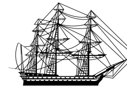

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24 December 2020

Manager, Retirement Income Policy Division
Treasury
Langston Crescent
PARKES ACT 2600

By email to: superannuation@treasury.gov.au

Dear Sir/Madam,

YOUR FUTURE YOUR SUPER LEGISLATIVE PACKAGE

I am pleased to make this submission on behalf of Vanguard Investments Australia Limited to the Treasury's consultation on the *Your Future Your Super* (YFYS) legislative package that was introduced in to Parliament on 25 November 2020.

About Vanguard

With more than AUD $8 trillion in assets under management as at 30 November 2020, Vanguard is one of the world's largest investment managers, serving over 30 million investors in 170 countries across the globe.

In Australia, Vanguard has been serving financial advisers, retail clients, superannuation funds and institutional investors for nearly 25 years, with Australia being the longest-established presence for Vanguard outside the US. Vanguard Investments Australia is a major provider of low cost investment management services to all segments of the Australian superannuation industry, as well as to the broader institutional, exchange traded fund and retail wealth management sectors.

Throughout this period, our Australian business has been deeply engaged in many of the key commercial and member-facing aspects of superannuation offerings, extending well beyond the provision of investment management services alone. These include applied research, data analytics, policy analysis, product design, member education and behavioural insights - value-added services that leverage the substantial experience of our US parent company and other global affiliates that are directly involved in pension fund provision to end consumers.

And now, as announced in late 2019, Vanguard is actively preparing to enter the Australian superannuation industry as a direct participant, with our superannuation offer and RSE licence application at advanced stages of preparation, with a view to market entry in 2021.

Vanguard's historical journey is a compelling case study as to how the benefits of scale have the potential to flow through to the end-investor in the form of lower product fees, efficient exposure to markets, and better net return outcomes.

The Australian superannuation system should be well positioned to capture similar advantages, given its standing as one of the world's largest and most sophisticated defined contribution pension systems, its mandatory contribution framework, and its near-universal coverage of the working population.

These factors mean that the *Your Future Your Super* legislative package is of great interest to Vanguard, both as a significant local market participant and at a global level.

Overall Response to the legislative package

Against this background, **Vanguard would like to place on the record its strong support for the core objectives underpinning the YFYS package, to improve the efficiency, accountability and investment outcomes of the Australian superannuation system**.

Whilst much of the detail of the legislative package needs to be spelt out in regulations yet to be drafted (discussed below), we strongly support the broad reforms envisaged, including:

- The introduction of a robust, objective performance standard against which chronically under-performing funds can be assessed and, once falling short of a reasonable standard, made ineligible to continue to receive superannuation guarantee (SG) contributions;
- The introduction of a single lifetime default structure through the account 'stapling' measure (in our view a superior approach to alternatives such as 'automatic rollover'); and
- The clarification of Trustees' best interests' duty as having regard to members' best *financial* interests above all other considerations.

Performance benchmarking approach

In relation to the first dot point, we would particularly like to **re-affirm Vanguard's strong support for the performance benchmarking approach that was announced by the Government in the October Budget.** Under this policy, funds will be assessed solely against a passive reference benchmark portfolio that reflects their individual product-level asset allocation for their default and other trustee-directed investments, with the first assessment period (for MySuper products only) occurring in September 2021 for the 7-year period ending 30 June 2021.

This approach is broadly consistent with the performance measurement methodology that Vanguard has consistently advocated to Treasury, the Productivity Commission, APRA and ASIC over the past several years[1], and which we consider to be best suited to the delivery of a sound, transparent performance metric for the assessment of individual funds and of the overall efficiency of the Australian superannuation system.

The Government's proposed approach is also broadly aligned with the methodology adopted by Vanguard in its own published Australian superannuation performance benchmarking research, (albeit that our research was based on whole-of-fund APRA performance data given the lack of specific product-level information in the public domain).

Our original iteration of this research, published in 2019, highlighted that the Australian superannuation industry had a long way to go to achieve greater investment performance efficiency, with some 76% of funds under-performing their custom fund-level policy benchmarks over the ten years to 30 June 2017, and a median under-performance of -0.8% per annum (after fees and tax) compared to the median passive reference portfolios.

A copy of this research paper from May 2019 is attached as Appendix to this submission[2]. Subsequent internal (unpublished) updates of the research using whole-of-fund data for the 10 years ending 2018 and 2019 have re-confirmed the same broad trends.

Vanguard's strong view is that measurement against a custom passive reference benchmark, comprised of *investible* benchmarks, creates a clear counter-factual against which to discern the effectiveness or otherwise of investment decisions made by Trustees and their investment managers and advisers. This includes decisions to invest in alternative or illiquid asset classes, use of active management strategies, and strategic tilting or dynamic asset allocation strategies.

In our view, it should be axiomatic that the outcomes of these decisions - net of the additional costs that they invariably entail compared to a simple, passive execution of the same strategic asset allocation - should be the delivery of superior returns to fund members over reasonable time periods. And if they fail to achieve this goal (especially within the relatively generous margin of 50 basis points per annum proposed by the Government), they should be assessed as under-performing.

[1] E.g. See Vanguard submissions for Productivity Commission Superannuation Review *Issues Paper*, August 2017, and *Draft Final Report* July 2018

[2] The research paper is also available on Vanguard's website at https://static.vgcontent.info/crp/intl/auw/australia/documents/research/benchmarking-aus-super-industry-june19.pdf

This is particularly so for the purposes of remaining eligible to receive ongoing mandatory Superannuation Guarantee contributions.

We note that since the announcement of the new performance benchmarking approach on Budget night in October, there has been strong pushback from sections of the industry on a variety of fronts, with reasons cited including the potential for "unintended consequences", "over-simplification", "benchmark-hugging" and the like. We have also seen the emergence of some other suggested approaches, all purporting to support the underlying goal of eliminating chronic under-performers from the system, but recommending alternative assessment approaches such as "CPI-plus" measures, "risk-adjusted" measures using quantitative risk ratios, and more subjective measures that would require APRA to make a judgment call on whether to exempt a fund that was prima facie under-performing from losing its eligibility to take ongoing SG contributions (to name a few).

