S&P Dow Jones Indices

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Persistence of Australian Active Funds

EXECUTIVE SUMMARY

- While comparing active funds against a benchmark index is a typical practice used to evaluate their performance, persistence is an additional test that reveals fund managers' skills in different market environments.
- In this report, we measure the performance persistence of active funds that outperformed their peers and benchmarks over consecutive threeand five-year periods, and we analyze their transition matrices over subsequent periods.
- A minority of Australian high-performing funds persisted in outperforming their respective benchmarks or consistently stayed in their respective top quartiles for three consecutive years, and even fewer maintained these traits consistently for the five-year period.
- Out of the top-performing funds in the 12-month period ending June 2014, only 2.2% persistently maintained a top quartile rank, and 4.0% consistently beat their benchmarks in the following four consecutive years.
- Over two successive three- and five-year periods, the majority of outperforming funds failed to beat their respective benchmarks, and most funds in the top quartile did not remain there consistently.
- Out of the 144 Australian funds that ranked in their respective top quartile in the five-year period ending June 2013, less than half of them remained in the top two quartiles, and 15.3% were liquidated or merged in the subsequent five-year period.
- Out of the 303 Australian funds that outperformed their respective benchmark in the five-year period ending June 2013, only 27.7% continued to outperformed their respective benchmark in the following five-year period.
- Overall, results from various evaluation matrices suggest weak performance persistence in top-performing funds in Australia across the three- and five-year periods, with Australian Bond funds tending to have the strongest performance persistence among all the categories.

MEASURING PERFORMANCE PERSISTENCE OF AUSTRALIAN ACTIVE FUNDS

Research suggests that actively managed winning streaks are often short lived. Twice a year, S&P Dow Jones Indices releases the Persistence Scorecard, which tracks the performance consistency of U.S. actively managed funds over consecutive years. We have consistently observed that relatively few U.S. active funds can stay at the top for years.¹ In this report, we use similar matrices to measure the persistence of Australian active funds that outperform their benchmarks and their peers over three-and five-year periods. Our study follows the fund categories and benchmarks defined in the SPIVA® Australia Scorecard, a biannual report that tracks the number of active Australian funds that beat their comparable benchmarks over short- and long-term horizons.

Exhibit 1: SPIVA Categories and Their Benchmarks				
SPIVA CATEGORY	BENCHMARK INDEX			
Australian Equity General	S&P/ASX 200			
Australian Equity Mid- and Small-Cap	S&P/ASX Mid-Small Index			
International Equity General	S&P Developed Ex-Australia Large Midcap			
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.

We measure the following matrices based on Australian active funds that maintain a top-quartile ranking among their peers and those that outperform their respective benchmark indices.

- 1. Performance Persistence Over Three Consecutive Years
- 2. Performance Persistence Over Five Consecutive Years
- 3. Three-Year Transition Matrix—Performance Over Two Non-Overlapping Three-Year Periods
- 4. Five-Year Transition Matrix—Performance Over Two Non-Overlapping Five-Year Periods

SECTION 1: PERSISTENCE OF FUNDS THAT MAINTAIN TOP-QUARTILE RANKING AMONG THEIR PEERS

Performance Persistence Over Three Consecutive 12-Month Periods (June 2015-June 2018): In the 12-month period ending June 2016, there were 187 Australian active funds ranked in their respective top quartiles across five fund categories. Of these, 16 (8.6%) stayed in the top quartile in the next two consecutive 12-month periods (June 2016-June 2018). Out of the 75 top-performing Australian Equity General funds, only five of them (6.7%) consistently remained in the top quartile in the following two consecutive 12-month periods. The Australian Equity General funds had the lowest tendency to stay in the top quartile over three consecutive years. In contrast, Australian Bond funds had the highest retention rate in the top quartile (see Exhibit 2).

Performance Persistence Over Five Consecutive 12-Month Periods (June 2013-June 2018): Out of the 183 top-quartile Australian active funds in the 12-month period ending June 2014, only 4 of them (2.2%) remained in the same quartile in the next four consecutive 12-month periods (June 2014-June 2018). Similar to the observations over the three-year period, the Australian Bonds category had the lowest turnover in the top quartile over five consecutive 12-month periods. In contrast, no funds in the

¹ For details, please refer to the latest Persistence Scorecard.

Australian Equity Mid- and Small-Cap and Australian Equity A-REIT categories managed to stay in the top quartile for five consecutive years (see Exhibit 3).

