

## SPIVA<sup>®</sup> Australia Scorecard

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**Experience the active vs. passive debate on a global scale.**

### SUMMARY

- S&P Dow Jones Indices has been the de facto scorekeeper of the ongoing active versus passive debate since the first publication of the SPIVA U.S. Scorecard in 2002. Over the past 19 years, we have built on our experience publishing the report by expanding scorecard coverage into Australia, Canada, Europe, India, Japan, Latin America, South Africa, and the MENA region.
- The SPIVA Australia Scorecard reports on the performance of Australian active funds against their respective benchmark indices over different time periods.<sup>1</sup> In this scorecard, we evaluated the returns of 936 Australian equity funds (large, mid, and small cap, as well as A-REIT), 500 international equity funds, and 109 Australian bond funds.
- More than one-half of the funds in the Australian Equity General and Australian Equity Mid/Small-Cap categories beat their respective benchmarks in the first half of 2021, while 68.9% of those in the International Equity General category underperformed the benchmark.
- For longer measured periods (3, 5, 10, and 15 years), the majority of active funds underperformed their respective benchmark indices across categories, except for Australian Equity Mid- and Small-Cap funds.

Exhibit 1: First Half 2021 Average Fund and Index Performance

FUND CATEGORY	INDEX	INDEX RETURN (%)	AVERAGE FUND RETURN (%)		PERCENTAGE OF FUNDS OUTPERFORMED BY THE INDEX (%)
			EQUAL-WEIGHTED	ASSET-WEIGHTED	
Australian Equity General	S&P/ASX 200	12.90	12.92	13.10	47.80
Australian Equity Mid- and Small-Cap	S&P/ASX Mid-Small	10.51	12.39	12.43	41.01
International Equity General	S&P Developed Ex-Australia LargeMidCap	16.27	15.25	14.04	68.86
Australian Bonds	S&P/ASX Australian Fixed Interest 0+ Index	-1.78	-1.55	-1.41	50.00
Australian Equity A-REIT	S&P/ASX 200 A-REIT	9.94	9.82	10.24	59.02

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2021. Index performance based on total return in AUD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

<sup>1</sup> The fund returns used are net of fees, excluding loads.

- **Australian Equity General Funds:** The [S&P/ASX 200](#) gained 27.8% in the 1-year period ending June 30, 2021, while Australian Equity General funds recorded higher returns of 29.2% and 30.1% on equal- and asset-weighted bases, respectively. During this period, 55.7% of funds in this category outperformed the benchmark. But over the 5- and 10-year horizons, 75.7% and 80.8% of funds failed to beat the benchmark, respectively.
- **Australian Equity Mid- and Small-Cap Funds:** The S&P/ASX Mid-Small posted a strong gain of 34.5% in the 1-year period ending June 30, 2021, and 65% of Australian Equity Mid- and Small-Cap funds beat the index. Funds in this category gained 41.0% and 39.9% on equal- and asset-weighted bases, respectively, for the same period. Over the 5- and 10-year periods, 65.3% and 55.1% of funds underperformed the benchmark, respectively.
- **International Equity General Funds:** International equity funds returned 28.5% and 24.5% on equal- and asset-weighted bases, respectively, in the 1-year period ending June 30, 2021, with 54.6% of funds failing to beat the benchmark. Over the 5- and 10-year periods, more than 80% and 90% of funds underperformed the [S&P Developed Ex-Australia LargeMidCap](#), respectively.
- **Australian Bond Funds:** The [S&P/ASX Australian Fixed Interest 0+ Index](#) recorded a loss of 0.87% in the 1-year period ending June 30, 2021, while funds in the Australian Bonds category recorded minor gains of 0.06% and 0.35% on equal- and asset-weighted bases, respectively. Over 70% of funds in this category beat the benchmark during this period. In contrast, 70.2% and 85.5% of funds underperformed the benchmark over the 5- and 10-year periods, respectively.
- **Australian Equity A-REIT Funds:** In the 1-year period ending June 30, 2021, Australian Equity A-REIT funds posted gains of 32.6% and 32.8% on equal- and asset-weighted bases, respectively, and 58.5% of them lagged the benchmark. Over the 5- and 10-year periods, 56.5% and 78.8% of funds in this category underperformed the benchmark, respectively.
- **Fund Survivorship:** Liquidation rates for some active fund categories were high in the 1-year period ending June 30, 2021. Of all Australian funds measured, 7.7% were merged or liquidated, with those in the Australian Equity General category recording the highest liquidation rate, at 10.7%. In contrast, only 2.9% of Australian Equity Mid- and Small-Cap funds failed to survive. Over longer horizons, only 84.0%, 76.5%, and 60.6% of funds across all categories survived the 3-, 5-, and 10-year periods, respectively.