In our view, none of these alternatives are suitable as a robust, appropriate benchmarking approach, and **we would strongly suggest that the Government resist representations from industry stakeholders to change the originally-stated benchmarking approach**. It is our strong view that a clear, objective 'bright line' approach is the best policy framework for the Government to adopt, and that the passive reference benchmark assessment approach envisaged by the Government (and by the Productivity Commission before it) appropriately fills this criterion.

Having said that, we recognise that there is still room for a valid discussion about some of the implementation details of the performance measurement framework envisaged in the exposure draft legislation, which can and should be addressed by Treasury and clarified in the Regulations. These include questions around:

- The selection of individual asset-class and sub-asset class benchmarks,
- The availability of data,
- The optimal time frame for measurement, and
- The logistical impacts on funds, employers and APRA of the timeframe proposed for the first benchmarking assessment in September 2021.

Vanguard expects that these issues will be discussed in detail in submissions from other industry participants and trade associations. Our key point is that, **while these implementation issues are all worthy of deeper discussion and debate at the margin, we strongly believe that this should not be at the expense of fundamentally changing the core benchmarking approach and methodology announced in the Budget.**

There are, however, some important additional policy-level points we would like to make about certain elements of the proposed reform package, as follows.

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Treatment of new and recent industry entrants

A threshold question for Vanguard and any other new (and recent) entrants to the superannuation industry is: **How will new superannuation offers be visible to prospective members, when those offers will not have a sufficiently-long performance track record to be benchmarked by APRA at launch?**

We appreciate that this issue is technically not related to the performance benchmarking methodology as such, but rather to the proposed mechanism for public presentation of the benchmarking results, once completed by APRA, on the new *Your Super* web portal to be launched by the ATO.

In this context, **the key commercial detriment to new and recently-commenced funds is not that they may be reported as an "under-performer", but rather that they will simply not be visible in this widely-promoted tool for encouraging Australians to exercise choice** of their super fund.

This would cause considerable commercial detriment to new and recent market entrants, in particular those that have not previously competed for the right to act as a default provider in the workplace default market and attract all or most of their members through positive switching decisions by individual consumers.

From a competition policy perspective, **not allowing new or recent market entrants to participate on a reasonably equal footing would be anti-competitive, and in effect lock new entrants out of the large-scale superannuation market for up to the next 7 years**. This is particularly so in the case of a new entrant that is operating as an RSE licensee (as envisaged by Vanguard for its own superannuation offer). Such an entity will only be in a position to enter the market in the first place by undergoing a highly rigorous licensing application process which, among other things, requires extensive attestations and evidence to APRA regarding its investment governance and member outcomes framework. Indeed, we would contend that this is a much more exhaustive due diligence process than most incumbent providers were subjected to on commencement of the MySuper and related APRA requirements in 2014.

Potential Options

One seemingly available solution to this problem would be **to allow new entrants to use back-tested performance data (where available)** to reconstruct the required 7 or 8 year performance data, using historical calculations based on the new product's Day 1 strategic asset allocation.

In our own case, we are confident that Vanguard could provide accurate historical data for our own intended MySuper product and broader choice products, based on historical performance of our non-superannuation managed investment schemes in which our superannuation products will be invested.

We recognise, however, that this approach would not be feasible or reasonable for regulators to adopt as a uniform policy for new industry entrants generally. For example, in the case of actively-managed funds or start-ups with no historical performance analogue, such an approach would likely require too many assumptions to be made around historical performance results and strategic or tactical tilts over the prior measurement period.

Therefore, while we are confident that Vanguard itself could provide reliable back-tested data, we recognise why other new entrants would not be in a position to do so, or for the regulator to take at face value the assumptions that were built into their testing.

For these reasons, Vanguard submits that the Regulations should make clear provision for new and recent entrants to be included in both:

- **(a) the performance benchmarking process on a suitable basis (e.g. upon reaching 3 years of history, per our recent engagement discussions with Treasury), and**
- **(b) The ATO *YourSuper* portal from the commencement of that facility (i.e. without necessarily having any prior performance history), with a suitable notation as to the relevant product commencement date and such performance history as does exist.**

In our reading, the Explanatory Materials to the draft legislation do appear to provide discretion for Treasury and/or APRA to permit variations of this kind. We would strongly urge the Government to incorporate these measures into the final Regulations so that incumbent funds are not unduly advantaged at the expense of new and recent market entrants, and to promote healthy competition and innovation within the industry.

Lifecycle fund performance benchmarking

Whilst the exposure draft legislation and Explanatory Material make it clear that the proposed performance benchmarking will apply to all MySuper products (and subsequently to other trustee-directed products), it does not clarify how the framework will apply to diversified products that do not have a uniform asset allocation structure for all members – i.e. lifecycle products.

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Vanguard strongly believes that lifecycle products should be covered by the performance benchmarking framework on a comparable basis to conventional balanced or target risk options. However, the precise details of how this can be done remain to be settled, apart from some general references to 'averaging' or 'weightings' in our discussions with Treasury and industry peers to date.

Vanguard strongly recommends that this issue be the subject of further industry consultation in the regulation-drafting phase. We would be more than happy to provide our perspectives and assessments of the pros and cons of various options as part of this process.

Impact of fund mergers on historical performance benchmarking

Another area in which further clarity is needed is the impact of the performance benchmarking framework and how it will apply in the case of fund mergers. The principle at stake here is that **the operation of the rules (or of APRA's discretion) in this area should not impede the progress of otherwise-productive mergers between funds and improvements those mergers should bring to overall industry efficiency.**

Vanguard recognises that the broad discretion envisaged in the exposure draft legislation for APRA to "stitch" historical performance from different products together is a necessary anti-avoidance provision to address issues such as fund "phoenixing" and other attempts to game the performance assessment process. However, active steps should be taken to distinguish such cases of gaming the rules from more legitimate situations where, say, a poorly-performing fund is merged into a better-performing one and its members' future contributions are directed to the better fund, or a new product altogether.

