of the index. Four of the top five companies are banks. Financials make up over 40% of the index. This is problematic if asset bubbles form. Sector and stock concentration make sense if an investor is 'bullish' or confident the sector or stock will outperform but investors buying a fund that seeks to track the S&P/ASX 200 would likely expect a broad-based fund to be better diversified.
2. **Exposure to overvalued securities** – Weighting a fund's components according to market capitalisation can have a negative impact on performance. This is because when the market overvalues a stock its market capitalisation goes up. A fund tracking a traditional market capitalisation index buys more and more of the overpriced stock and loses money when the market corrects. Conversely, when the market undervalues a stock, the fund sells more and more of the underpriced stock, missing out on profit when the market corrects. In other words, tracking market cap weightings results in "buying high" and "selling low". The opposite of what investors want.

Despite these shortcomings passive funds tracking market capitalisation indices have grown in popularity due to their lower cost and relative after-fee outperformance against their underperforming active counterparts.

In a concentrated market like Australia, greater diversification benefits can be achieved by applying an equal weight methodology. Equal weighting reduces the concentration to large companies, such as the big banks and big miners that dominate the S&P/ASX 200 and delivers increased exposure to companies outside the top 10 where there is greater opportunity for growth.

The ideal vehicle for equal weight: ETFs

Ultimately investors want the outperformance of active management and the low cost of passive management.

Exchange Traded Funds, or ETFs, are passively managed funds, units in which, trade on the ASX, just like shares. With their tax advantages, liquidity, transparency and low costs, ETFs are innovative investment products that give investors instant diversification via a single trade on the ASX.

2 SPIVA® Australia Scorecard mid-year 2014.

Having identified the opportunity for an equal weight ETF in Australia, Van Eck Global launched the Market Vectors Australian Equal Weight ETF (ASX code: MVW) on the ASX in March 2014.

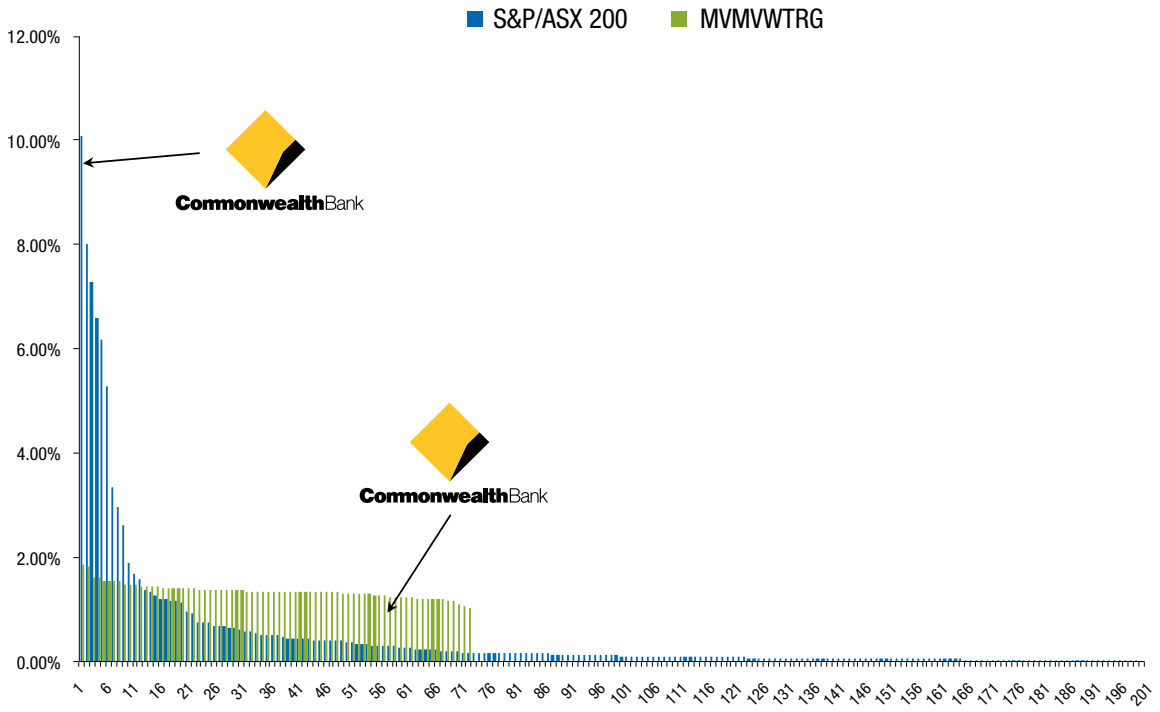
Market Vectors Australian Equal Weight ETF

