WHEN SIZE MATTERS: A CLOSER LOOK AT SMSF PERFORMANCE

A report prepared by the SMSF Centre of Excellence, a collaboration between SuperConcepts and The University of Adelaide's International Centre for Financial Services

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INTRODUCTION

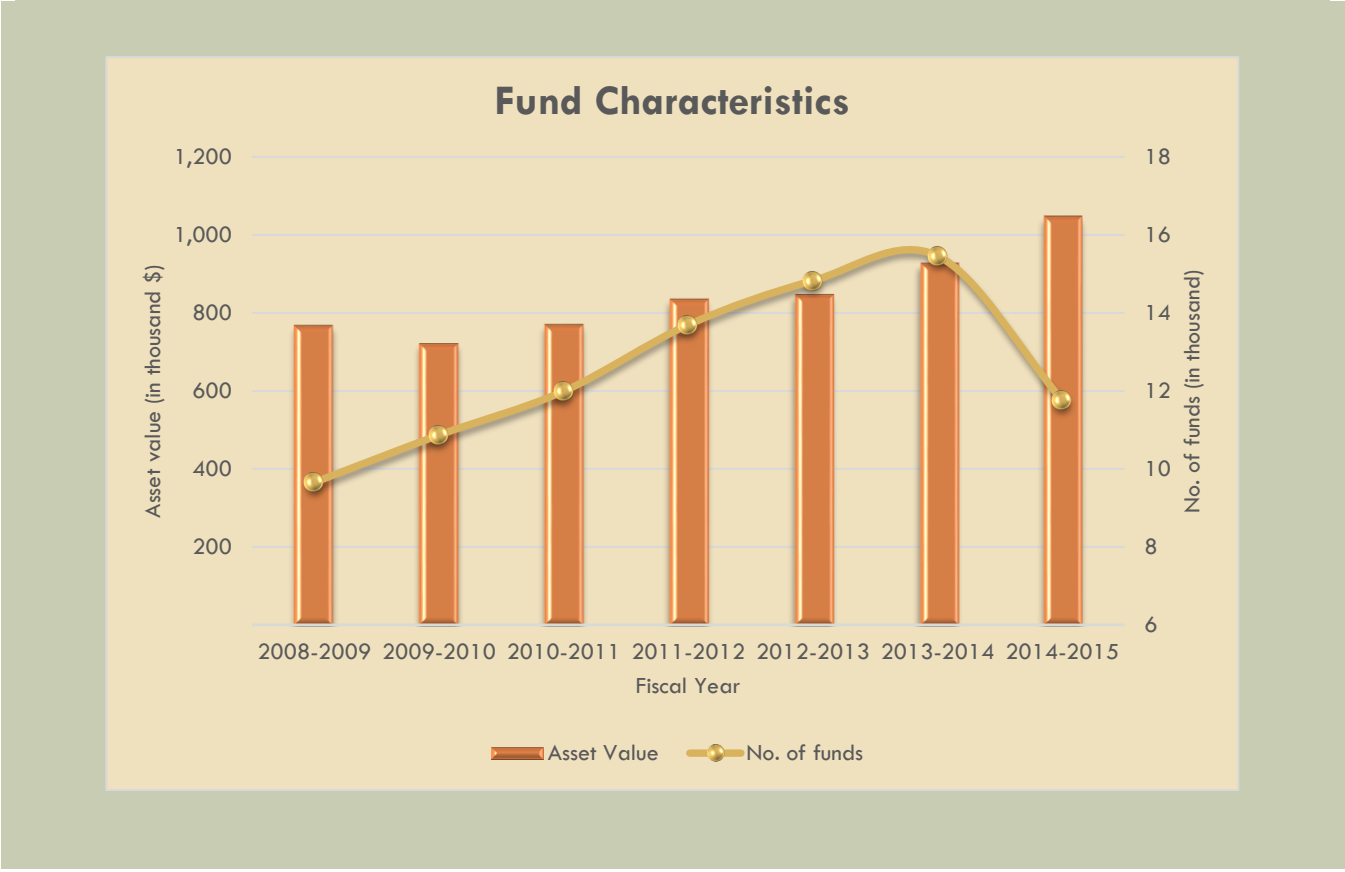
In this report we use a comprehensive dataset to have a closer look at SMSF (self-managed superannuation fund) performance. Using longitudinal data from 20,121 unique SMSFs starting from the 2008-2009 fiscal year until 2014-2015, we examine fund characteristics that contribute to large SMSFs outperforming the smaller ones. These characteristics include the diversification of SMSFs by asset class, expense of operating SMSFs and the relationship that fund size has with how old the SMSF is. We find that large SMSFs perform better than the smaller ones. We also find large SMSFs are more diversified, have lower expense ratios and have been in existence for longer than the smaller SMSFs. Our findings indicate that having a more diversified portfolio, operating more efficiently and having operated for longer contribute to the superior performance of large SMSFs.