In such cases, the framework should make clear that the legacy of the under-performing fund will not negatively impact the accrued performance assessment of the new entity. **If this is not made clear, it will be a serious impediment to the industry consolidation that the Government, APRA and Productivity Commission have called for**, and a serious impediment to Trustees being able to attest to a merger being in the best financial interests of its existing members.

Again, Vanguard would be happy to participate in more detailed discussions on this point during the Regulation drafting phase in the New Year.

Fee and cost benchmarking

We note that the investment performance benchmarking framework in itself will only have regard to performance net of *investment* fees, and not other fees that are incurred by members such as administration or advice fees.

We agree with and understand the rationale for the exclusion of non-investment fees from that part of the benchmarking process, **but still strongly recommend that Treasury and the ATO pay close attention to how best to represent and classify those non-investment fees in separate benchmarking material made available to consumers**.

In this regard, we again comment that that success of the overall YFYS package will very much depend on the degree of consumer comprehension of and engagement with the new ATO portal, and on how easily those consumers can relate their own experience and circumstances to the information presented. At a minimum, an accurate depiction of an individual fund's *overall* costs - net of both investment and non-investment components – will be critical to consumer's understanding and confidence in this new public-facing tool.

Vanguard has considerable experience in user experience design in digital platforms from across its global business, including our US defined contribution team that manages such platforms for some 6 million US 401(k) participants. We would be happy to provide Treasury and/or the ATO and its user experience design advisers with access to business leaders in this field as the ATO portal is designed, built and tested with consumers over coming months.

Summary and conclusion

In conclusion, Vanguard commends the Government for the YFYS reform package, and believes it is directionally an appropriate package of reforms at the current phase of evolution of Australia's superannuation system.

Our key recommendations for further refinement and implementation of the YFYS package are that the Government:

1. **Remain committed to the performance benchmarking approach recommended by the Productivity Commission and espoused by the Treasurer in the October 2020 Federal Budget.**

2. **Reasonably accommodate new and recent market entrants in the performance assessment framework and Your Super portal, to promote competition and product innovation in the superannuation sector.**

3. **Further consider, and consult the industry in the drafting of Regulations, on:**

    a) **Appropriate performance measurement of lifecycle investment products on as competitively-neutral a basis as possible with static asset allocation superannuation products;**

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b) **A suitable measurement framework for assessment and public representation of non-investment expenses, alongside the investment performance benchmarking; and**

c) **Representation of merged funds/products in the performance assessment process, in a way that continues to encourage productive industry consolidation and cost-savings while avoiding undue gaming of the measurement system.**

As noted earlier, Vanguard would be very happy to assist Treasury, APRA and the ATO in progressing any or all of these topics, and in providing access to our local and international experts in doing so.

Please contact Paul Murphy, Head of Advocacy & Strategy, at [redacted] or [redacted] should you wish to progress discussion in the coming year.

Yours sincerely,

Robin Bowerman
Head of Corporate Affairs

Appendix – Vanguard Australia Investment Strategy Group, *Benchmarking Australia's Superannuation System* (May 2019)

Benchmarking Australia's Superannuation Industry

Vanguard Research

May 2019

Aidan Geysen; Carol Zhu; Sarinie Yating Ning

- Policymakers have recently placed their attention on measuring the efficiency and competitiveness of Australia's $2.7 trillion superannuation system. The terms of reference are broad encompassing multiple outcomes including net returns, member needs and insurance. While net returns represent just one aspect of a very comprehensive review, current measures are incomplete, and don't adequately quantify the returns delivered against a risk-adjusted benchmark.
- Our research provides a benchmark for evaluating the efficiency of the system, as measured by relative risk-adjusted returns, utilising current, publicly available data.
- We find that a material proportion of funds have underperformed a risk-adjusted benchmark on an after fees and tax basis. Differences in fund performance can be explained in part, but not wholly, by expenses. We suggest improvements in data would help researchers and policymakers to identify the sources of fund performance for the benefit of superannuation fund members.

I. Background

Australia's superannuation system, comprising both compulsory and voluntary contributions, is an essential pillar of the nation's retirement income system. Since the advent of compulsory employer contributions in 1992, the system has grown to over $2.7 trillion as of June 2018.[1] Australia's pension system is ranked 4th by size,[2] behind the United States, United Kingdom and Japan, despite being only the 13th largest developed market economy ranked by GDP.[3]

The importance of superannuation for providing income in retirement has been underscored by a series of recent regulatory milestones. One important signal of this policy intent has been the Government's proposal to enshrine a formal objective of superannuation – "to provide income in retirement to substitute or supplement the age pension" – with which all regulation relating to superannuation is expected to be compatible. In line with this objective, the release by Treasury of the Retirement Income Covenant Position Paper[4] in May 2018, addresses specifically the needs of Australians entering the retirement phase. The Stronger Super reforms commencing in 2011 dealt with the mandatory requirements of default superannuation products for the accumulation phase, while the Retirement Income Covenant seeks to address the need for mass customised product for the retirement phase.

In January 2019 the Productivity Commission released the report, Superannuation: Measuring Efficiency and Competitiveness, Inquiry Report.[5] The report is the final stage in a three stage process. Stage 1 included a report outlining the assessment criteria and metrics for measuring the efficiency and competitiveness of the system across multiple criteria including net returns, member needs and insurance,[6] with Stage 2 delivering a draft report of alternative default models for Australia's superannuation system.[7]

The final report identified two main issues impacting efficiency and competitiveness, namely, unintended multiple accounts and entrenched underperformers. In addition, the report made a series of recommendations to address these issues. One recommendation, for example, is to default members into the system only once when they join the workforce. This step could reduce the number of unintended multiple accounts. A second, more contentious recommendation, is to narrow the list of funds eligible for default status to 10 'Best in Show' funds, while still giving members the ability to choose outside the list. This recommendation faces significant opposition from the industry and parts of government. The criteria used for selection will be critically important in the event of a 'Best in Show' list, as assessing the right balance between services, cost and performance is not straight forward, with history providing only a rough guide, particularly as it relates to performance. The criteria for selection, should the recommendation be adopted, is to be established and published beforehand by the panel. However, the Productivity Commission recommends a high weight to be placed on investment strategy and performance, which highlights the importance of developing a robust methodology for assessing fund performance, complemented by high quality data.