MVW is the only equal weight ETF in Australia. It tracks the Market Vectors Australia Equal Weight Index (MVW Index, Bloomberg code: MVMVWTRG). Compared to the S&P/ASX 200, the MVW Index:

- has outperformed over the long term;
- has a better risk/return trade-off; and
- is around three times better diversified.

Chart 1 shows the difference in constituent weights between S&P/ASX 200 and MVW Index, highlighting the dominance of a few large stocks in the Australian market.

Chart 1: MVW Index vs S&P/ASX 200 – Constituent rank & weightings



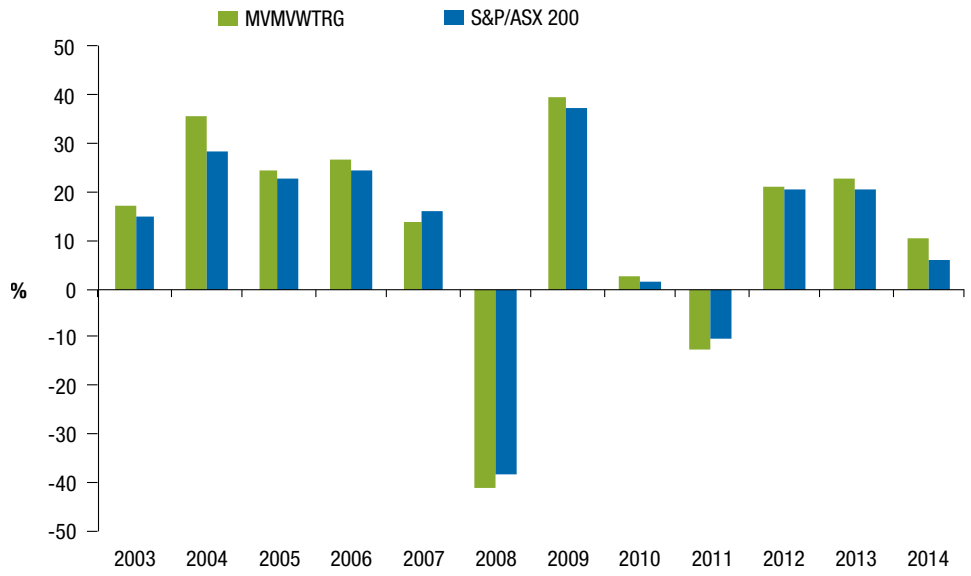
Source: Market Vectors Index Solutions, FactSet, as at 28 February 2015

Investment returns

In its first full year **MVW has outperformed the S&P/ASX 200 by 3.60% returning 18.16%**[3]. The MVW Index has demonstrated long term outperformance, has outperformed the S&P/ASX 200 in ten out of the last 13 years.

3 Source: FactSet, as at close of business 3 March 2015. MVW commenced on 4 March 2014.

Chart 2: Calendar year returns MVW Index vs S&P/ASX 200



Source: Market Vectors, FactSet, as at 31 December 2014. Performance shown prior to its launch date is simulated based on the current index methodology. Results are calculated to the last business day of the month and assume immediate reinvestment of all dividends and exclude costs associated with investing in MVW. You cannot invest directly in an index. The above performance information is not a reliable indicator of current or future performance of the MVW Index or MVW, which may be lower or higher.

To give some scale to this, chart 3 illustrates the cumulative absolute difference between the two indices.

