Designing Benchmark Portfolios for Self-Managed Super Funds

The approach used by SMSF Benchmarks®

Written by: Nick Shugg BSc, CFP, Dip SM, DIP FP
With thanks to: Bill Szuch BSc, BA, MBA, FIA, FIAA

© May 2017
Summary.................................................................................................................................33
Glossary.................................................................................................................................34
Introduction

As at May 2017, there are nearly 600,000 Self-Managed Super Funds (SMSFs), with total assets of $600 billion investing in a wide variety of ways.

The problem is that until now there has been no way for SMSF investors to really know how their fund is performing, relative to other SMSFs or to a relevant benchmark, as there are serious limitations with common benchmarks used by SMSF investors.

SMSFs tend to invest differently to large Super funds, so it is not appropriate for them to benchmark against the traditional multi-sector model portfolios, or ‘The Australian Super Fund’ for example, because the underlying asset allocation is quite different.

We have designed 11 Benchmark Portfolios specifically for SMSFs, based on how they are typically investing, according to ATO Statistical reports. No matter how trustees are investing, one of these benchmark portfolios should be similar to how they are investing.

Nine of our Benchmark Portfolios are broadly based on deciles of ‘Growth Assets’, and the other two cater for SMSFs which invest in direct property, as part of a diversified portfolio or exclusively.

*Important Note: Our Benchmark Portfolios are not recommendations of how trustees should be investing. They are our best estimation of how SMSF trustees are typically investing, at the various levels of risk tolerance.*

*They inform trustees of the returns they could have achieved if they had simply spread their money across the whole of each of the asset classes in the same proportion as each benchmark portfolio.*

*Apart from Directly owned property, we have also used the principle of ‘investability’, preferring to use a basket of Exchange Traded Funds (ETFs) instead of an intangible index, because trustees can’t invest in an index, but they can invest in something that tracks an index.*

We strongly believe that better information should lead to better decisions and better outcomes.
What is Benchmarking?

A Benchmark is a standard or point of reference against which things may be compared, measured or assessed. So “Benchmarking” is the action of comparing or measuring something against others, or an “appropriate” benchmark.

The key word is “appropriate”.

Benchmarking is a management tool designed to provide powerful information to key decision makers about how their current approach is working. It either gives affirmation that all is well, or an early warning that they may need to consider whether they should take some action or not.

Most successful organisations in any industry use benchmarking as part of a Strategic Management Process, to improve and to identify key turning points in performance. It’s no different for SMSF investors.

No matter what an SMSF investor is investing in, there are different ways to do it. Failing to benchmark may result in them missing out on an approach which may lead to better outcomes over time.
Benchmarking levels

In creating benchmark portfolios specifically for SMSFs, we reviewed some academic work done in the area of setting benchmarks.

In their book “Portfolio Performance Measurement and Benchmarking”, Jon Christopherson, David Carino and Wayne Ferson, identified the following levels of benchmarks that investors could compare against.

1. The base level is zero. Did wealth grow or shrink?
2. Various alternatives that the investor could have pursued but did not. How well their portfolio performed compared to what other investors obtained from their investments.
3. Naïve passive investments. An investor in cash may compare against the bank bill rates. An investor who is 100% in Australian shares could compare against the S&P ASX200 accumulation index. An investor in more than one asset class could compare against a benchmark portfolio made up of different indexes.
4. A better comparison for an investor in shares may be against an “Equity style Index”, within the broad share market index, but with a style similar to theirs. For example Australian Small companies, or Australian Value companies.
5. The most difficult benchmark to out-perform is called a “normal portfolio”. For SMSF investors, the choice of the word “normal” to describe a portfolio is intended to capture the idea that there is a group of securities which are typical of what SMSF investors tend to invest in. This applies to Australian shares, and we can identify “normal investments” for SMSFs in each of the other asset classes as well.

The objective at each level is to determine how much return the investor could have obtained compared with what the investor did attain.

The bar is raised at each level, making the hurdles more difficult to pass. This makes it harder to achieve positive risk-adjusted excess returns (“alpha”).

From this information, investors can learn whether their behaviour in certain areas has helped or hindered their investment performance, relative to what they could have done. This may help them make better decisions, which should lead to better outcomes over time.

In creating benchmark portfolios for SMSFs, we have used the highest benchmarking level, the “normal portfolio”.

To do that we looked at how SMSF Investors are typically investing. This falls into two areas:

1. Typical Asset Allocation
2. Typical assets within each asset class.
How SMSFs typically invest: Asset Allocation

In his PhD published in May 2014, looking at “The size, cost, asset allocation and audit attributes of Self-Managed Superannuation Funds”, Adrian Raftery used data supplied by the ATO to make various findings. One of the things he showed was a distribution of the asset allocation used by SMSFs.