A full list of the Productivity Commission report findings and recommendations are available at *https://www.pc.gov.au*.

In October 2018, the Productivity Commission released a supplementary analysis report focusing specifically on superannuation investment performance for the 10 years to 30 June 2017, building on additional asset class-level data obtained from funds since publication of the May 2018 draft report. This supplementary report covered similar territory to the analysis undertaken in this paper over a similar timeframe, and has significantly advanced the publicly-available information on long-term fund performance relative to funds' own asset allocation benchmarks.

Further research into performance benchmarking

The analysis that follows aligns with the June 2017 APRA dataset used in the Productivity Commission's final report. It is our intention to add to this body of research by releasing a longitudinal study of results each year following the release of APRA's annual superannuation statistics. This will provide further insight into how APRA regulated funds have performed over longer time frames, in comparison to an index reference portfolio.

1 Super Statistics – ASFA. [online]. Available at www.superannuation.asn.au

2 Global Pension Assets Study 2018 – Willis Towers Watson. [online]. Available at www.willistowerswatson.com

3 National Accounts Statistics 2017 – United Nations. [online]. Available at www.unstats.un.org

4 Retirement Income Covenant Position Paper – The Treasury. [online]. Available at www.treasury.gov.au

5 Productivity Commission 2018, *Superannuation: Assessing Efficiency and Competitiveness*, Report no. 91, Canberra. Available at www.pc.gov.au

6 Productivity Commission 2016, *How to Assess the Competitiveness and Efficiency of the Superannuation System*, Research Report, Canberra.

7 Productivity Commission 2017, *Superannuation: Alternative Default Models*, Draft Report, Canberra.

Aims of this paper

Our research establishes a robust methodology for measuring the performance of the superannuation system, which could form a key metric for measurement of net returns under an enhanced outcomes test. The methodology incorporates three requirements critical to performance evaluation, namely:

- Fund-specific - Each fund requires its own tailored benchmark to ensure the measurement of performance can be assessed on a risk-adjusted basis. This is an important requirement as a single benchmark against which to compare all funds doesn't address the unique risk preferences of one funds membership base compared to the peer group.
- Investible, broadly accessible - The benchmark selected represents an investible and broadly accessible exposure for all investors.
- Risk-adjusted, independent of peers and time period - The methodology addresses a gap that currently exists with common performance benchmarks which don't measure fund performance against asset allocation weighted benchmarks. Instead, funds tend to track two measures- either, fund performance within a peer relative survey, in generalised categories (Growth, Balanced, Conservative etc), or a long term real return objective, for example inflation plus 3%. Both measures have shortcomings, as they don't capture the return potential of the funds by reference to their actual benchmark exposures, can be overly time period dependent and don't allow for meaningful performance comparisons across funds on a risk-adjusted basis.

It is our intent that this research can be utilised to show how fund returns should be assessed relative to risk-adjusted benchmarks; and how improvements in both performance measurement and data collection can provide a clearer sense of the net returns delivered on a risk-adjusted basis.

II. Methodology

Data used for this analysis is from the Annual Fund-level Superannuation Statistics report (June 2017 edition), issued by APRA on 28 March 2018. "Fund-level" means the results are aggregated by investment products under the same Australian Business Number and reported under one fund.[8] Accordingly, we are able to analyse the superannuation system's overall performance and the performance at the fund level. Our ability to separate different investment products is limited. The analysis therefore reflects system level and fund level performance and not the individual member experience.

We begin with all APRA-regulated superannuation funds with more than four members and eligible rollover funds during the 10-year period ended June 30, 2017. APRA reports seven asset classes for each superannuation fund: equity, fixed income, cash, infrastructure, property, commodities and other. We create index reference portfolios[9] based on the returns of the seven asset class benchmarks and each superannuation fund's reported weighting in those asset classes as of 30 June 2017.

The expense ratio for each superannuation fund is determined as:

$$\frac{\text{Total Investment Expense}^{10} + \text{Total Operating Expense}^{11}}{\text{Cash Flow Adjusted Net Assets}}$$

Because of insufficient detail in the APRA Superannuation statics, we make assumptions about equity and bond home bias and currency hedge ratios. We have utilised data from the Rainmaker survey to approximate the average equity and bond home bias levels, set at 50% for equities and 60% for bonds. The currency hedge ratio for global equities has been set at 30%, and global bonds are assumed to be 100% currency hedged. There is no currency hedging data captured in either the Rainmaker or APRA surveys, so we have based the hedge ratios on our treatment within Vanguard's own (non-superannuation) diversified pooled funds.

8 For example, AustralianSuper is one of the 134 funds reported, with 13 investment options (3 MySuper products). All of the performance, fee, and asset allocation data points reflect AustralianSuper as a whole, rather than any one of the 13 options.

9 Seven style benchmarks were created using the returns of various Vanguard index funds (net of investment fees and superannuation tax). For more detailed information on how to construct index reference portfolios, please refer to the Appendix.

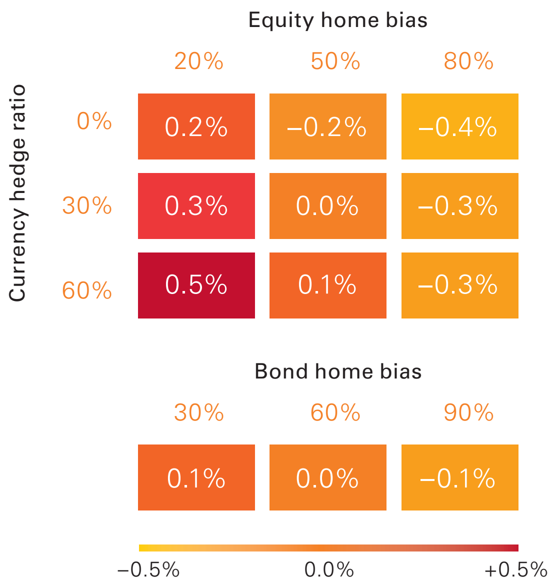
10 Investment expenses represent expenses that relate to the investment of the assets of the entity, which includes expenses for which investment fees are charges and expenses associated with generating income on investments.