Chart 3: Cumulative absolute difference: MVW Index vs S&P/ASX 200
1 January 2003 to 28 February 2015

Source: FactSet as at 28 February 2015. Performance shown prior to its launch date is simulated based on the current index methodology. Results are calculated to the last business day of the month and assume immediate reinvestment of all dividends and exclude costs associated with investing in MVW. You cannot invest directly in an index. The above performance information is not a reliable indicator of current or future performance of the MVW Index or MVW, which may be lower or higher.

This performance compares favourably to unlisted actively managed Australian equities funds. Compared to Morningstar's universe of Australian equity large blend funds the MVW Index consistently achieved top quartile performance for each period over the last 5 years, with excess returns relative to the median fund manager of over 2% for each respective period.

Table 1: Morningstar Australia OE Equity Large Blend Universe vs S&P/ASX 200 and MVW Index

	1 Year	3 Years (p.a.)	5 Years (p.a.)
Fund Manager Median	13.10%	15.41%	8.83%
Fund Manager Mean	13.06%	15.31%	8.79%
S&P/ASX 200 Total Return†	14.53%	16.66%	9.81%
MVW Index Total Return†*	17.84%	18.22%	10.95%

Source: Morningstar Direct, as at 28 February 2015. Australian equity large blend funds invest primarily in large Australian companies. Stocks in the top 70% of the Australian equities market based on market cap are defined as 'large'. The 'blend' style is assigned to portfolios where neither growth nor value characteristics dominate.

† Indexes are unmanaged and do not reflect the payment of transaction costs, fund management fees or expenses.

* MVW Index was launched on 9 November 2013. Performance shown prior to its launch date is simulated based on the current index methodology. Results are calculated to the last business day of the month and assume immediate reinvestment of distributions and do not include MVW's management costs of 0.35% p.a. MVW commenced operation on 4 March 2014.

Better returns without excessive risk

The Sharpe Ratio combines a return measure with a volatility measure to quantify the relationship between the two.[4] It provides a measure of risk-adjusted performance.

We calculated 12 month Sharpe Ratios starting with the period ended December 2003 and continuing up to the period ended February 2015. We did this for the MVW Index and for the S&P/ASX 200. In each case we calculated the ratio of the index relative to the RBA cash rate.

There are 135 data points. In 94 instances the MVW Index Sharpe Ratio is higher. The S&P/ASX 200 Sharpe Ratio is higher in only 41 instances.

At the data point where MVW Index had its biggest gap over the S&P/ASX 200 Ratio, the excess is 2.37. The biggest gap the S&P/ASX 200 Ratio ever had over the MVW Index is 1.28.

The conclusion that can be drawn from MVW Index having higher Sharpe Ratios is that it has a better risk/return trade-off than the S&P/ASX 200. That is, the better return identified above is not the result of greater risk-taking.

Equal weight has delivered better returns without excessive risk.

4 The Sharpe Ratio takes the excess return against a relevant benchmark and divides it by the standard deviation of the return.

Additionally, an important factor when considering a passive investment is downside protection and recovery periods. The table below shows the performance and recovery of the MVW Index and the S&P/ASX 200 over a ten year period.

Table 2: 10 Year drawdown risk statistics: S&P/ASX 200 and MVW Index
1 March 2005 to 28 February 2015

INDEX	Return (Annualised)	Sharpe Ratio (Annualised)	Max Drawdown	Max Drawdown Recovery Date	Max Drawdown Recovery # of Periods
S&P/ASX 200 Total Return†	8.24%	0.25	-47.18%	30 September 2013	55.00
MVW Index Total Return†*	8.65%	0.27	-53.09%	30 September 2013	55.00

Source: Morningstar Direct, as at 28 February 2015. † Indexes are unmanaged and do not reflect the payment of transaction costs, management fees or expenses.

* MVW Index was launched on 29 November 2013. Performance shown prior to its launch date is simulated based on the current index methodology. Results are calculated to the last business day of the month and assume immediate reinvestment of distributions and do not include MVW's management costs of 0.35% p.a. MVW commenced operation on 4 March 2014.

Better diversification

Diversification is a challenge in the Australian market because it is so concentrated. The five largest companies constitute approximately 40% of the top 200, the 10 largest in excess of 50%. To make things worse, four of the five largest are banks that are highly correlated to each other.