BACKGROUND

Commentaries on SMSF performance suggest that cost effectiveness is responsible for the superior performance of large SMSFs compared to the smaller ones. Consequently, being the least cost effective funds, the smallest SMSFs face the criticism of not being sustainable, with some commentators proposing a mandatory minimum fund size to start an SMSF. Our study uses unique, longitudinal SMSF data to carefully investigate whether other fund characteristics contribute to the superior performance of large SMSFs. These characteristics include diversification of the fund by asset class, expense ratio of the fund, and how old the fund is. Our data contains 88,255 fund-year observations, providing a richer set of information on how funds perform over time than has previously been examined. The SMSFs in our sample have outsourced their administration, and possibly other aspects of their fund operation to an external party.

SUMMARY STATISTICS

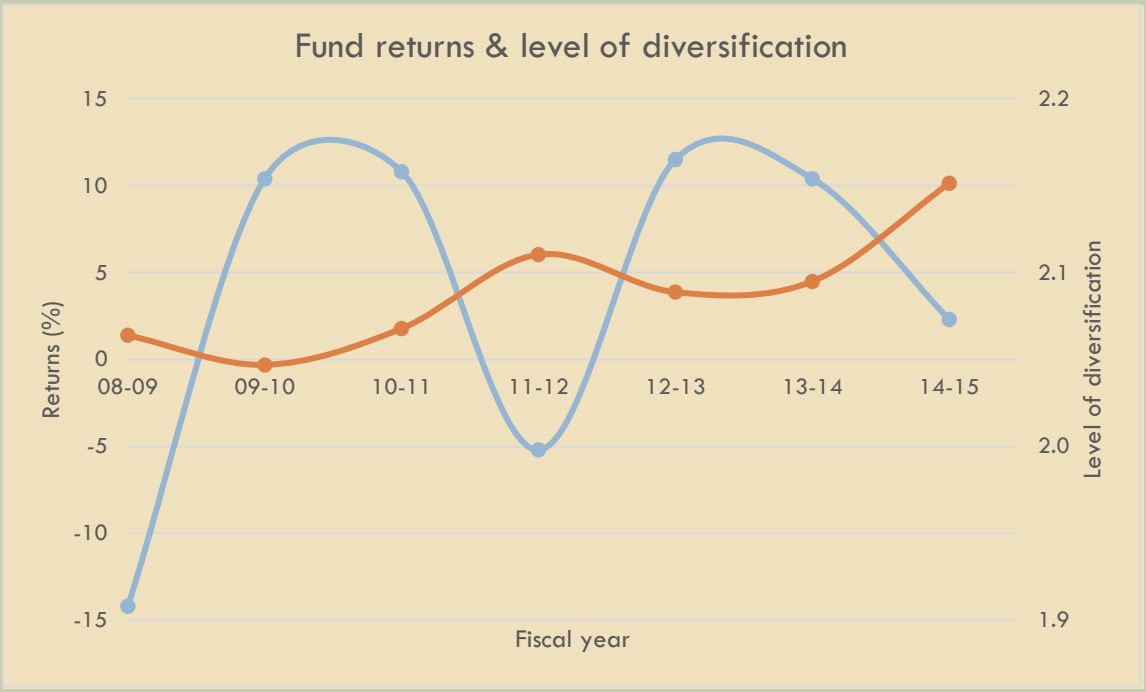
	No. of unique funds	Number of fund-years	Average no. of trustees	Proportion of male trustees
Sample	**20,121**	**88,255**	**2**	**55%**
SMSFs	**Average level of diversification**	**Average annual expenses ($)**	**Average annual expense ratio (%)**	**Average fund age (year)**
	2.1	**8,919**	**2.8**	**10**