Exhibit 2: Performance Persistence of Australian Active Funds Over Three Consecutive 12-Month Periods (June 2015-June 2018)

FUND CATEGORY	NUMBER OF FUNDS IN TOP QUARTILE AT START	% OF FUNDS STAYING IN TOP QUARTILE		
	JUNE 2016	JUNE 2017	JUNE 2018	
Australian Equity General	75	13.3	6.7	
Australian Equity Mid- and Small-Cap	26	15.4	7.7	
International Equity General	55	14.5	7.3	
Australian Bonds	13	23.1	23.1	
Australian Equity A-REIT	18	33.3	11.1	
All Categories	187	16.6	8.6	

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2018. The fund returns used in the analysis are net of fees, excluding loads. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

Exhibit 3: Performance Persistence of Australian Active Funds Over Five Consecutive 12-Month Periods (June 2013-June 2018) NUMBER OF FUNDS IN TOP % OF FUNDS STAYING IN TOP QUARTILE **QUARTILE AT START FUND CATEGORY JUNE 2014 JUNE 2015 JUNE 2016 JUNE 2017 JUNE 2018** Australian Equity General 75 24.0 14.7 2.7 1.3 Australian Equity Mid- and Small-Cap 25 32.0 12.0 0.0 0.0

International Equity General 52 13.5 3.8 1.9 1.9 15.4 Australian Bonds 13 38.5 23.1 15.4 Australian Equity A-REIT 18 11.1 0.0 0.0 0.0 183 2.7 2.2 **All Categories**

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2018. The fund returns used in the analysis are net of fees, excluding loads. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

Three-Year Transition Matrix (period from June 2012 to June 2015 versus period from June 2015 to June 2018): The transition matrix tracks the trajectory of funds in each quartile over two non-overlapping periods. Out of the 71 top-quartile funds in the Australian Equity General category in the three-year period ending June 2015, 26.8% remained in the top quartile in the subsequent three-year period (June 2015 to June 2018). Top quartile funds in the International Equity General category showed the lowest persistence (only 21.7% maintained a top-quartile rank), while those in the Australian Bonds category had the lowest turnover in the top quartile (58.3% of funds maintained a top-quartile rank). Overall, funds ranked in the bottom two quartiles for the first three-year period had a higher tendency to underperform or be merged or liquidated in the subsequent three-year period (see Exhibit 4).

Five-Year Transition Matrix (period from June 2008 to June 2013 versus period from June 2013 to June 2018): Out of the 144 Australian funds that ranked in their respective top quartile in the five-year period ending June 2013, only 22.9% remained in the same quartile and 15.3% were liquidated or merged in the subsequent five-year period (June 2013 to June 2018). Top quartile funds in the Australian Equity General category showed the lowest persistence, with only 16.9% and 10.2% of funds maintaining a top- and second-quartile rank, respectively. In contrast, Australian Bonds exhibited the strongest persistence in the top quartile over the two non-overlapping five-year periods (see Exhibit 5).

Exhibit 4: Three	Exhibit 4: Three-Year Transition Matrix – Performance Over Two Non-Overlapping Three-Year Periods					
(Period From June 2012 to June 2015 Versus Period From June 2015 to June 2018)						
	TUDES VEAD DEPOSIT AGE AT END (C)					