In over a decade there has been little difference between the returns of the S&P/ASX 200 and the S&P/ASX 20 Accumulation Index. The correlation is 97.3%.[5] In other words, there are 180 stocks not doing much work.

A way to measure diversification of a portfolio is to calculate a Herfindahl Index[6] which is a broadly used technique to quantify concentration.

At the last rebalance, the Herfindahl Index for the S&P/ASX 200 was 384[7]. The equivalent measure for the MVW Index was 137[8]. The MVW Index is only about one-third as concentrated as the S&P/ASX 200. In other words, the MVW Index is around three times more diversified than the S&P/ASX 200.

5 Source: Morningstar Direct for period 1 March 2005 to 28 February 2015.

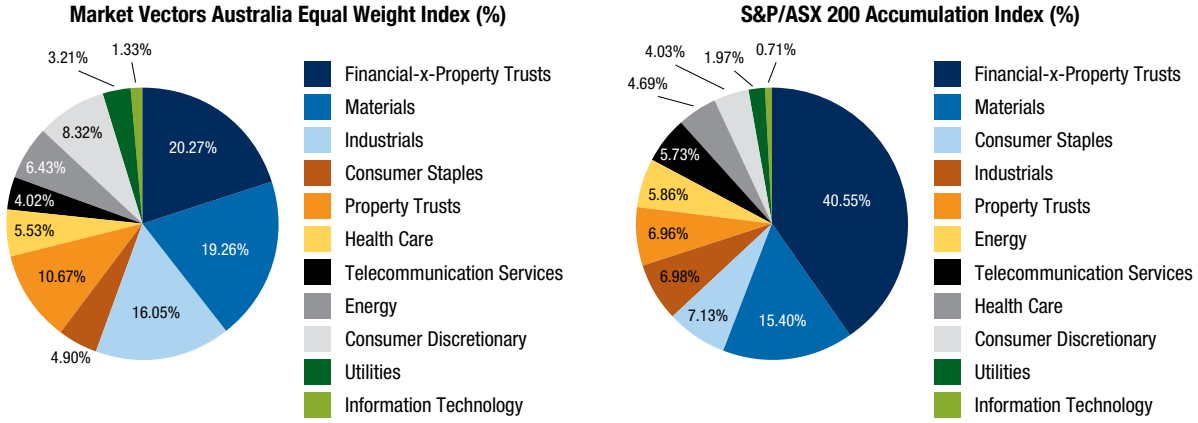
6 A Herfindahl Index is a measure of how concentrated a distribution is. It is often used for 'share of pie' exercises like the relative market shares for a particular product or portfolio weightings. The calculation is the sum of the squares of each stock's weighting, with the weightings expressed as a percentage multiplied by 100.

7 As at December 2014 rebalance.

8 For an equal weight portfolio the Herfindahl Index will only change when the number of stocks in the portfolio changes.

The MVW Index sector breakdown versus the S&P/ASX 200 is as follows:

Chart 4: Sector breakdown: MVW Index vs S&P/ASX 200 as at 28 February 2015



Source: Market Vectors, FactSet; as at 28 February, 2015

Diversifying your portfolio improves the trade-off between return and risk and is the foundation principal of Modern Portfolio Theory[9].

Index design to overcome traditional shortcomings

Index design will deal with problems that can arise including those identified by the critics of equal weight investing.

An index should not cause excessive turnover in the portfolio, for both cost and tax reasons. In its first year MVW's turnover was 24.98%[10]. This is considered average for passively managed funds and low for actively managed funds.

The MVW Index is also designed to overcome liquidity issues that have been problematic for equal weight indices in overseas markets. It applies liquidity and size filters so as not to include illiquid stocks.

A foundation of academic and practical support

In March 2014, Market Vectors Index Solutions (MVIS), the German based provider of the MVW index and an affiliated company of Market Vectors Investment Limited, released a white paper[11] which proved an Australian Equities investment portfolio that tracks the MVW Index delivers stronger long-term returns and better diversification than Australia's traditional market-cap weighted S&P/ASX 200.