Raftery says “To examine the variation in asset allocation, consistent with Ellis et al. (2008), I analyse the sample based on the proportion invested in growth assets and split the sample by growth deciles.”

In his definition of “Growth assets” Raftery included listed and unlisted trusts, and managed investments.

For example, about 21% of the sample were invested with 0-10% of Growth assets. Based on the ATO statistics for 2010, which is typical of other years as well, it appears there is a high proportion of SMSFs fully invested in cash and term deposits and a high proportion fully invested in Australian shares. We have also seen from more recent ATO statistical reports that some newer funds are fully invested in direct property.

Based on the ATO statistics, it appears there are a low number of funds using a more diversified approach.

Raftery included trusts (listed and unlisted) and managed funds as Growth assets, because that’s how the ATO reports the asset allocation in their statistical reports, and to meet the scientific requirements for his PhD he had to use the data as presented.
However listed trusts, unlisted trusts and managed funds are not asset classes. They are a means of accessing the underlying asset classes.

One would need to “look through” the trusts and managed funds to see the real asset allocation SMSFs have, and that information may not exist yet.

For example, of the funds in the 90-100% decile in the ATO statistics for 2010, 31% of the assets were in listed trusts, unlisted trusts and managed funds.

Some of those funds would be conservative (such as Fixed Interest funds), some would be assertive and some would be of a “balanced” asset allocation.

Around 30% of SMSFs use a financial adviser, and these SMSFs tend to have a higher exposure to listed and unlisted trusts and managed funds than non-advised SMSFs. Advised SMSFs also tend to set a target asset allocation and use a more diversified approach than non-advised SMSFs.

Based on our experience with many SMSF investors who use investment trusts and passive or active managed funds, we feel that a reasonable assumption is that the average asset allocation of these trusts and funds may be “balanced” similar to the following:

**Growth assets**

- Australian Shares: 30%
- International Shares: 20%
- Listed property: 10%

*Sub-total: 60%*

**Defensive assets**

- Term Deposits & Fixed Interest: 35%
- Cash: 5%

*Sub-total: 40%*

*Total: 100%*

Applying this assumption we see that approximately 12.4% of the assets in the 90-100% decile actually belong in Defensive assets (40% of the 31% in trusts and funds). It is similar for the other deciles.

The effect of this would be to even out the bars in the graph to some extent. So by looking through the trusts and managed funds, it appears likely that, on average, SMSFs actually have greater diversity between Growth and Defensive assets than it first appears.

The look-through approach also indicates that SMSFs have a higher exposure to international shares than it first appears. It’s just that they are accessing them through trusts and managed funds.

The level of diversity each fund has depends on 3 factors:

1. **Their asset allocation approach.** An SMSF investor may set a target asset allocation (Using a Strategic or a Tactical asset allocation approach) or they may simply choose investments based on perceived opportunities without regard to asset allocation (an Adaptive asset allocation approach).
2. **Their risk profile.** If they have chosen to set a target asset allocation, their objectives, circumstances and attitude to risk will affect which target asset allocation they set. Their target asset allocation may change from time to time.

3. **Their discipline.** Their actual asset allocation at a point in time may vary from their target asset allocation due to failure to re-balance their portfolio, or a deliberate decision not to.
How SMSFs typically invest: Asset Classes
How are SMSF investors typically accessing the various asset classes?

Australian Shares
SMSF investors in pension phase typically invest in what they consider to be “defensive” high yielding shares. Those in accumulation phase may have a broader spread of shares, including exposure to smaller companies with growth potential.

Defensive shares are still “Growth assets”, as the source of their returns are from both income and growth (positive or negative), and even high-yielding shares such as banks can be very volatile at times.

As there are more SMSFs in pension phase, a suitable benchmark for the Australian share portion of a portfolio would consist of mainly high-yielding shares with a tilt towards broader shares across the largest 300 companies.

International Shares
SMSF investors do not tend to invest directly in international shares. However, as mentioned previously, they typically have some exposure to international shares through listed trusts, unlisted trusts or managed funds.

A suitable benchmark for the international shares portion of a portfolio would include both hedged and unheded shares

Listed Property
SMSF investors access listed property directly and via listed trusts, unlisted trusts and managed funds. Some of this will be Australian and some will be International listed property (REITs).

Direct Property
There are generally two types of SMSF investors who own direct property: Those who own a property in their fund as part of a diversified portfolio, perhaps with some Australian shares and some cash, and those who own a property as virtually 100% of their fund’s assets.

Older and wealthier investors tend to fall into the first group, and SMSF investors with smaller balances looking for growth tend to fall into the second group.