The average asset value for all funds included in our data is $845,000. Over the observation period, the lowest average asset value ($722,214) occurs in the 2009-2010 fiscal year, and the highest average asset value ($1,045,938) occurs in the 2014-2015 fiscal year. The dataset starts with around 9,600 funds at the beginning of our observation period and increases to a maximum of 15,430 funds in the 2013-2014 fiscal year. The number of funds thereafter drops to around 11,000 funds for the 2014-2015 fiscal year. On average, each fund has two trustees with around 55 per cent of the trustees are male. This finding indicates a relatively even gender split within the sample.

We measure the level of diversification through a simple count of how many asset classes a fund has invested in with a weighting of 10% or more. We find that the funds in our sample are, on average, diversified into 2 asset classes. However, this varies over time and with fund size. We explore this in more detail in the rest of the report.

PERFORMANCE ANALYSIS OVER TIME



Fiscal year	Returns (%)	Volatility (%)	Level of diversification
08-09	-14.2	35.4	2.06
09-10	10.4	29.3	2.05
10-11	10.8	31	2.07
11-12	-5.2	29.2	2.11
12-13	11.5	30.1	2.09
13-14	10.4	24.9	2.09
14-15	2.3	21.3	2.15

We take our lead from the ATO's guidelines in measuring SMSF returns and proceed to estimate returns for assets within a fund by standardising net inflows of a fund during one fiscal year against the market value of the fund's assets at the beginning of the corresponding fiscal year. A fund's inflows consist of investment returns, including the change in market value (capital gain) and income derived from assets held by the fund. In order to estimate net inflows, we subtract the fund's expenses, contributions and rollover from its inflow figures. It is noteworthy that, following the practice used by APRA, we divide yearly contributions and rollover for each fund by two to

smoothen cash flow figures as contributions and rollovers tend to be recorded toward the end of the fiscal year. We do not make similar adjustment for income and expenses because these accounts are recorded chronologically and transactions generally occur on a regular basis throughout the fiscal year.

The lowest fund returns occur directly following the aftermath of the global financial crisis during the 2008-2009 fiscal year, while the highest fund returns occur during the 2012-2013 fiscal year. Fund returns are around 2 per cent for the 2014-2015 fiscal year.

Fund diversification has, on the whole, marginally improved over time. At the beginning of our sample period the average fund held investments in 2.06 asset classes, and this has increased to 2.15 at the end of our sample period. We observe an inverse relationship between the level of diversification and the volatility of fund returns.

THE RELATIONSHIP BETWEEN FUND SIZE, PERFORMANCE, DIVERSIFICATION, EXPENSES AND AGE

To examine the contributing factors of SMSFs performance across fund sizes, we first split our sample of SMSFs into four groups:

1. Size 1 contains the smallest funds with asset values less than $200,000.
2. Size 2 contains medium low funds with asset values between $200,001 and $500,000.
3. Size 3 contains medium high funds with asset values between $500,001 and $1,000,000.
4. Size 4 contains the largest funds with asset values greater than $1,000,000.