Other academic and commercial researchers have also conducted studies analysing equally weighted portfolios.

Australia's national science agency, the CSIRO in conjunction with the Monash Superannuation Research Cluster published a working paper in 2013 which concluded that an equal weight index delivered the best performance over the long-term when compared to fundamental indices and market capitalisation indices in the US[12].

The CSIRO/Monash research supports earlier conclusions made by the University of London's Cass Business School, which demonstrated the inefficiency of market capitalisation indices in a comprehensive study which analysed 10 million randomly created portfolios, including equally weighted, versus a market capitalisation weighted index[13].

9 Modern Portfolio Theory is a scientific approach to investment choice that seeks to maximise investment return relative to the amount of risk taken. It is the first formal statement of the trade-off between return and risk. Under this Theory, whatever the appetite for risk, diversification will be a fundamental ingredient in any portfolio construction.

10 Source: Market Vectors, as at 6 March 2015.

11 MVIS *Strong Foundations Have Equal Footings* Lars Hamich, Michael Brown, April 2014.

12 CSIRO, Monash Superannuation Research Cluster, *Is fundamental indexation able to time the market? Evidence from the Dow Jones Industrial Average*, Paul Lajbcygier, Doris Chen, Michael Dempsey, 2013.

13 Cass Business School *An evaluation of alternative equity indices Part 1: Heuristic and optimised weighting schemes* Andrew Clare, Nick Motson and Steve Thomas, March 2013.

Three academics[14] from Goethe University Frankfurt and CEPR and EDHEC Business School updated a paper titled "*Why Does an Equal-Weighted Portfolio Outperform Value and Price Weighted Portfolios*" in 2014. In the update they highlight that the rebalancing that occurs in an equally weighted portfolio, "is a contrarian strategy that exploits the time-series and cross-sectional properties of stock returns." In other words, MVW's rebalancing process is a source of outperformance when compared to traditional market capitalisation funds.

S&P Dow Jones also found that equal weight indexing was a harder to-beat reference point in its white papers "Equal-Weight Benchmarking: Raising the Monkey Bars"[15] and that equal weighting demonstrates long term outperformance in "10 years Later: Where in the World is Equal Weight Indexing Now?[16]"

Equal weight: First among unequals

Investors have many investment choices in Australian equities. It is important that investors understand the strategies that underpin the investments that are available. The demand for lower-cost outperformance has driven the innovation of passive ETFs that have the potential to outperform the market at lower cost than actively managed funds.

Before 2014 passive investing in Australian equities was mostly limited to tracking the indices that we hear about every day in the news such as the S&P/ASX 200. But these indices were only intended to be a 'benchmark' for investors to gauge the performance of the market. They were never intended to be 'investable' as the basis of financial products and their flaws as such are many. The Market Vectors Australia Equal Weight Index was specifically designed for use with an ETF to provide investors with an alternative low-cost, passive investment that overcomes these shortcomings.

In a concentrated market like Australia, greater diversification benefits can be achieved by applying an equal weight methodology where all securities are held in the same proportion, regardless of their market capitalisation. This reduces the concentration risk of the large companies, such as the big banks and big miners that dominate the S&P/ASX 200 and provides greater exposure to smaller companies that have more potential for growth.

The Market Vectors Australian Equal Weight ETF tracks the MVW Index which:

- is around three times better diversified than the S&P/ASX 200;
- has a better risk/return trade-off than the S&P/ASX 200; and
- has outperformed the S&P/ASX 200 over the long term.

Twelve months since launching on the ASX, MVW has proven that its equal weight methodology is highly suited to the Australian market.

14 When the paper was originally published in 2012, Yuliya Plyakha and Grigory Vilkov were at Goethe University Frankfurt and Raman Uppal was at CEPR and EDHEC Business School London.

15 S&P Dow Jones Indices *Equal-Weight Benchmarking: Raising the Monkey Bars* Tim Edwards, Craig J Lazzara, June 2014.

16 S&P Dow Jones Indices *10 Years Later: Where in the World is Equal Weight Indexing Now?* Liyu Zeng, Frank Luo, 2013.