11 Operating expenses represent expenses that relate to the operation of the fund by the RSE licensee, which includes operating expenses for which administration fees are charged, such as expenses relating to advertising/marketing, commissions, director/individual trustee expenses, operating expenses associated with service provider and other operating expenses.

Recognising that industry level data is not representative of individual fund asset allocation positions, we conducted sensitivity tests to stress test our assumptions for both home bias and currency hedging. The results in **Figure 1** indicate that the assumptions made are reasonable and don't have a material impact on index reference portfolio returns over the 10 year period to 30 June 2017.

Figure 1. Testing our home bias and currency assumptions

Different levels of home bias and currency hedging don't materially change the results.



Notes: Equity and currency home bias compares the returns for a 70/30 Growth/Defensive portfolio that is assumed to have a 50% equity home bias and a 30% equity currency hedge ratio (Growth component = 50% S&P/ASX 300, 35% MSCI World ex-Australia AUD **Unhedged** and 15% MSCI World ex-Australia AUD **Hedged**), with comparison portfolios that utilise different levels of home bias and currency hedging. Bond home bias compares the returns for a 70/30 Growth/Defensive portfolio that is assumed to have a 60% bond home bias and 100% currency hedged (Defensive component = 60% Bloomberg Ausbond Composite Index, 40% Bloomberg Barclays Global Aggregate Index AUD Hedged) with comparison portfolios that utilise different levels of bond home bias.

Source: Vanguard 2019.

III. Results

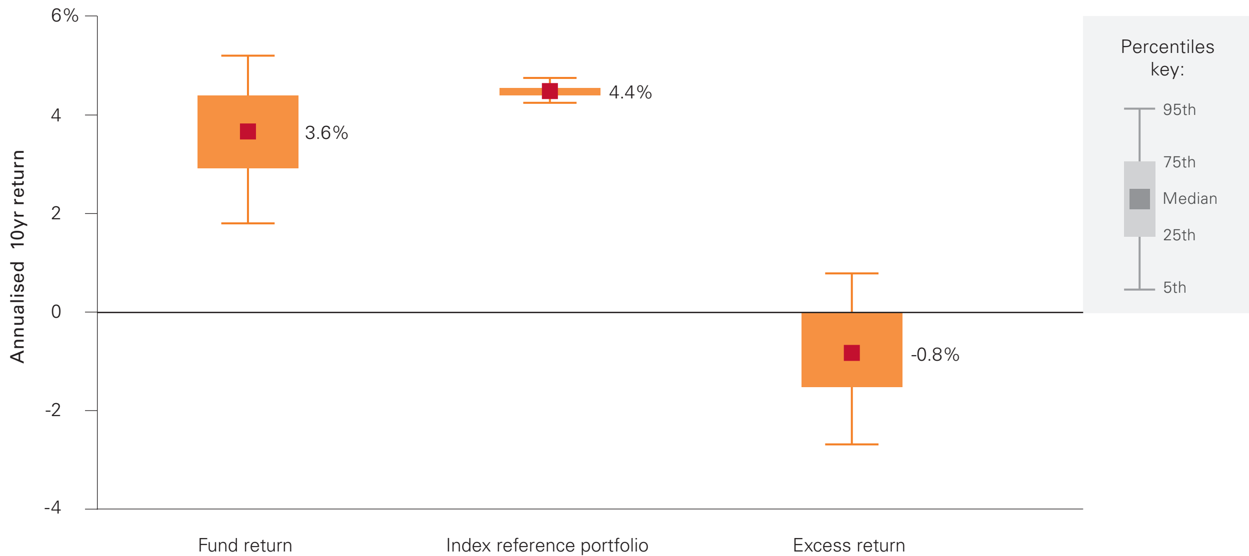
The benchmarking study investigates the returns that have been delivered by APRA regulated funds in comparison to the potential returns according to each fund's own reported asset allocation. The results indicate system wide underperformance with only 24% of funds (32 out of 134) beating the index reference portfolios.

Figure 2 displays the ranges and medians for the 134 fund returns, each of the 134 index reference portfolios and the excess returns of each fund relative to its corresponding index reference portfolio.

To ensure a fair comparison between funds and the index reference portfolio, we adjust the reference portfolio for tax, investment and operating expenses in accordance with APRA's definition of expense ratios. These expenses are based on those of real-world index funds that were available for investment throughout the same period.

The use of an index reference portfolio tailored to each fund's asset allocation also allows for comparison on a risk-adjusted basis. A key finding is that a significant gap in excess returns exists across the superannuation industry with 102 of 134 funds underperforming their custom index reference portfolio, and a median excess return of –0.8% per annum over 10 years. The other notable observation is the very narrow distribution of index reference portfolio returns, implying the differences in asset allocation among the funds are very minor. The distribution represents over 134 individual benchmarks weighted by the reported asset allocation of each fund in the APRA survey. In comparison, the actual fund-level results are significantly more divergent. This is not unexpected. The implementation approach of a fund's investment strategy can influence the level of divergence from the benchmark (Scott et al. 2016). Factors such as active manager out/under performance, asset allocation tilts, and sub-asset class tilts, can produce significant divergence from benchmark returns.