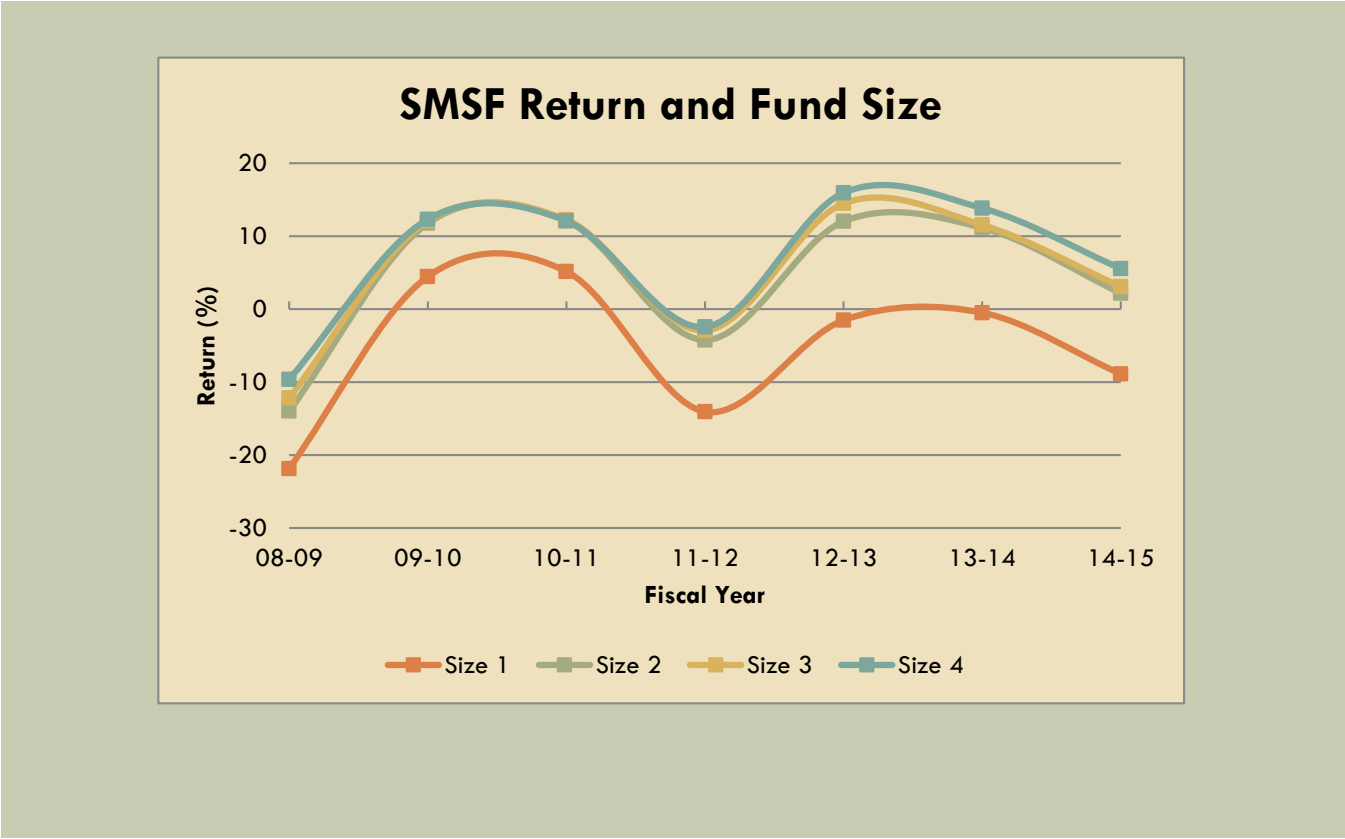
The above categories are based on initially using categories that the ATO applies to split SMSFs (they use seven size-based groups). We then combine several size groups into the final four we use to ensure each size group has a relatively similar number of funds.

The fund characteristics that we examine are (i) how diversified a fund is across asset classes (our diversification measure is a simple count of how many asset classes a fund has invested in with a weighting of 10% or more), (ii) expense ratios (measured as a dollar expense for each fund standardized by the fund's asset value at the beginning of each fiscal year), and (ii) the age of the fund (measured in years since inception).