## A UNIQUE SCORECARD FOR THE ACTIVE VERSUS PASSIVE DEBATE

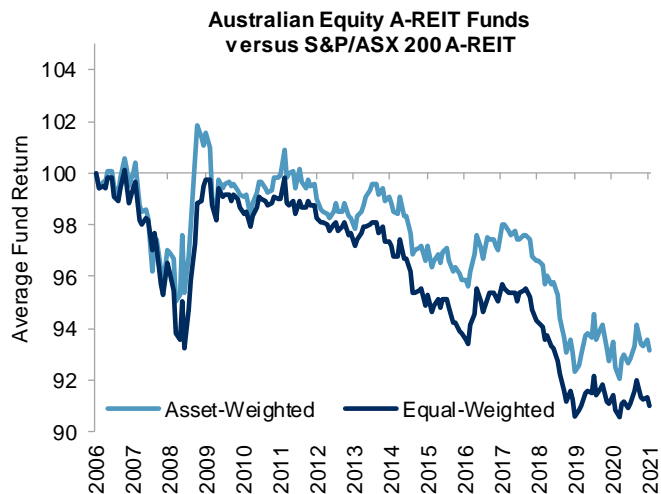
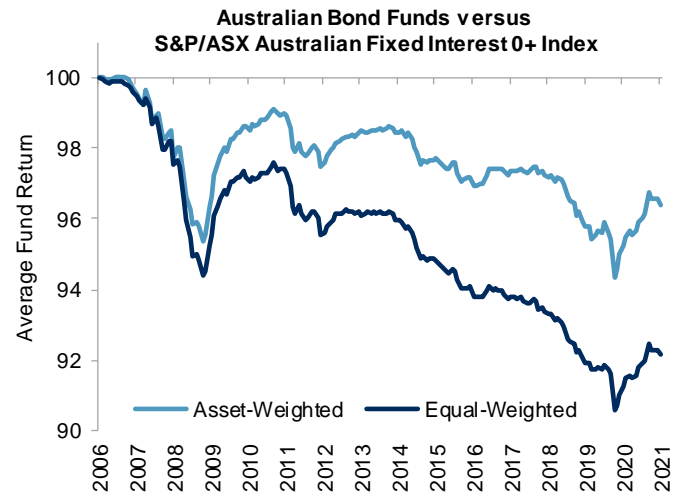
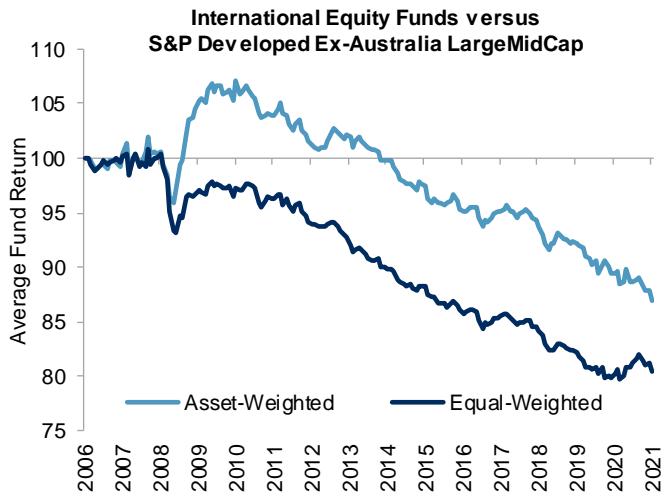
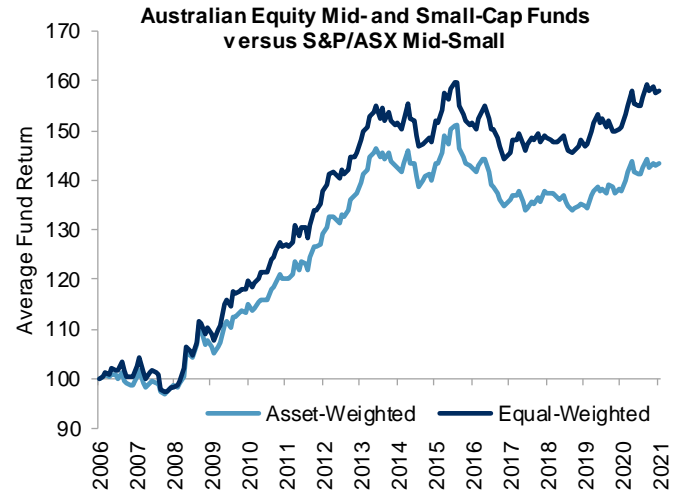
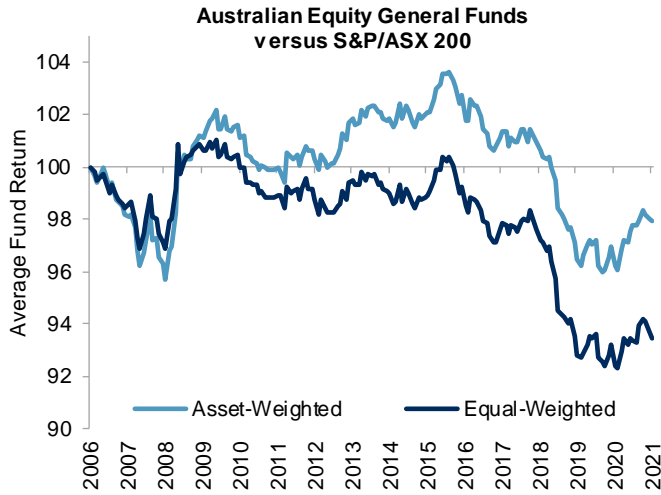
There is nothing novel about the index versus active debate. It has been a contentious subject for decades, and there are few strong believers on both sides, with the vast majority of market participants falling somewhere in between. Since its first publication 19 years ago, the SPIVA Scorecard has served as the de facto scorekeeper of the active versus passive debate. Over the years, we have heard passionate arguments from believers in both camps when headline numbers have deviated from their beliefs.