Figure 2. Comparison of superannuation returns and index reference portfolio returns (after tax and expenses)



Notes: Data reflect 10 year period ending 30 June, 2017. Superannuation fund-level return is calculated as the net earnings after tax over cash flow adjusted net assets by APRA. Index reference portfolio (post fees and tax) is calculated for each superannuation fund as the weighted average of seven asset class benchmark returns weighted according to each superannuation fund's fund-level asset allocation. The seven asset class benchmark returns are created using the returns of various Vanguard index funds (net of fees and superannuation tax) based on the following weightings: (1) Equity - 50% Vanguard Australian Shares Index Fund/ 35% Vanguard International Shares Index Fund / 15% Vanguard International Shares Index Fund (Hedged); (2) Fixed income – 22.86% Vanguard International Fixed Interest Index Fund (Hedged) / 17.14% Vanguard International Credit Securities Index Fund (Hedged) / 60% Vanguard Australian Fixed Interest Index Fund; (3) Cash - 100% Vanguard Cash Plus Fund; (4) Property – 50% Vanguard Australian Property Securities Index Fund / 50% Vanguard International Property Securities Index Fund (Hedged); (5) Infrastructure – 100% Vanguard International Shares Index Fund (Hedged) used from July 2007 to June 2008, after that 100% Vanguard Global Infrastructure Index Fund (Hedged) due to fund inception (Vanguard Global Infrastructure Index Fund inception date: 30 November 2007); (6) Commodities – 25% Vanguard Australian Shares Index Fund/ 17.5% Vanguard International Shares Index Fund / 7.5% Vanguard International Shares Index Fund (Hedged) / 11.43% Vanguard International Fixed Interest Index Fund (Hedged) / 8.57% Vanguard International Credit Securities Index Fund (Hedged) / 30% Vanguard Australian Fixed Interest Index Fund; (7) Other assets - 25% Vanguard Australian Shares Index Fund/ 17.5% Vanguard International Shares Index Fund / 7.5% Vanguard International Shares Index Fund (Hedged) / 11.43% Vanguard International Fixed Interest Index Fund (Hedged) / 8.57% Vanguard International Credit Securities Index Fund (Hedged) / 30% Vanguard Australian Fixed Interest Index Fund. Excess return is the difference between a superannuation fund-level return and its index reference portfolio. Past performance is not a reliable indicator of future results.

Source: Vanguard calculations, based on data from APRA, Bloomberg and Thomson Reuters Datastream.

The level of data disclosure specified by APRA doesn't enable accurate attribution of excess returns. In **Section IV**, we suggest improvements that would allow for more accurate performance attribution. Even so, we are able to identify a well-established relationship that influences fund performance.

The relationship between returns and expenses

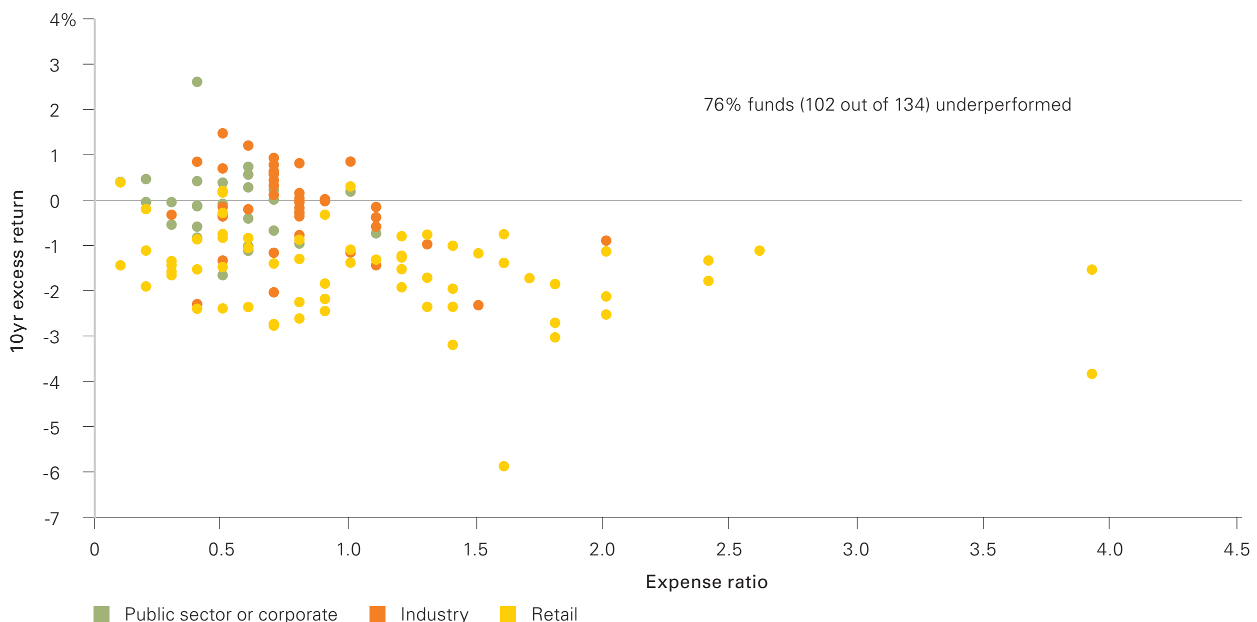
Industry debate continues to rage about the relationship between returns and expenses. While, for many purchases in life, higher price is indicative of higher quality, when it comes to investing the conventional wisdom doesn't hold. Vanguard's research has consistently demonstrated a relationship between higher cost and lower returns. This relationship holds true in both index funds (Rowley, Walker, Ning, 2018) and active funds (Wallick et al., 2015).

Utilising the data reported by APRA regulated funds on investment and operating expenses, **Figure 3** plots fund excess returns against fund expense ratios. The trend shows a strong negative relationship between expenses and returns. The higher the expenses, the lower the returns. In addition, **Figure 3** distinguishes between the key segments of industry, corporate and retail funds.

A key focus of the Productivity Commission report was to measure the efficiency of the system as it related to the delivery of net returns, member needs and services such as insurance. One of the features of the system that stands out is the sheer number of different investment options that superannuants are faced with. Underlying the 134 APRA regulated funds are over 26,000 discrete investment options. This number is disproportionately represented by retail fund providers offering master trust platforms with many underlying choices available to individuals and advisers to build portfolio solutions. **Figure 4** adds a third dimension to the prior chart. It represents fund performance, fund expense ratios and the number of investment options.