Fiscal year	Size 1 (Smallest)	Size 2	Size 3	Size 4 (Largest)	Size 1 (Smallest)	Size 2	Size 3	Size 4 (Largest)
	Fund return (%)				Diversification			
2008-2009	-21.9	-14.0	-12.2	-9.6	1.85	2.04	2.14	2.20
2009-2010	4.5	11.8	12.1	12.3	1.82	2.01	2.13	2.18
2010-2011	5.2	12.1	12.3	12.1	1.81	2.04	2.13	2.21
2011-2012	-14.1	-4.2	-2.9	-2.4	1.82	2.07	2.18	2.27
2012-2013	-1.5	12.0	14.5	15.9	1.77	2.03	2.18	2.24
2013-2014	-0.5	11.1	11.5	13.8	1.75	2.02	2.16	2.26
2014-2015	-8.9	2.2	3.1	5.5	1.81	2.07	2.19	2.28
	Expense ($)				Expense ratio (%)			
2008-2009	$4,524	$6,960	$8,933	$11,654	5.0	3.1	1.9	1.1
2009-2010	$5,373	$8,154	$10,428	$13,023	6.3	3.5	2.0	1.2
2010-2011	$5,879	$8,192	$8,999	$9,593	6.5	3.5	1.8	0.9
2011-2012	$6,017	$8,002	$9,130	$10,141	5.8	3.0	1.8	0.9
2012-2013	$6,459	$9,297	$9,805	$10,284	6.1	3.6	1.8	0.9
2013-2014	$7,632	$10,340	$10,205	$9,714	6.8	4.1	1.9	0.8
2014-2015	$8,253	$10,586	$9,453	$7,044	6.3	3.8	1.7	0.6
	Fund age (month)				Fund age (year)			
2008-2009	91	103	119	148	7.6	8.6	9.9	12.3
2009-2010	91	105	121	151	7.6	8.7	10.1	12.6
2010-2011	94	108	122	157	7.8	9.0	10.2	13.1
2011-2012	95	109	126	162	7.9	9.1	10.5	13.5
2012-2013	96	109	127	167	8.0	9.1	10.6	13.9
2013-2014	97	110	131	173	8.1	9.2	10.9	14.4
2014-2015	102	116	135	176	8.5	9.6	11.3	14.7