A suitable benchmark would include property from across the Australian capital cities, as investors are free to invest in any city. It would also include rental income.

Fixed Interest
If we define cash as “bank deposits up to 90 days”, including 90 day bank bills, then term deposits are the most typical way SMSF investors directly access fixed interest. However, they are also indirectly accessing other Australian and International fixed interest such as Government bonds and corporate notes through Exchange Traded Funds (ETFs) listed or unlisted trusts and managed funds.

A suitable benchmark for the fixed interest component of a portfolio would include Australian Government bonds, broader Australian fixed interest and International fixed interest. The returns from this range of defensive assets is readily available for SMSF investors.
Limitations with common benchmarks used by SMSFs

Until now it has been very hard for SMSF trustees to get good benchmarking information. Common methods of benchmarking fail to take into account the way SMSFs typically invest or the fact that they may change their approach over time. Limitations include:

1. **Using the S&P / ASX200 index as published in the media to benchmark their fund.** This is a ‘price index’ only, and the trustees would also have earned dividends.

2. **Contributions and/or pension payments.** Because investors have probably made contributions or pension payments during the year, they have not had a consistent amount invested. They should use a Time Weighted Return (TWR) method to calculate their returns as this method is least affected by the timing and amount of external cashflows. Not many SMSF trustees know which method was used to calculate their returns, and whether that method allows fair comparisons.

3. **Failing to benchmark their total fund performance.** Many trustees focus on benchmarking their Australian share portfolio. But what if this was only 30% of their fund, and the remaining 70% was in Defensive assets? Their decision to have invested 70% in Defensive assets has probably had more impact on the fund’s performance than their decision about whether to be in BHP or CBA.

4. **Failing to consider options for Defensive assets.** Many trustees just use Term Deposits for their Defensive assets without being aware that there are a range of other alternative ways they could have invested this portion of their portfolio, such as listed bonds or ETFs which invest in broad fixed interest. They should benchmark their total fund performance, as their decision about how to invest their defensive assets will have an impact.

5. **Changing asset weighting over time.** If a trustee invested with 80% in shares for 2 years and 9 months before changing to 30% in shares over the last 3 months, how do they benchmark their 3 year performance? Most administration services use a benchmark based on their asset allocation as at the end of the 3 year period, which is often inappropriate. *(Note: SMSF Benchmarks peer-peer comparisons cater for this.)*

6. **Benchmarking against inappropriate funds.** Many advisers use things like Multi-Sector model portfolios as a benchmark. They typically have a similar weighting of international shares to Australian shares. This is not how SMSFs are investing, so they are an inappropriate benchmark. Although they do serve a purpose which is to show what you could have earned if you had invested differently. The same applies for benchmarking against an Industry fund, such as the Australian Super fund. It looks very different to how an SMSF would typically be investing.
Our Criteria for the design of SMSF Benchmark Portfolios™

Our criteria in designing Benchmark Portfolios for SMSFs are:

1. The Benchmark Portfolios must be based on common factors or characteristics between all investment approaches, so the Benchmark Portfolios are relevant for all SMSFs.

2. They must be simple to understand, yet flexible enough to provide useful information.

3. There must be a sufficient number of benchmark portfolios to allow us to provide good information about behavioural impact, such as attribution analysis.
“Simplicity is the Ultimate Sophistication”
- Leonardo da Vinci

The investment sectors used by SMSF investors in setting their target asset allocation varies from fund to fund, and in designing benchmark portfolios for SMSFs we need to find an approach which is relevant for all SMSFs.

Investors who do not set a “target” asset allocation still have an “actual” asset allocation, and whichever method of sector-splitting we adopt in SMSF benchmarks they must also be appropriate for them.

Consider the following three examples of methods adopted by SMSF investors for setting target asset allocation.

Let’s assume they all have a risk profile where they want 80% in Growth assets and 20% in Defensive assets (which we call “SMSF 80”).

**Example: Fund 1**

James sets a target asset allocation based on the following investment sectors:

- Hybrids
- Banks/ Financials
- Listed property / Infrastructure
- Resources
- General
- International shares
- Fixed interest
- Cash

**Example: Fund 2**

Penni sets her target asset allocation based on the following investment sectors:

- Australian Large companies
- Australian Small companies
- Australian value (High BtM) companies
- International Large companies
- International Small companies
- International Value (High BtM) companies
- Property
- Fixed interest
- Cash
- Other
Example: Fund 3

Fong sets her target asset allocation based on the following investment sectors:

- Australian Shares
- International Shares
- Property
- Fixed interest
- Cash
- Other

Option 1: Market Sectors

Based on the approach adopted by Fund 1 (James), SMSF Benchmark Portfolios could be designed as follows:

Applying our criteria to Option 1

1. Is it relevant for every SMSF?

No.