While there appears to be a relationship between the number of options and fund performance, it would be inferring too much in the data to claim a causal link between the two. The link between higher expenses and the higher numbers of options, could relate to the structure of the industry where the funds with the most underlying options reside within the retail fund category. These funds also generally have higher expense ratios. However, what the chart illustrates clearly is the absence of a link between more choice and superior performance outcomes. This echoes the findings of an earlier study by Vanguard (*How Australia Saves 2017*), which found that selection by fund members between a broader menu of investment

Figure 3. Fund-level fee and net excess return over index reference portfolios (after fees and tax)



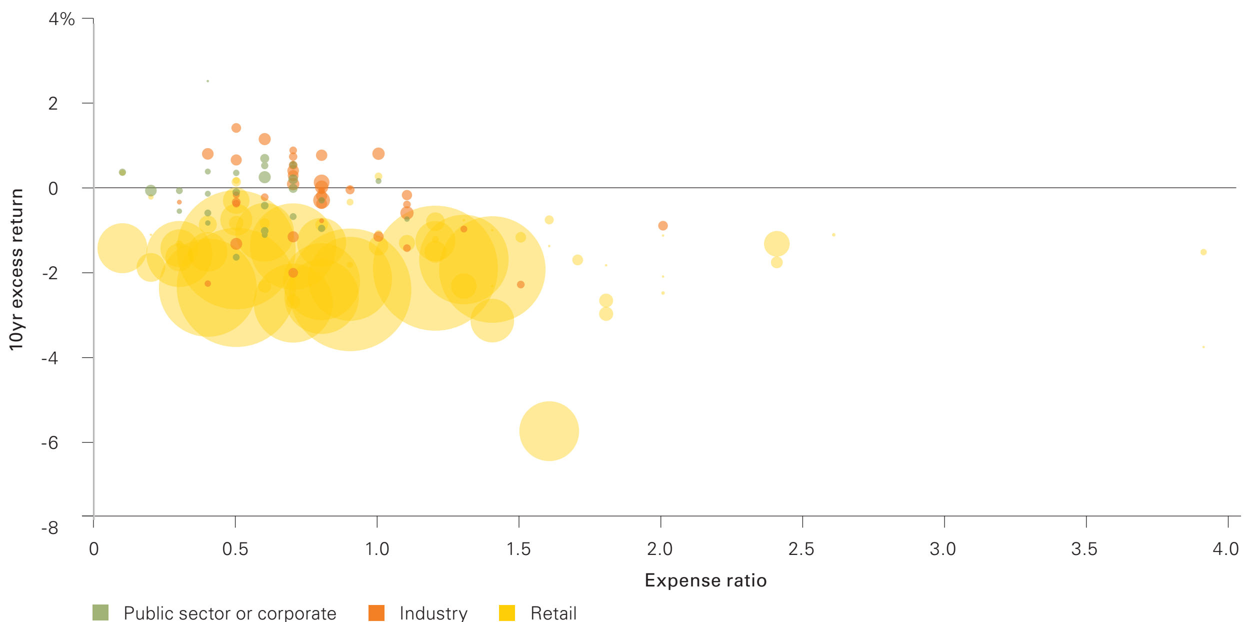
Note: Notes: Data reflect 10 year period ending 30 June, 2017. Superannuation fund-level return is calculated as the net earnings after tax over cash flow adjusted net assets by APRA. Index reference portfolio (post fees and tax) is calculated for each superannuation fund as the weighted average of seven asset class benchmark returns weighted according to each superannuation fund's fund-level asset allocation. The seven asset class benchmark returns are created using the returns of various Vanguard index funds (net of fees and superannuation tax) based on the following weightings: (1) Equity - 50% Vanguard Australian Shares Index Fund/ 35% Vanguard International Shares Index Fund / 15% Vanguard International Shares Index Fund (Hedged); (2) Fixed income – 22.86% Vanguard International Fixed Interest Index Fund (Hedged) / 17.14% Vanguard International Credit Securities Index Fund (Hedged) / 60% Vanguard Australian Fixed Interest Index Fund; (3) Cash - 100% Vanguard Cash Plus Fund; (4) Property – 50% Vanguard Australian Property Securities Index Fund / 50% Vanguard International Property Securities Index Fund (Hedged); (5) Infrastructure – 100% Vanguard International Shares Index Fund (Hedged) used from July 2007 to June 2008, after that 100% Vanguard Global Infrastructure Index Fund (Hedged) due to fund inception (Vanguard Global Infrastructure Index Fund inception date: 30 November 2007);(6) Commodities – 25% Vanguard Australian Shares Index Fund/ 17.5% Vanguard International Shares Index Fund / 7.5% Vanguard International Shares Index Fund (Hedged) / 11.43% Vanguard International Fixed Interest Index Fund (Hedged) / 8.57% Vanguard International Credit Securities Index Fund (Hedged) / 30% Vanguard Australian Fixed Interest Index Fund; (7) Other assets - 25% Vanguard Australian Shares Index Fund/ 17.5% Vanguard International Shares Index Fund / 7.5% Vanguard International Shares Index Fund (Hedged) / 11.43% Vanguard International Fixed Interest Index Fund (Hedged) / 8.57% Vanguard International Credit Securities Index Fund (Hedged) / 30% Vanguard Australian Fixed Interest Index Fund. Excess return is the difference between a superannuation fund-level return and its index reference portfolio. Past performance is not a reliable indicator of future results.

Source: Vanguard calculations, based on data from APRA, Bloomberg and Thomson Reuters Datastream.

options was associated with lower member level returns and wider dispersion of returns relative to well-diversified default and/or target risk options.

Expense ratios remain elevated for many funds, and as **Figure 3** illustrates, higher expenses has failed to deliver a net benefit to members. **Figure 5** shows the average fund weighted expense ratio was 0.89% at the end of the 10 year reporting period, approximately equivalent to the median level excess return over the period of –0.83% per annum. The fund weighted expense ratio is an equal weighted average of fund expenses, with the dollar weighted average showing an expense ratio of 0.67%. The lower expenses of the dollar weighted measure demonstrates that larger funds typically have lower expense ratios.