Fund size and performance

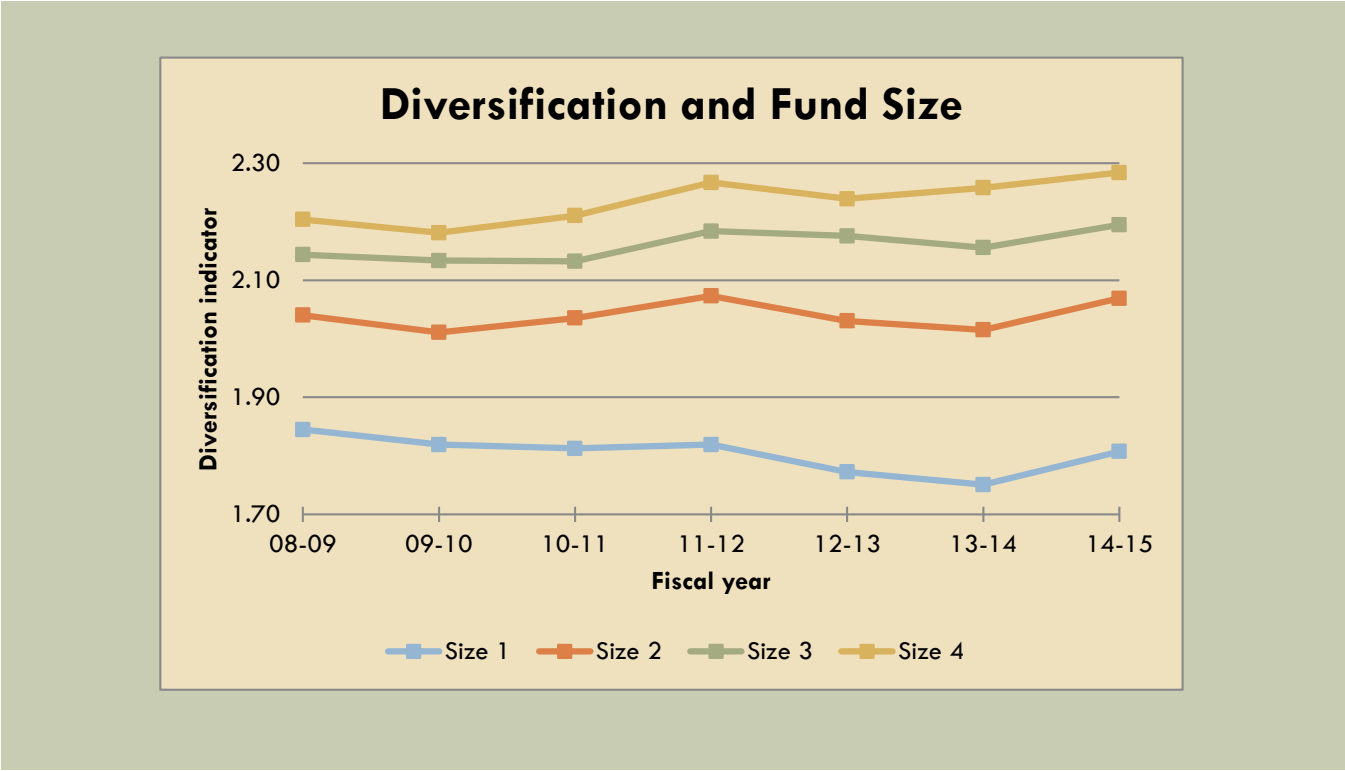
Our findings indicate that there is a positive relationship between fund performance and fund size. In other words, the smallest funds underperform the larger funds, but it is interesting to note that performance is relatively similar for funds with asset values greater than $200,000. The figure below shows that the smallest funds (size 1) consistently underperform the larger funds, whilst there seems to be no difference in performance across funds in size 2 through to size 4. This is particularly the case for the first four fiscal years of our observation period. However, the performance of the largest funds (size 4) is slightly better than the medium sized (sizes 2 and 3) funds for the last three fiscal years.



Fund size and diversification

As for the degree of diversification, our data shows that larger funds are more diversified than the smaller ones. From a statistical perspective, there is a significant difference between the diversification of the largest funds (size 4) compared to the smallest funds (size 1). There is no statistically significant difference between size 2 to size 4 funds. In other words, funds that have $200,000 or more are similarly diverse relative to funds that have in excess of $1million. If a fund has less than $200,000 then there is a deterioration, in terms of holding diversified asset classes, within the fund.

The graphical representation of our findings below suggests there exists a consistently positive relationship between fund size and the degree of diversification.