For example, Penni sets a target asset allocation solely based on the size (market capitalisation) and Value (“book to market” ratio) of each stock.

The fact that BHP, for example, is a resource stock will have nothing to do with her decision about whether to hold it.

As the sector weightings in Option 1 are irrelevant for Penni and others using this approach, this approach for sector-splitting cannot be adopted for the SMSF community as a whole as it fails this criterion.
Option 2: Size and Value (BtM)

Based on the approach adopted by Fund 2 (Penni), we could design SMSF Benchmark portfolios as follows:

![Option 2: Benchmark Portfolios](image)

Applying our criteria to Option 2

1. **Is it relevant for every SMSF?**

   **No.**

   James sets a target asset allocation based on sectors of the share market, regardless of the market capitalisation or the “Book to Market ratio” of each stock.

   Some Australian small companies, for example, may exist in “resources”, but others may exist in “financial”, or “listed property”.

   This style of Benchmark Portfolio cannot be adopted for the industry as a whole as it fails this criterion.
**Option 3: Broad asset classes**

Based on the approach adopted by Fund 3 (Fong), we could design SMSF Benchmark portfolios as follows:

**Option 3: Benchmark Portfolios**

Applying our criteria to Option 3

1. **Is it relevant for every SMSF?**

   Yes.

   James sets a target asset allocation based on sectors within Australian Shares. All sectors fit into the broad “Australian Shares” category under this option. The other categories of international shares, property, fixed interest and cash are also relevant for him.

   James’ decision about what to invest in each sector will be one reason for any out-performance or under-performance compared with the benchmark.

   Penni sets her target asset allocation within Australian shares differently to James, but the broad “Australian Shares” category still works for her, as do the other asset classes of International shares, property, fixed interest and cash.

   Again the fact that Penni sets a target asset allocation within Australian shares using a different basis than James and Fong will be one reason for any out-performance or under-performance she experiences over time.
2. **Would Benchmark portfolios under Option 3 be simple to understand, yet flexible enough to provide useful information.**

Yes.

This approach to sector-splitting is less complex than Option 1 and Option 2, and easily understood by most investors.

Is it flexible enough to allow for useful benchmarking?

Yes.

3. **Would there be a sufficient number of benchmark portfolios to allow us to provide good information about behavioural impact.**

Yes.

Broadly speaking, we could have one benchmark portfolio representing each decile of Growth assets, based on a typical asset allocation for SMSFs across Growth assets, and a typical asset allocation across Defensive assets.

We could then let SMSF investors know the impact of failing to re-balance to their target asset allocation for example. This information is more meaningful with 11 benchmark portfolios than with (say) 4, as we are able to more closely examine the impact of variations in “actual” asset allocation Vs “target” asset allocation.

It turns out that SMSF investors get the most useful benchmarking information by adopting the simplest method of sector-splitting, which is Option 3.
The range of SMSF Benchmark portfolios

**SMSFs with Direct Property**
We have seen that some SMSFs invest in direct property. Our approach is to create 2 benchmark portfolios specifically for these investors:

**SMSF P1**
This Benchmark Portfolio caters for SMSF investors who may own direct property as part of a diversified mix of assets. This is typically going to be relevant for older clients with larger balances.

**SMSF P2**
This Benchmark Portfolio caters for SMSF investors who have almost all of their fund in direct property, often with a level of lending involved.

**All other SMSFs**
We have used the annual ATO Statistical report for June 2014 (published in December 2015) and adopted a “look through” approach to estimate the average asset allocation across our chosen sectors (above), after separating out direct property, as direct property will be accommodated through the separate benchmark portfolios.

We have created a series of benchmark portfolios based on “% Growth assets”. This fits with common convention, and also allows us to give better information about behavioural impact, compared to what we would be able to provide if we had a small number of benchmark portfolios.

**SMSF Benchmarks – for funds without direct property**

<table>
<thead>
<tr>
<th>SMSF</th>
<th>Asset Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100% in Defensive assets</td>
</tr>
<tr>
<td>20</td>
<td>20% Growth assets / 80% Defensive assets</td>
</tr>
<tr>
<td>30</td>
<td>30% Growth assets / 70% Defensive assets</td>
</tr>
<tr>
<td>40</td>
<td>40% Growth assets / 60% Defensive assets</td>
</tr>
<tr>
<td>50</td>
<td>50% Growth assets / 50% Defensive assets</td>
</tr>
<tr>
<td>60</td>
<td>60% Growth assets / 40% Defensive assets</td>
</tr>
<tr>
<td>70</td>
<td>70% Growth assets / 30% Defensive assets</td>
</tr>
<tr>
<td>80</td>
<td>80% Growth assets / 20% Defensive assets</td>
</tr>
<tr>
<td>100</td>
<td>100% in Growth assets</td>
</tr>
</tbody>
</table>