Beyond the SPIVA Scorecard's widely cited headline numbers is a rich data set that addresses issues related to measurement techniques, universe composition, and fund survivorship that are far less frequently discussed, but are often much more fascinating. These data sets are rooted in the following fundamental principles of the SPIVA Scorecard, with which regular readers will be familiar.

- **Survivorship Bias Correction:** Many funds might be liquidated or merged during a period of study. However, for someone making an investment decision at the beginning of the period, these funds are part of the opportunity set. Unlike other commonly available comparison reports, SPIVA Scorecards account for the entire opportunity set—not just the survivors—thereby eliminating survivorship bias.
- **Apples-to-Apples Comparison:** Fund returns are often compared with a popular benchmark regardless of their investment category. The SPIVA Australia Scorecard makes an appropriate comparison by measuring a fund's returns against the returns of a benchmark that reflects the fund's investment category.
- **Asset-Weighted Returns:** Average returns for a fund group are often calculated using only equal weighting, which results in the returns of an AUD 10 billion fund affecting the average in the same manner as the returns of an AUD 10 million fund. However, the SPIVA Australia Scorecard shows both equal- and asset-weighted averages. Equal-weighted returns are a measure of average fund performance, while asset-weighted returns are a measure of the performance of the average invested dollar.
- **Data Cleaning:** SPIVA Scorecards avoid double counting multiple share classes in all count-based calculations, using only the share class with longer history or greater assets. Since this is meant to be a scorecard for active managers, index funds, leveraged and inverse funds, and other index-linked products are excluded.