	FUND COUNT AT START		THREE	-YEAR PERCE	NTAGES AT E	ND (%)	
QUARTILE	(JUNE 2015)	1ST QUARTILE	2ND QUARTILE	3RD QUARTILE	4TH QUARTILE	MERGED/ LIQUIDATED	TOTAL
AUSTRALIAN I	EQUITY GENERAL						
1st Quartile	71	26.8	25.4	14.1	22.5	11.3	100.0
2nd Quartile	72	20.8	23.6	26.4	18.1	11.1	100.0
3rd Quartile	71	16.9	21.1	21.1	19.7	21.1	100.0
4th Quartile	71	18.3	16.9	22.5	22.5	19.7	100.0
AUSTRALIAN I	EQUITY MID- AND SMALL-CA	.P					
1st Quartile	23	26.1	17.4	21.7	17.4	17.4	100.0
2nd Quartile	23	8.7	26.1	26.1	30.4	8.7	100.0
3rd Quartile	22	13.6	22.7	27.3	13.6	22.7	100.0
4th Quartile	23	17.4	21.7	13.0	26.1	21.7	100.0
INTERNATION	AL EQUITY GENERAL						
1st Quartile	46	21.7	30.4	21.7	13.0	13.0	100.0
2nd Quartile	47	19.1	23.4	25.5	14.9	17.0	100.0
3rd Quartile	46	10.9	19.6	21.7	15.2	32.6	100.0
4th Quartile	46	8.7	8.7	15.2	39.1	28.3	100.0
AUSTRALIAN I	BONDS						
1st Quartile	12	58.3	33.3	8.3	0.0	0.0	100.0
2nd Quartile	12	16.7	41.7	25.0	0.0	16.7	100.0
3rd Quartile	11	9.1	18.2	36.4	36.4	0.0	100.0
4th Quartile	12	8.3	0.0	8.3	58.3	25.0	100.0
AUSTRALIAN I	EQUITY A-REIT						
1st Quartile	17	41.2	23.5	17.6	17.6	0.0	100.0
2nd Quartile	17	17.6	29.4	29.4	0.0	23.5	100.0
3rd Quartile	17	29.4	11.8	35.3	23.5	0.0	100.0
4th Quartile	17	5.9	11.8	11.8	58.8	11.8	100.0
ALL CATEGOR	RIES						
1st Quartile	169	29.0	26.0	17.2	17.2	10.7	100.0
2nd Quartile	171	18.1	25.7	26.3	15.8	14.0	100.0
3rd Quartile	167	15.6	19.8	24.6	19.2	21.0	100.0
4th Quartile	169	13.6	13.6	17.2	33.7	21.9	100.0

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2018. The fund returns used in the analysis are net of fees, excluding loads. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

	FUND COUNT AT START		FIVE-	YEAR PERCEN	ITAGES AT EN	ID (%)	
QUARTILE	QUARTILE (JUNE 2013)		2ND QUARTILE	3RD QUARTILE	4TH QUARTILE	MERGED/ LIQUIDATED	TOTAL
AUSTRALIAN	I EQUITY GENERAL						
1st Quartile	59	16.9	10.2	25.4	33.9	13.6	100.0
2nd Quartile	59	16.9	25.4	18.6	15.3	23.7	100.0
3rd Quartile	58	17.2	24.1	31.0	13.8	13.8	100.0
4th Quartile	59	27.1	15.3	13.6	22.0	22.0	100.0
AUSTRALIAN	I EQUITY MID- AND SMALL-C	AP					
1st Quartile	19	26.3	31.6	5.3	15.8	21.1	100.0
2nd Quartile	19	15.8	31.6	26.3	21.1	5.3	100.0
3rd Quartile	19	10.5	21.1	21.1	15.8	31.6	100.0
4th Quartile	19	10.5	15.8	21.1	21.1	31.6	100.0
INTERNATIO	NAL EQUITY GENERAL						
1st Quartile	40	17.5	32.5	17.5	15.0	17.5	100.0
2nd Quartile	40	17.5	27.5	15.0	15.0	25.0	100.0
3rd Quartile	39	28.2	7.7	20.5	10.3	33.3	100.0
4th Quartile	40	22.5	5.0	22.5	15.0	35.0	100.0
AUSTRALIAN	BONDS						
1st Quartile	10	60.0	20.0	0.0	0.0	20.0	100.0
2nd Quartile	11	45.5	36.4	9.1	0.0	9.1	100.0
3rd Quartile	10	0.0	30.0	40.0	10.0	20.0	100.0
4th Quartile	10	0.0	0.0	30.0	40.0	30.0	100.0
AUSTRALIAN	I EQUITY A-REIT						
1st Quartile	16	31.3	31.3	25.0	6.3	6.3	100.0
2nd Quartile	17	35.3	17.6	11.8	17.6	17.6	100.0
3rd Quartile	16	6.3	25.0	25.0	18.8	25.0	100.0
4th Quartile	16	6.3	18.8	18.8	43.8	12.5	100.0
ALL CATEGO	PRIES						
1st Quartile	144	22.9	22.2	18.8	20.8	15.3	100.0
2nd Quartile	146	21.2	26.7	17.1	15.1	19.9	100.0
3rd Quartile	142	16.9	19.7	26.8	13.4	23.2	100.0
4th Quartile	144	19.4	11.8	18.8	23.6	26.4	100.0

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2018. The fund returns used in the analysis are net of fees, excluding loads. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