*Note: SMSF P1 and SMSF P2 will fit between SMSF 80 and SMSF 100 in terms of exposure to Growth assets.*
Appropriate asset allocation for the SMSF benchmark portfolios

Based on the ATO 2015 SMSF Statistical report published in Dec 2016, we have adopted a “look-through” approach for trusts and managed investments, and assumed the “balanced” asset allocation as outlined on page 8 of this document.

Table 1: Estimation of actual SMSF asset allocation using “look-through” approach

<table>
<thead>
<tr>
<th>% of total</th>
<th>Growth Assets (%)</th>
<th>Defensive Assets (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMSF assets</td>
<td>Australian Shares</td>
<td>International Shares</td>
</tr>
<tr>
<td>Listed trusts</td>
<td>4.30</td>
<td>1.29</td>
</tr>
<tr>
<td>Unlisted trusts</td>
<td>9.40</td>
<td>2.82</td>
</tr>
<tr>
<td>Managed Investments</td>
<td>5.10</td>
<td>1.53</td>
</tr>
<tr>
<td>Cash and Term Deposits</td>
<td>27.50</td>
<td></td>
</tr>
<tr>
<td>Listed shares</td>
<td>31.00</td>
<td>31.00</td>
</tr>
<tr>
<td>Unlisted shares</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Derivatives</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>Overseas shares</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Other</td>
<td>2.80</td>
<td>2.00</td>
</tr>
<tr>
<td>Total (ex Direct property)</td>
<td><strong>82.10</strong></td>
<td><strong>40.44</strong></td>
</tr>
</tbody>
</table>

% of Growth assets

86% 10% 4%

% of Defensive assets

93% 7%

direct property

17.90

Total

100.00
Note 1: In the top row in Table 1 we see there are 4.30% of all SMSF assets in Listed trusts. From our assumption of a “balanced” asset allocation, we have assumed that 30% of this is in Australian Shares. Hence the 1.29% in Australian Shares (30% x 4.30% = 1.29%).

Note 2: The Second column of numbers shows the % of each type of asset which is invested in Australian shares. We then add the column to see that there is 40.44% of total SMSF assets (excluding direct property) in Australian shares. Direct property makes up 17.90% of SMSF assets, leaving 82.10% in other assets, of which 47.05% are in Growth assets, and 35.05% are in Defensive assets.

Note 3: Of the Growth assets (excluding direct property), Australian Shares make up approximately 86% (40.44 / 47.08 = 85.90%). We have rounded to the nearest 1%.

Note 4: Using the same approach we can work out the average spread of “Growth assets” and the average spread of “Defensive “assets across the various asset classes (excluding direct property). These are the numbers in yellow in Table 1.

Note 5: SMSF investors will have different risk profiles, depending on their ability to tolerate volatility, their goals and their circumstances, but whichever ratio of Growth /Defensive assets they have, for the purposes of designing benchmark portfolios specifically for SMSF investors we have assumed the same average spread within their “Growth” assets and the same average spread within their “Defensive” assets, using the weightings in the yellow fields in Table 1 (excludes direct property which are dealt with in separate benchmark portfolios – refer Table 3 below).

Note 6: There is much debate in the industry about which database is the most appropriate to use to calculate overall asset allocation within the SMSF community. At this stage we believe the annual ATO statistical reports are the best option. It is important to consider the source of the data with external research. Some research is based on a client base which has a much higher tilt towards ‘advised funds’ than the overall SMSF community. Advised funds tend to have a greater diversity and hence a greater exposure to international shares. This data is statistically biased. Other research in the community is based mainly on SMSFs in pension phase, which leads to a statistical bias as well.
### Table 2: Asset allocations for our SMSF Benchmark portfolios (excluding Direct Property)