*Please note that neither S&P Dow Jones Indices, nor any of its affiliates make any assurance or provide any investment recommendation on the appropriateness of investing in either index or active investing. S&P Dow Jones Indices does not sponsor, endorse, sell, or promote any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. The SPIVA Australia Scorecard simply provides semiannual statistics according to the SPIVA methodology and a brief analysis of those statistics. Further, S&P Dow Jones Indices does advise that anyone reading this report also read the SPIVA methodology in the report in order to understand how the data was derived.*

## CUMULATIVE ASSET- AND EQUAL-WEIGHTED AVERAGE FUND RETURNS RELATIVE TO BENCHMARK INDICES



Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2021. All returns in AUD. Past performance is no guarantee of future results. Charts are provided for illustrative purposes and reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

## REPORTS

### Report 1a: Percentage of Funds Outperformed by the Index (Based on Absolute Return)

FUND CATEGORY	COMPARISON INDEX	1-YEAR (%)	3-YEAR (%)	5-YEAR (%)	10-YEAR (%)	15-YEAR (%)
Australian Equity General	S&P/ASX 200	44.3	75.9	75.7	80.8	85.8
Australian Equity Mid- and Small-Cap	S&P/ASX Mid-Small	35.0	49.6	65.3	55.1	50.0
International Equity General	S&P Developed Ex-Australia LargeMidCap	54.6	78.1	81.9	90.6	94.8
Australian Bonds	S&P/ASX Australian Fixed Interest 0+ Index	29.9	67.2	70.2	85.5	83.1
Australian Equity A-REIT	S&P/ASX 200 A-REIT	58.5	56.7	56.5	78.8	78.8

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2021. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

### Report 1b: Percentage of Funds Outperformed by the Index (Based on Risk-Adjusted Return)

FUND CATEGORY	COMPARISON INDEX	1-YEAR (%)	3-YEAR (%)	5-YEAR (%)	10-YEAR (%)	15-YEAR (%)
Australian Equity General	S&P/ASX 200	59.5	78.5	80.5	80.5	85.2
Australian Equity Mid- and Small-Cap	S&P/ASX Mid-Small	50.7	52.6	67.8	57.0	52.3
International Equity General	S&P Developed Ex-Australia LargeMidCap	59.3	72.1	81.2	93.1	93.4
Australian Bonds	S&P/ASX Australian Fixed Interest 0+ Index	32.8	62.5	64.9	67.3	79.7
Australian Equity A-REIT	S&P/ASX 200 A-REIT	49.2	56.7	53.6	67.5	78.8

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2021. Risk-adjusted return is computed as the annualized average monthly return divided by the annualized standard deviation of the monthly return for the measured periods. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

<b>Report 2: Survivorship of Funds</b>		
<b>FUND CATEGORY</b>	<b>NO. OF FUNDS AT START</b>	<b>SURVIVORSHIP (%)</b>
<b>1-YEAR</b>		
Australian Equity General	336	89.3
Australian Equity Mid- and Small-Cap	140	97.1
International Equity General	273	92.7
Australian Bonds	67	95.5
Australian Equity A-REIT	65	92.3
<b>All Categories</b>	<b>881</b>	<b>92.3</b>
<b>3-YEAR</b>		
Australian Equity General	344	82.0
Australian Equity Mid- and Small-Cap	133	87.2
International Equity General	269	83.3
Australian Bonds	64	87.5
Australian Equity A-REIT	67	88.1
<b>All Categories</b>	<b>877</b>	<b>84.0</b>
<b>5-YEAR</b>		
Australian Equity General	334	73.7
Australian Equity Mid- and Small-Cap	121	76.9
International Equity General	260	74.6
Australian Bonds	57	89.5
Australian Equity A-REIT	69	85.5
<b>All Categories</b>	<b>841</b>	<b>76.5</b>
<b>10-YEAR</b>		
Australian Equity General	343	60.1
Australian Equity Mid- and Small-Cap	107	63.6
International Equity General	233	54.9
Australian Bonds	55	74.5
Australian Equity A-REIT	80	66.3
<b>All Categories</b>	<b>818</b>	<b>60.6</b>
<b>15-YEAR</b>		
Australian Equity General	318	49.1
Australian Equity Mid- and Small-Cap	86	54.7
International Equity General	211	41.7
Australian Bonds	59	45.8
Australian Equity A-REIT	85	52.9
<b>All Categories</b>	<b>759</b>	<b>47.8</b>