SECTION 2: PERSISTENCE OF FUNDS THAT OUTPERFORM THEIR RESPECTIVE BENCHMARK INDICES

Performance Persistence Over Three 12-Month Periods (June 2015-June 2018): There were 229 Australian active funds that outperformed their respective benchmarks across five fund categories in the 12-month period ending June 2016; 36 of them (15.7%) continued to outperform the benchmark in the next two consecutive 12-month periods (June 2015-June 2017). Out of the 126 Australian large-cap equity funds that beat the <u>S&P/ASX 200</u> in the 12-month period ending June 2015, 27 (21.4%)

consistently outperformed in the two following 12-month periods. In contrast, out of the 40 Australian equity mid- and small-cap outperforming funds in the 12-month period ending June 2016, only 1 of them (2.5%) consistently outperformed in the two following 12-month periods (see Exhibit 6).

Performance Persistence Over Five Consecutive 12-Month Periods (June 2013-June 2018):

There were 277 Australian active funds that beat their respective benchmark in the 12-month period ending June 2014, and 11 of them managed to continue their outperformance in the following four 12-month periods (June 2014-June 2018). Outperforming funds in the Australian Equity General category tended to have higher persistence in beating the benchmark over five consecutive 12-month periods. In contrast, not a single fund from the Australia Equity A-REIT category managed to outperform the benchmark consistently over five consecutive 12-month periods (see Exhibit 7).

Exhibit 6: Performance Persistence of Australian Active Funds Over Three 12-Month Periods(June 2015-June 2018)						
FUND CATEGORY	NUMBER OF OUTPERFORMING	% OF FUNDS OUTPERFORMING THE BENCHMARK IN CONSECUTIVE PERIODS				
	FUNDS AT START (JUNE 2016)	JUNE 2017	JUNE 2018			
Australian Equity General	126	31.0	21.4			
Australian Equity Mid- and Small-Cap	40	12.5	2.5			
International Equity General	48	33.3	10.4			
Australian Bonds	7	42.9	42.9			
Australian Equity A-REIT	8	87.5	0.0			
All Categories	229	30.6	15.7			

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2018. The fund returns used in the analysis are net of fees, excluding loads. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

Exhibit 7: Performance Persistence	of Australian Active Funds Over Five	e Consecutive Years (June 2013-June 2018)
		% OF FUNDS OUTPERFORMING THE BENC

FUND CATEGORY	NUMBER OF OUTPERFORMING	% OF FUNDS OUTPERFORMING THE BENCHMARK IN CONSECUTIVE PERIODS			
	FUNDS AT START (JUNE 2014)	JUNE 2015	JUNE 2016	JUNE 2017	JUNE 2018
Australian Equity General	110	50.9	21.8	6.4	6.4
Australian Equity Mid- and Small-Cap	64	42.2	21.9	1.6	1.6
International Equity General	47	25.5	4.3	4.3	4.3
Australian Bonds	22	13.6	4.5	4.5	4.5
Australian Equity A-REIT	34	5.9	2.9	2.9	0.0
All Categories	277	36.1	15.2	4.3	4.0

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2018. The fund returns used in the analysis are net of fees, excluding loads. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

Three-Year Transition Matrix (period from June 2012 to June 2015 versus period from June 2015 to June 2018): In the three-year period ending June 2015, 259 Australian active funds outperformed their respective benchmarks. Of these, 32.4% had persistent outperformance in the subsequent three-year period (June 2015-June 2018). Outperformers among the Australian Equity A-REIT funds showed the strongest persistence (66.7%), while those in International Equity General had the least tendency to continue to outperform (16.1%) (see Exhibit 8).

Five-Year Transition Matrix (period from June 2008 to June 2013 versus period from June 2013 to June 2018): Out of the 303 Australian funds that outperformed in the five-year period ending June 2013, 27.7% of them persistently beat their respective benchmark in the following five years (June 2013-June 2018). Outperforming funds from the Australian Bonds category exhibited the highest

tendency to continue to outperform (50.0%), while those in International Equity General had the least performance persistence (12.5%) (see Exhibit 9).