<table>
<thead>
<tr>
<th>Ratios*</th>
<th>86%</th>
<th>10%</th>
<th>4%</th>
<th>0%</th>
<th>93%</th>
<th>7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMSF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benchmarks</td>
<td>%</td>
<td>Australian Shares</td>
<td>%</td>
<td>International Shares</td>
<td>%</td>
<td>Listed Property</td>
</tr>
<tr>
<td>SMSF 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>93</td>
<td>7</td>
</tr>
<tr>
<td>SMSF 20</td>
<td>20</td>
<td>100</td>
<td>17</td>
<td>2</td>
<td>65</td>
<td>5</td>
</tr>
<tr>
<td>SMSF 30</td>
<td>30</td>
<td>70</td>
<td>26</td>
<td>3</td>
<td>55</td>
<td>5</td>
</tr>
<tr>
<td>SMSF 40</td>
<td>40</td>
<td>60</td>
<td>34</td>
<td>4</td>
<td>55</td>
<td>5</td>
</tr>
<tr>
<td>SMSF 50</td>
<td>50</td>
<td>50</td>
<td>43</td>
<td>5</td>
<td>45</td>
<td>5</td>
</tr>
<tr>
<td>SMSF 60</td>
<td>60</td>
<td>40</td>
<td>52</td>
<td>6</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>SMSF 70</td>
<td>70</td>
<td>30</td>
<td>60</td>
<td>7</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>SMSF 80</td>
<td>80</td>
<td>20</td>
<td>69</td>
<td>8</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>SMSF 100</td>
<td>100</td>
<td>0</td>
<td>86</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* From the numbers in yellow in Table 1.

Note 1: In all portfolios we have assumed a minimum 5% in cash for liquidity, with the exception of SMSF 100, which has no defensive assets.

Note 2: In the row for the SMSF Benchmark portfolio ‘SMSF 60’, this benchmark portfolio has 60% in Growth assets, of which 86% are in Australian Shares. Hence this benchmark portfolio has 52% in Australian shares (86% x 60% = 51.6%, which we round to 52%).
Table 3: Asset allocation for SMSF Benchmark portfolios for SMSFs with direct property

For our 2 benchmark portfolios catering for investors with direct property, we have designed one with a diversity of direct property, Australian shares and cash, and another which is almost 100% property.

<table>
<thead>
<tr>
<th>SMSF</th>
<th>Growth</th>
<th>Defensive</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMSF P1</td>
<td>85</td>
<td>15</td>
</tr>
<tr>
<td>SMSF P2</td>
<td>95</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Australian Shares (%)</th>
<th>International Shares (%)</th>
<th>Listed Property (%)</th>
<th>Direct Property (%)</th>
<th>Fixed Interest (%)</th>
<th>Cash (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMSF P1</td>
<td>35</td>
<td></td>
<td></td>
<td>50</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>SMSF P2</td>
<td>95</td>
<td></td>
<td></td>
<td>95</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1: According to the annual ATO statistical report as at June 2014, directly owned property in SMSFs is mainly spread across Australian commercial property and residential property, with a small amount in international property.
### SMSF Benchmark Portfolio pie charts

**SMSF 0**

- **Growth**: Australian shares: 0%, International Shares: 0%, Listed Property: 0%, Direct property: 0%, Other: 0%
- **Defensive**: Cash: 7%, Term Deposits / Bonds: 93%

**SMSF 20**

- **Growth**: Australian shares: 17%, International Shares: 2%, Listed Property: 1%, Direct property: 0%, Other: 0%
- **Defensive**: Cash: 6%, Term Deposits / Bonds: 74%
**SMSF 30**

- **Growth**
  - Australian shares: 26%
  - International Shares: 3%
  - Listed Property: 1%
  - Direct property: 0%
  - Other: 30%

- **Defensive**
  - Cash: 5%
  - Term Deposits / Bonds: 65%

**SMSF 40**

- **Growth**
  - Australian shares: 34%
  - International Shares: 4%
  - Listed Property: 2%
  - Direct property: 0%
  - Other: 40%

- **Defensive**
  - Cash: 5%
  - Term Deposits / Bonds: 55%
SMSF 50

Growth
Australian shares: 43%
International Shares: 5%
Listed Property: 2%
Direct property: 0%
Other: 0%
Defensive
Cash: 5%
Term Deposits / Bonds: 45%

SMSF 60

Growth
Australian shares: 52%
International Shares: 6%
Listed Property: 2%
Direct property: 0%
Other: 0%
Defensive
Cash: 5%
Term Deposits / Bonds: 35%
### SMSF 70

**Growth**
- Australian shares: 60%
- International Shares: 7%
- Listed Property: 3%
- Direct property: 0%
- Other: 0%
- Cash: 5%
- Term Deposits / Bonds: 25%

**Defensive**
- Australian shares: 30%
- International Shares: 20%
- Listed Property: 3%
- Direct property: 0%
- Other: 0%
- Cash: 5%
- Term Deposits / Bonds: 30%

### SMSF 80

**Growth**
- Australian shares: 69%
- International Shares: 8%
- Listed Property: 3%
- Direct property: 0%
- Other: 0%
- Cash: 5%
- Term Deposits / Bonds: 15%