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2021. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

<b>Report 3: Average Fund Performance (Equal-Weighted)</b>						
<b>INDEX/FUND CATEGORY</b>	<b>1-YEAR (%)</b>	<b>3-YEAR ANNUALIZED (%)</b>	<b>5-YEAR ANNUALIZED (%)</b>	<b>10-YEAR ANNUALIZED (%)</b>	<b>15-YEAR ANNUALIZED (%)</b>	
S&P/ASX 200	27.80	9.59	11.16	9.26	6.92	
Australian Equity General	29.20	8.14	9.99	8.64	6.43	
S&P/ASX Mid-Small	34.50	10.56	12.66	9.10	6.20	
Australian Equity Mid- and Small-Cap	41.03	12.85	13.60	11.50	9.48	
S&P Developed Ex-Australia LargeMidCap	28.16	15.01	15.30	15.31	8.35	
International Equity General	28.47	13.24	13.83	13.25	6.79	
S&P/ASX Australian Fixed Interest 0+ Index	-0.87	4.20	3.17	4.92	5.47	
Australian Bonds	0.06	3.76	2.80	4.35	4.89	
S&P/ASX 200 A-REIT	33.24	7.74	5.79	11.77	3.97	
Australian Equity A-REIT	32.63	6.50	5.19	10.83	3.31	

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2021. All returns in AUD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

<b>Report 4: Average Fund Performance (Asset-Weighted)</b>						
<b>INDEX/FUND CATEGORY</b>	<b>1-YEAR (%)</b>	<b>3-YEAR ANNUALIZED (%)</b>	<b>5-YEAR ANNUALIZED (%)</b>	<b>10-YEAR ANNUALIZED (%)</b>	<b>15-YEAR ANNUALIZED (%)</b>	
S&P/ASX 200	27.80	9.59	11.16	9.26	6.92	
Australian Equity General	30.12	8.60	10.31	9.04	6.77	
S&P/ASX Mid-Small	34.50	10.56	12.66	9.10	6.20	
Australian Equity Mid- and Small-Cap	39.89	12.14	12.82	11.03	8.79	
S&P Developed Ex-Australia LargeMidCap	28.16	15.01	15.30	15.31	8.35	
International Equity General	24.52	12.18	13.26	13.26	7.35	
S&P/ASX Australian Fixed Interest 0+ Index	-0.87	4.20	3.17	4.92	5.47	
Australian Bonds	0.35	3.92	3.06	4.65	5.21	
S&P/ASX 200 A-REIT	33.24	7.74	5.79	11.77	3.97	
Australian Equity A-REIT	32.77	6.41	5.18	10.98	3.48	

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2021. All returns in AUD. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

<b>Report 5: Quartile Breakpoints of Fund Performance</b>			
<b>FUND CATEGORY</b>	<b>THIRD QUARTILE</b>	<b>SECOND QUARTILE</b>	<b>FIRST QUARTILE</b>
<b>1-YEAR</b>			
Australian Equity General	27.23	29.73	32.35
Australian Equity Mid- and Small-Cap	31.75	40.54	46.53
International Equity General	23.83	28.17	32.83
Australian Bonds	-0.61	-0.11	0.81
Australian Equity A-REIT	30.71	32.99	34.65
<b>3-YEAR</b>			
Australian Equity General	6.27	8.34	9.83
Australian Equity Mid- and Small-Cap	8.71	11.58	14.60
International Equity General	9.63	13.09	15.33
Australian Bonds	3.24	4.00	4.38
Australian Equity A-REIT	4.40	8.11	9.72
<b>5-YEAR</b>			
Australian Equity General	8.69	10.19	11.50
Australian Equity Mid- and Small-Cap	10.61	12.39	15.07
International Equity General	11.95	13.74	15.24
Australian Bonds	2.56	3.01	3.33
Australian Equity A-REIT	3.80	6.11	7.14
<b>10-YEAR</b>			
Australian Equity General	7.78	8.73	9.62
Australian Equity Mid- and Small-Cap	8.96	10.30	12.52
International Equity General	11.74	13.28	14.83
Australian Bonds	3.82	4.65	4.89
Australian Equity A-REIT	9.91	11.25	11.95
<b>15-YEAR</b>			
Australian Equity General	5.76	6.44	7.03
Australian Equity Mid- and Small-Cap	7.55	8.60	10.53
International Equity General	6.06	6.89	7.72
Australian Bonds	5.00	5.27	5.56
Australian Equity A-REIT	2.59	3.67	4.46