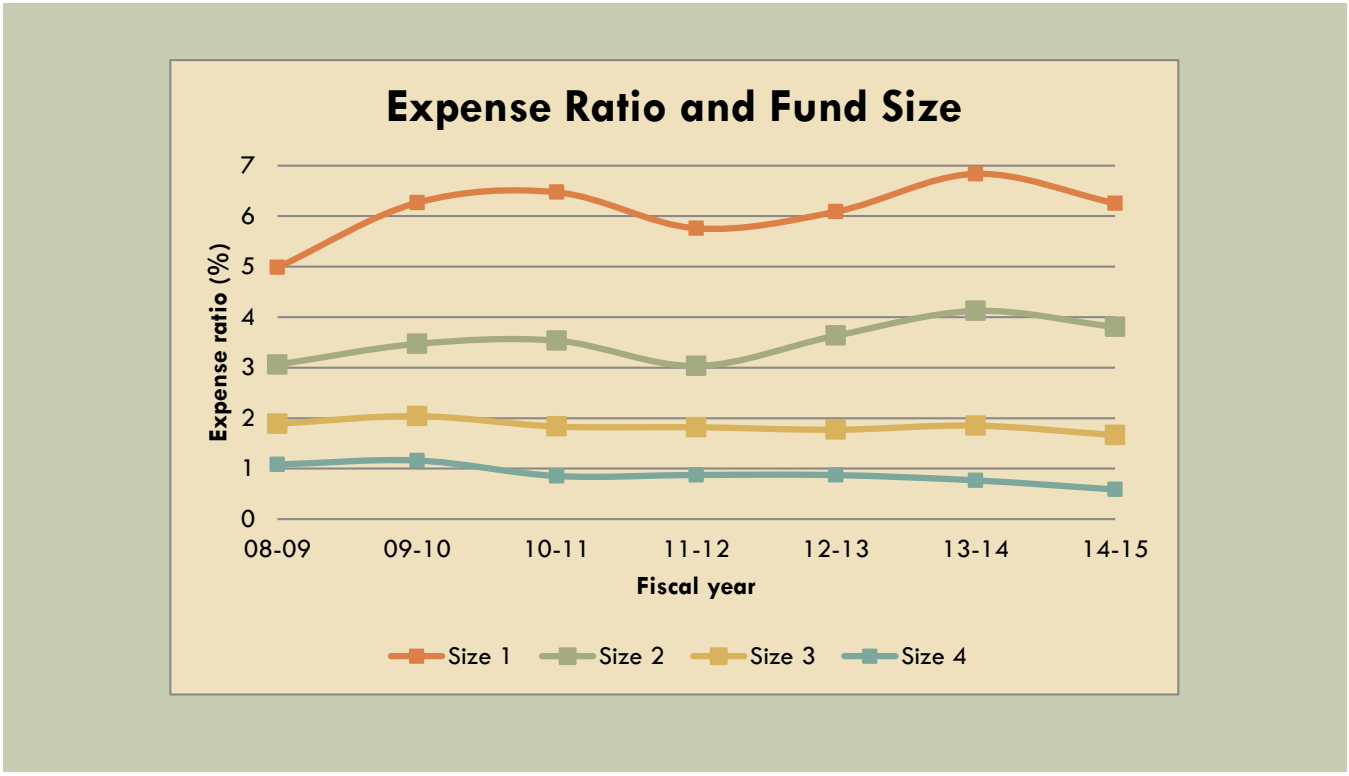


Fund size and expense

Next, we examine whether large funds are more efficient in their operation, in terms of the direct expenses incurred in managing an SMSF, than the smaller funds. Part of the reason for a positive relationship between performance and size could be attributed to larger funds having a lower dollar expense. In order to get meaningful insight on the operational efficiency of funds, we standardise the average dollar expense for each fund with its size to form an expense ratio. In observing expense ratios across various size groups, we find an inverse relationship between fund size and expense ratio. As funds grow bigger, their expense ratio goes down. We find that expense ratios for the largest funds (size 4) are significantly lower than the expense ratios for the smallest funds (size 1). We obtain similar results when comparing the expense ratio of the largest funds against the funds included in size 2 and size 3. This implies the largest funds (size 4) have a distinct advantage over all the other funds, in terms of operational efficiency.

Our results indicate that the positive relationship between fund return and size can, at least partly, be attributed to the larger funds being more diversified and operating more efficiently. In particular, when conducting sensitivity tests, we notice that when a fund passes a threshold of having

$550,000 funds under management, its expense ratio dips below 2%, whilst diversification and performance of the fund is comparable to any of the largest funds. Below this threshold, performance, diversification and expenses begin to deteriorate.



CONCLUSIONS

In this report we utilise longitudinal data on SMSFs to have a closer look at the fund characteristics that contribute to the superior performance of large SMSFs compared to the smaller ones. The fund characteristics include diversification of the fund by asset class, expense of the fund, and how old the fund is. By splitting the funds in our data into four size-based groups, we find that larger funds tend to perform better year-on-year, are more diversified, have significantly lower expense ratios, and are generally older (in terms of years since inception) than smaller funds.

However, the main difference that exists is between funds that are smaller than $200,000 and those which are larger than this amount. Although performance, diversification and expense ratio continue to improve as a fund becomes larger, a significant deterioration in these traits occurs for funds that are below $200,000.

We also find that, in general, funds which pass a threshold of $550,000 of funds under management, are comparable in performance, diversification and expense ratios to any of the larger funds.