**Defensive**
- Australian shares: 20%
- International Shares: 20%
- Listed Property: 3%
- Direct property: 0%
- Other: 0%
- Cash: 5%
- Term Deposits / Bonds: 20%
SMSF P1

Growth
- Australian shares: 35%
- International Shares: 0%
- Listed Property: 0%
- Direct property: 50%
- Other: 0%
- Defensive: 85%

Defensive
- Cash: 5%
- Term Deposits / Bonds: 10%
- Other: 15%

SMSF P2

Growth
- Australian shares: 0%
- International Shares: 0%
- Listed Property: 0%
- Direct property: 95%
- Other: 0%
- Defensive: 95%

Defensive
- Cash: 5%
- Term Deposits / Bonds: 0%
- Other: 5%
SMSF 100

Growth
- Australian shares: 86%
- International Shares: 10%
- Listed Property: 4%
- Direct property: 0%
- Other: 0%

100%

Defensive
- Cash: 0%
- Term Deposits / Bonds: 0%
**Investability**

Within each benchmark portfolio there are a range of asset classes. To measure the return of each benchmark portfolio we had to decide which benchmark to use for each Asset Class.

Typically large Super funds may use specific indexes such as:

- S&P / ASX200 accumulation (ex Australian REITS) index
- MSCI ex Australia (Hedged) index
- Australian Listed Property index
- Barclays Global bond index

Indexes are abstract, and not usually accessible to actually invest in.

Our approach for SMSF investors is to measure the returns of each asset class in our benchmark portfolios based on a “basket” of tangible assets they can actually invest in.

We have chosen a number of Exchange Traded Funds (ETFs) which aim to track an index in their relevant asset class. Further, in each asset class we have selected ETFs which use different benchmark indexes from each other, in order to give the broadest possible benchmark.

Our approach gives investability, ease of understanding and completeness across each of the asset classes.

Note: For direct property it is not currently possible to meet the ‘investability’ objective. Instead we will use publicly available information on dwellings from across Australia, as SMSF trustees can invest in any city.

**Australian Shares**

As at 30 June 2014 there were 47% of SMSFs in pension phase or partial pension phase. The median member balance is significantly higher for these older members, at least twice as high compared to the median balance in accumulation phase. This means that an estimated 70% of SMSF assets are supporting those in pension or partial pension phase.

Those in pension phase tend to have a high tilt towards ‘high-yielding’ shares.

Therefore, in designing our SMSF benchmark portfolios we have used a basket of 4 ETFs, one of which tracks the broader ASX300 index, to allow for the fact that those in accumulation phase tend to take a broader spread for a mix of growth and income, and 3 ETFs which track various ‘high-yield’ Australian indexes.

**International Shares**

Within International shares, we have chosen a basket of ETFs which are geographically broad. We have chosen a combination of hedged and unhedged ETFs, to allow for the fact that some SMSFs prefer their international exposure to be unhedged.

**Listed Property**

We have chosen a basket of ETFs some of which track the Australian listed property index, and one of which tracks global Real Estate Investment trusts (REITs), to allow for the fact that within Australian managed funds there is often exposure to international property.
Fixed Interest
Many SMSFs choose to invest their defensive assets in term deposits. However they often have exposure to broader fixed interest via managed funds, listed or unlisted trusts, or indeed via fixed interest ETFs.

We have chosen a basket of ETFs, which gives a spread across Australian Government bonds, broader Australian fixed interest and International fixed interest.

Cash
We have used the 90 day bank bill rate.
The underlying ETFs in each asset class
This may change over time. The following apply in May 2017.

<table>
<thead>
<tr>
<th>Provider</th>
<th>ETF name</th>
<th>ASX Code</th>
<th>Benchmark Index</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Australian shares</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanguard</td>
<td>Australian shares</td>
<td>VAS</td>
<td>S&amp;P / ASX 300 Accumulation index</td>
</tr>
<tr>
<td>i-shares</td>
<td>Dividend opportunities</td>
<td>IHD</td>
<td>ASX dividend opportunities index</td>
</tr>
<tr>
<td>SPDR</td>
<td>Aust. high dividend</td>
<td>SYI</td>
<td>MSCI Australia Select High Dividend Yield</td>
</tr>
<tr>
<td>Russell</td>
<td>Aust. shares High dividend</td>
<td>RDV</td>
<td>Russell Australia High Dividend Index</td>
</tr>
<tr>
<td><strong>High-yield</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**International shares**

| Vanguard  | Internl shares Unhedged      | VGS      | MSCI ex aust, div reinvested AUD                      |
| i-shares  | World all cap (hedged)       | IHWL     | MSCI World - hedged                                   |
| SPDR      | International Quality        | QMIX     | MSCI World factor mix A-Series                        |
| SPDR      | World ex aust (hedged)       | WXHG     | S&P Developed ex Australia LargeMidCap AUD Hedged     |