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2021. All returns in AUD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

## APPENDIX A

### SPIVA Styles and Morningstar Fund Classifications

Data from Morningstar is obtained for all managed funds domiciled in Australia for which month-end data is available during the performance period. The data include the most comprehensive Australian fund data on active and finalized (merged or liquidated) funds over the chosen period. Funds are classified based on the Morningstar fund classification system, and the SPIVA Australia Scorecard covers the Australian Equity General (large-cap equity), Australian Equity Mid- and Small-Cap, International Equity General, Australian Bonds, and Australian Equity A-REIT categories.



The Morningstar classification system produces narrow, style-based classifications for Australian equity funds. S&P Dow Jones Indices has consolidated the style-based categories in order to generate a larger sample size and develop a broad-market comparison to market-based benchmarks. A narrow, style-based comparison would yield a limited sample size, given value and growth style segments are not consistently discernible over the past five years.

Morningstar categories have been mapped to SPIVA peer groups in the following manner.

<b>SPIVA CATEGORY</b>	<b>MORNINGSTAR CATEGORY</b>
Australian Equity General	Australia Fund Equity - Australia Large Blend
	Australia Fund Equity - Australia Large Growth
	Australia Fund Equity - Australia Large Value
Australian Equity Mid- and Small-Cap	Australia Fund Equity - Australia Mid/Small Blend
	Australia Fund Equity - Australia Mid/Small Growth
	Australia Fund Equity - Australia Mid/Small Value
International Equity General	Australia Fund Equity - World Large Blend
	Australia Fund Equity - World Large Growth
	Australia Fund Equity - World Large Value
Australian Bonds	Australia Fund Bonds - Australia
Australian Equity A-REIT	Australia Fund Equity - Australia Real Estate

Source: S&P Dow Jones LLC and Morningstar. Data as of June 30, 2021. Table is provided for illustrative purposes.

## Benchmarks

The chosen benchmarks are shown in Exhibit 3. All index returns are total returns (i.e., include dividend reinvestment) in Australian dollars. There has been no deduction from index returns to account for fund investment expenses. It is important to note that active fund returns are after expenses, but they do not include loads and entry fees.

The benchmarks chosen are the most commonly adopted benchmarks for funds that fall into the respective fund peer groups. In some instances, a fund may not adopt the benchmarks stipulated. However, a vast majority do set their performance hurdle based on the assigned benchmarks in this report, ensuring that the study is robust and fair.

<b>SPIVA CATEGORY</b>	<b>BENCHMARK INDEX</b>
Australian Equity General	S&P/ASX 200
Australian Equity Mid- and Small-Cap	S&P/ASX Mid-Small
International Equity General	S&P Developed Ex-Australia LargeMidCap
Australian Bonds	S&P/ASX Australian Fixed Interest 0+ Index
Australian Equity A-REIT	S&P/ASX 200 A-REIT

Source: S&P Dow Jones LLC and Morningstar. Table is provided for illustrative purposes.

## **APPENDIX B: GLOSSARY**

### **Percentage of Funds Outperformed by the Index**

To correct for survivorship bias, we use the opportunity set available at the beginning of the period as the denominator. We determine the count of funds that have survived and beat the index. We then report the index outperformance percentage.