RELATIVE	FUND COUNT AT START	THREE-YEAR PERCENTAGES AT END (%)					
PERFORMANCE	(JUNE 2015)	OUTPERFORM BENCHMARK	UNDERPERFORM BENCHMARK	MERGED/ LIQUIDATED	TOTAL		
AUSTRALIAN EQUITY GE	NERAL						
Outperform Benchmark	138	37.0	51.4	11.6	100.0		
Underperform Benchmark	147	26.5	53.7	19.7	100.0		
AUSTRALIAN EQUITY MII	D- AND SMALL-CAP						
Outperform Benchmark	64	23.4	62.5	14.1	100.0		
Underperform Benchmark	27	29.6	44.4	25.9	100.0		
INTERNATIONAL EQUITY	GENERAL						
Outperform Benchmark	31	16.1	71.0	12.9	100.0		
Underperform Benchmark	154	11.7	63.6	24.7	100.0		
AUSTRALIAN BONDS							
Outperform Benchmark	17	41.2	52.9	5.9	100.0		
Underperform Benchmark	30	10.0	76.7	13.3	100.0		
AUSTRALIAN EQUITY A-F	REIT						
Outperform Benchmark	9	66.7	33.3	0.0	100.0		
Underperform Benchmark	59	33.9	55.9	10.2	100.0		
ALL CATEGORIES							
Outperform Benchmark	259	32.4	56.0	11.6	100.0		
Underperform Benchmark	417	21.1	58.8	20.1	100.0		

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2018. The fund returns used in the analysis are net of fees, excluding loads. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

RELATIVE	FUND COUNT AT START	FIVE-YEAR PERCENTAGES AT END (%)					
PERFORMANCE	(JUNE 2013)	OUTPERFORM BENCHMARK	UNDERPERFORM BENCHMARK	MERGED/ LIQUIDATED	TOTAL		
AUSTRALIAN EQUITY GE	NERAL						
Outperform Benchmark	134	29.9	53.0	17.2	100.0		
Underperform Benchmark	101	30.7	49.5	19.8	100.0		
AUSTRALIAN EQUITY MI	D- AND SMALL-CAP						
Outperform Benchmark	74	27.0	50.0	23.0	100.0		
Underperform Benchmark	2	0.0	100.0	0.0	100.0		
INTERNATIONAL EQUITY	GENERAL						
Outperform Benchmark	40	12.5	70.0	17.5	100.0		
Underperform Benchmark	119	9.2	59.7	31.1	100.0		
AUSTRALIAN BONDS							
Outperform Benchmark	18	50.0	38.9	11.1	100.0		
Underperform Benchmark	23	0.0	73.9	26.1	100.0		
AUSTRALIAN EQUITY A-I	REIT						
Outperform Benchmark	37	27.0	59.5	13.5	100.0		
Underperform Benchmark	28	7.1	75.0	17.9	100.0		
ALL CATEGORIES							
Outperform Benchmark	303	27.7	54.5	17.8	100.0		
Underperform Benchmark	273	16.1	59.0	24.9	100.0		

Source: S&P Dow Jones Indices LLC, Morningstar. Data as of June 30, 2018. The fund returns used in the analysis are net of fees, excluding loads. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

SECTION 3: CONCLUSION

While comparing returns against a benchmark is a common practice to evaluate the performance of active funds, performance persistence is an additional test on the fund managers' skills at overcoming different market environments. In this report, we measured the performance persistence of active funds that outperformed their peers and benchmarks over consecutive three- and five-year periods, and their transition matrices over subsequent time periods.

The results showed that only a small portion of Australian outperforming or high-performing funds showed persistent outperformance against their respective benchmarks or consistently stayed in their respective top quartiles over three consecutive years, and even fewer could maintain outperformance for five consecutive years. Out of the top-performing funds in the 12-month period ending June 2014, only 2.2% persistently maintained a top-quartile rank, and 4.0% consistently beat the benchmarks in the following four consecutive years.

The transition matrices show that over two successive three- and five-year periods, a majority of outperforming funds failed to beat their respective benchmarks, and most of the top-quartile funds did not remain in the same quartile consistently. Out of the 144 Australian funds that ranked in their respective top quartile in the five-year period ending June 2013, less than half of them remained in the top two quartiles, and 15.3% were liquidated or merged in the subsequent five-year period. Furthermore, out of the 303 Australian funds that outperformed their respective benchmark in the five-year period ending June 2013, only 27.7% continued to outperformed their respective benchmark in the following five-year period.

Overall, results from various evaluation matrices suggest weak performance persistence in topperforming funds in Australia across the three- and five-year periods, with Australian Bond funds tending to have the strongest performance persistence among all the categories.

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