**Listed property**

| Vanguard  | Aust property                | VAP      | S&P ASX 300 A-REIT index                              |
| Market Vectors | Aust property               | MVA      | Market Vectors Australia A-REITs Index               |
| SPDR      | Global real estate           | DJRE     | Dow Jones Global select real estate                  |

**Fixed Interest**

| Vanguard  | Aust Fixed Interest          | VAF      | Bloomberg AusBond composite                           |
| Vanguard  | International (hedged)       | VIF      | Barclays Global treasury index                        |
| SPDR      | Aust bond                    | BOND     | S&P/ASX Australian Fixed Interest Index.              |
| Russell   | Aust Govt Bond               | RGB      | DBIQ 5-10 year Australian Government Bond            |

**Cash**

| 90 day bank bill rate |  |

Note 1: The range of available ETFs is rapidly increasing. We may change the underlying basket of ETFs used for our benchmarking, if future options are seen as an improvement to the information.

Note 2: We assume an equal weighting in each ETF within each asset class. Where return information is not available for a particular ETF over a period, we will calculate the average return of the asset class based on the remaining ETFs for that asset class.

Note 3: The inclusion of ETFs in our underlying benchmark portfolios should not be considered as a recommendation. We have simply chosen the ETFs which gives us a suitable diversity for benchmarking purposes.

Note 4: SMSF Benchmark Portfolios are not index funds, and do not claim to track any index.

Note 5: Past performance is no guarantee of future returns.
Calculating the Returns of the SMSF Benchmark Portfolios™

Over various measurement periods we will calculate the average return (after fees) of the underlying ETFs in each asset class, and use these averages to calculate the return of each SMSF Benchmark Portfolio, using a Time Weighted Return (TWR) method.

We will assume an equal weighting of investment in each ETF within each asset class.

We will use returns net of management fees – because all such fees are associated with the investment performance.

Comparing Total Returns of SMSFs against the SMSF Benchmark Portfolios

Our objective in benchmarking SMSF performance is to help SMSF trustees and their advisers get better information about how their current investment approach is going. Whatever they want to invest in, there are various ways to do it and trustees may benefit from considering which way seems to work best for them over time.
**Summary**

There are limitations with existing benchmarking for SMSF investors, which means they may be making investment decisions based on inadequate information.

Our SMSF Benchmark Portfolios have been designed using a robust approach. They are easy to understand, cover the complete asset classes, and are relevant and useful for all SMSFs, however they are investing.

There are two benchmark portfolios catering for investors with direct property, and nine other benchmark portfolios, with different deciles of “Growth assets”, allowing us to give investors good information about how their behaviour has influenced their performance, over time.

This should lead to better outcomes over time – for the benefit of individual SMSF investors and for the overall SMSF community.
Glossary

Self-Managed Superannuation Funds (SMSFs)
Superannuation Funds with up to four members, regulated by the Australian Taxation Office (ATO).

Defensive Assets
We define “Defensive assets” as “Fixed Interest and Cash”, where ‘Cash’ is bank deposits up to 90 days such as 90 day bank bills and ‘Fixed interest’ would include Term Deposits, Government bonds, Semi-Government bonds, corporate notes, insurance policies, debt securities and annuities.

Growth Assets
We define “Growth assets” as everything else apart from Defensive assets. This includes shares, property, hedge funds and infrastructure.

Asset Class
Asset Classes are broad categories of investment types.

These are typically broken down into Australian Shares, International Shares, Listed Property (property trusts listed on a stock exchange), Direct Property, Australian Fixed Interest, International Fixed Interest, Cash and “Other”.

“Other” may include Infrastructure, hedge funds, and some of the less common holdings in a SMSF such as art, wine, or taxi licences.

Accumulation Phase
We define an SMSF to be in accumulation phase when the majority of fund assets are not supporting pension payments.

Pension Phase
We define an SMSF to be in pension phase when the majority of fund assets are supporting pension payments.

Normal Portfolio
We define a ‘Normal Portfolio’ as a set of securities that contains all of the securities from which an SMSF normally chooses, weighted as the SMSF would normally weigh then in a portfolio.

For example, if an investor wanted to benchmark the portion of their fund in ‘high yielding Australian shares’, then a Normal portfolio could be represented by an Exchange Traded Fund which has a mandate to invest across ALL high yielding Australian shares.

Even better would be to use a ‘basket’ of ETFs which have a similar mandate, but which have differing underlying indexes which they aim to track, as this creates a broader ‘Universe’ of high-yielding shares.