### **Survivorship (%)**

This measure represents the percentage of funds in existence at the beginning of the time period that is still active at the end of the time period.

### **Equal-Weighted Fund Performance**

Equal-weighted returns for a particular style category are determined by calculating a simple average return of all active funds in that category in a particular month.

### **Asset-Weighted Fund Performance**

Asset-weighted returns for a particular style category are determined by calculating a weighted average return of all funds in that category in a particular month, with each fund's return weighted by its total net assets. Asset-weighted returns are a better indicator of fund category performance because they more accurately reflect the returns of the total money invested in that particular style category.

### **Quartiles Breakpoints**

The  $p^{\text{th}}$  percentile for a set of data is the value that is greater than or equal to  $p\%$  of the data, but is less than or equal to  $(100-p)\%$  of the data. In other words, it is a value that divides the data into two parts: the lower  $p\%$  of the values and the upper  $(100-p)\%$  of the values. The first quartile is the 75<sup>th</sup> percentile, the value separating the elements of a population into the lower 75% and the upper 25%. The second quartile is the 50<sup>th</sup> percentile and the third quartile is the 25<sup>th</sup> percentile. For fund category quartiles in a particular time horizon, the data used is the return of the largest share class of the fund net of fees, excluding loads.

### **Survivorship Bias**

Many funds might liquidate or merge during a period of study. This usually occurs due to continued poor performance by the fund. Therefore, if index returns were compared to fund returns using only surviving funds, the comparison would be biased in favor of the fund category. These reports remove this bias by (a) using the entire investment opportunity set, made up of all funds in that particular category at the outset of the period, as the denominator for outperformance calculations, (b) explicitly showing the survivorship rate in each category, and (c) constructing peer average return series for each category based on all available funds at the outset of the period.

### **Fees**

The fund returns used are net of fees, excluding loads.

## Indices

A benchmark index provides an investment vehicle against which fund performance can be measured.

### S&P/ASX 200

The S&P/ASX 200 is recognized as the institutional investable benchmark in Australia. The index covers approximately 80% of Australian equity market capitalization. Index constituents are drawn from eligible companies listed on the Australian Securities Exchange. The S&P/ASX 200 is a highly liquid and investable index that is designed to address investment managers' needs to benchmark against a portfolio characterized by sufficient size and liquidity.

### S&P/ASX MID-SMALL

The S&P/ASX Mid-Small is designed to measure performance of companies included in the [S&P/ASX 300](#), but not in the [S&P/ASX 50](#). It is a combination of the [S&P/ASX MidCap 50](#) and the [S&P/ASX Small Ordinaries](#). The index covers approximately 18% of Australian equity market capitalization.

### S&P DEVELOPED EX-AUSTRALIA LARGEMIDCAP

The S&P Developed Ex-Australia LargeMidCap is a float-adjusted, market-capitalization-weighted index comprising large- and mid-cap companies in developed markets, excluding Australia. It represents approximately 85% of each relevant market's total available capital. This index is part of the S&P Global BMI (Broad Market Index) Series.

### S&P/ASX AUSTRALIAN FIXED INTEREST 0+ INDEX

The S&P/ASX Australian Fixed Interest 0+ Index is part of the S&P/ASX Australian Fixed Interest 0+ Index Series, a broad benchmark index series designed to measure the performance of Australian bonds meeting investability criteria.

### S&P/ASX 200 A-REIT

The [S&P/ASX 200 A-REIT](#) is a sector subindex of the S&P/ASX 200. The index seeks to provide investors with exposure to Australian Real Estate Investment Trusts (A-REITs), which are captured under the Global Industry Classification Standard (GICS® Tier 2).

## PERFORMANCE DISCLOSURE

The S&P/ASX Australian Fixed Interest 0+ Index was launched September 5, 2014. The S&P/ASX Mid-Small was launched August 15, 2011. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at [www.spglobal.com/spdji](http://www.spglobal.com/spdji). Past performance of the Index is not an indication of future results. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results. Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations. Back-tested performance is for use with institutions only; not for use with retail investors.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the index is set to a fixed value for calculation purposes. The Launch Date designates the date when the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its data feed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

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