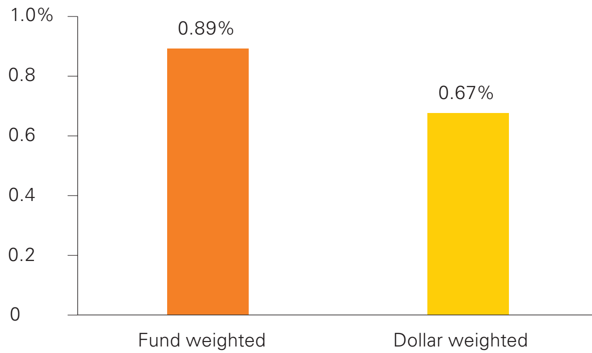
Figure 4. Fund-level fee and net excess return over index reference portfolios (after tax and fees)



Note: Data reflect 10 year period ending 30 June, 2017. Superannuation fund-level return is calculated as the net earnings after tax over cash flow adjusted net assets by APRA. Index reference portfolio (post fees and tax) is calculated for each superannuation fund as the weighted average of seven asset class benchmark returns weighted according to each superannuation fund's fund-level asset allocation. The seven asset class benchmark returns are created using the returns of various Vanguard index funds (net of fees and superannuation tax) based on the following weightings: (1) Equity - 50% Vanguard Australian Shares Index Fund/ 35% Vanguard International Shares Index Fund / 15% Vanguard International Shares Index Fund (Hedged); (2) Fixed income – 22.86% Vanguard International Fixed Interest Index Fund (Hedged) / 17.14% Vanguard International Credit Securities Index Fund (Hedged) / 60% Vanguard Australian Fixed Interest Index Fund; (3) Cash - 100% Vanguard Cash Plus Fund; (4) Property – 50% Vanguard Australian Property Securities Index Fund / 50% Vanguard International Property Securities Index Fund (Hedged); (5) Infrastructure – 100% Vanguard International Shares Index Fund (Hedged) used from July 2007 to June 2008, after that 100% Vanguard Global Infrastructure Index Fund (Hedged) due to fund inception (Vanguard Global Infrastructure Index Fund inception date: 30 November 2007); (6) Commodities – 25% Vanguard Australian Shares Index Fund/ 17.5% Vanguard International Shares Index Fund / 7.5% Vanguard International Shares Index Fund (Hedged) / 11.43% Vanguard International Fixed Interest Index Fund (Hedged) / 8.57% Vanguard International Credit Securities Index Fund (Hedged) / 30% Vanguard Australian Fixed Interest Index Fund; (7) Other assets - 25% Vanguard Australian Shares Index Fund/ 17.5% Vanguard International Shares Index Fund / 7.5% Vanguard International Shares Index Fund (Hedged) / 11.43% Vanguard International Fixed Interest Index Fund (Hedged) / 8.57% Vanguard International Credit Securities Index Fund (Hedged) / 30% Vanguard Australian Fixed Interest Index Fund. Excess return is the difference between a superannuation fund-level return and its index reference portfolio. Past performance is not a reliable indicator of future results.

Source: Vanguard calculations, based on data from APRA, Bloomberg and Thomson Reuters Datastream.

Figure 5. Average fee



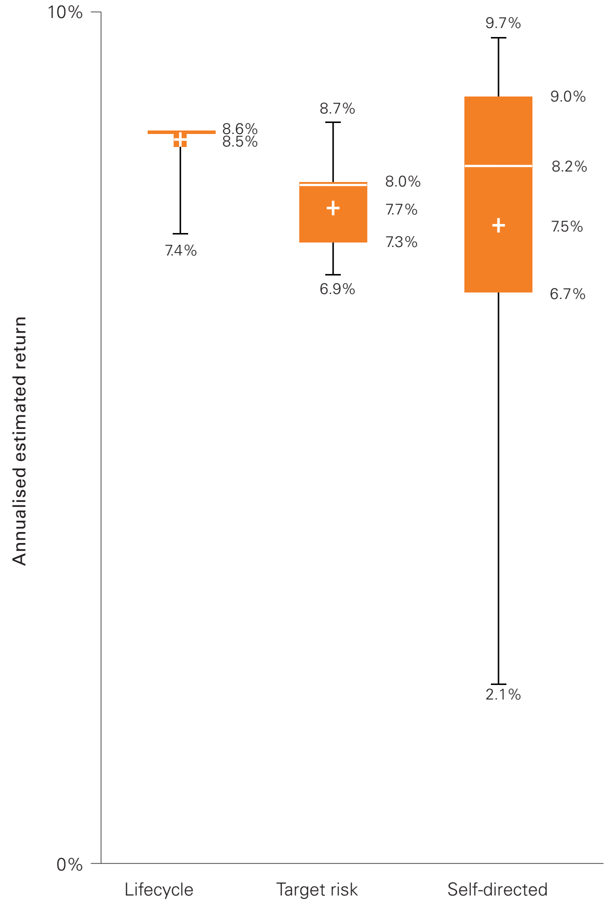
Notes: Data reflect the fee as of 30 June, 2017. The fund-level fee is calculated as the sum of total investment expense and total operating expense as a percentage of cash flow adjusted net assets.

Source: Vanguard calculations, based on data from APRA.

A focus on member-level outcomes

The Productivity Commission report into the efficiency of the superannuation system clearly emphasised a requirement for greater focus by the industry on member outcomes, stating the following "While initiatives taken by industry to date are a step in the right direction and the industry code of practice offers some limited prospects for improving member outcomes, more work is needed." Vanguard has built up a large body of knowledge into member level behaviour and member outcomes as a record keeper serving 4.9 million participants in the United States. This body of knowledge is made available via an annual report called *How America Saves*. Vanguard, in conjunction with First State Super, Sunsuper and VicSuper, has replicated the study in a report called *How Australia Saves* which focuses on member-level experiences and behaviours in the Australian superannuation system. The report highlights the impact that choice can have on member-level investment outcomes. The results make clear that greater choice generally fails to produce better outcomes. **Figure 6** compares the distribution of returns for members invested in the life-cycle default, target risk and self-directed options which includes a range of asset class and single sector building blocks. For the five year period of the study it is notable that the higher the member discretion exercised, the wider the return outcomes. And compared with the Funds' default options, most of the dispersion is to the downside.

Figure 6. Distribution of 3-year estimated total returns by investor type (as of 30 June 2018)



Notes: Based on 588,000 observations for lifecycle, 765,000 observations for diversified, and 192,000 observations for self-directed members.
Past performance is not a reliable indication of future performance.

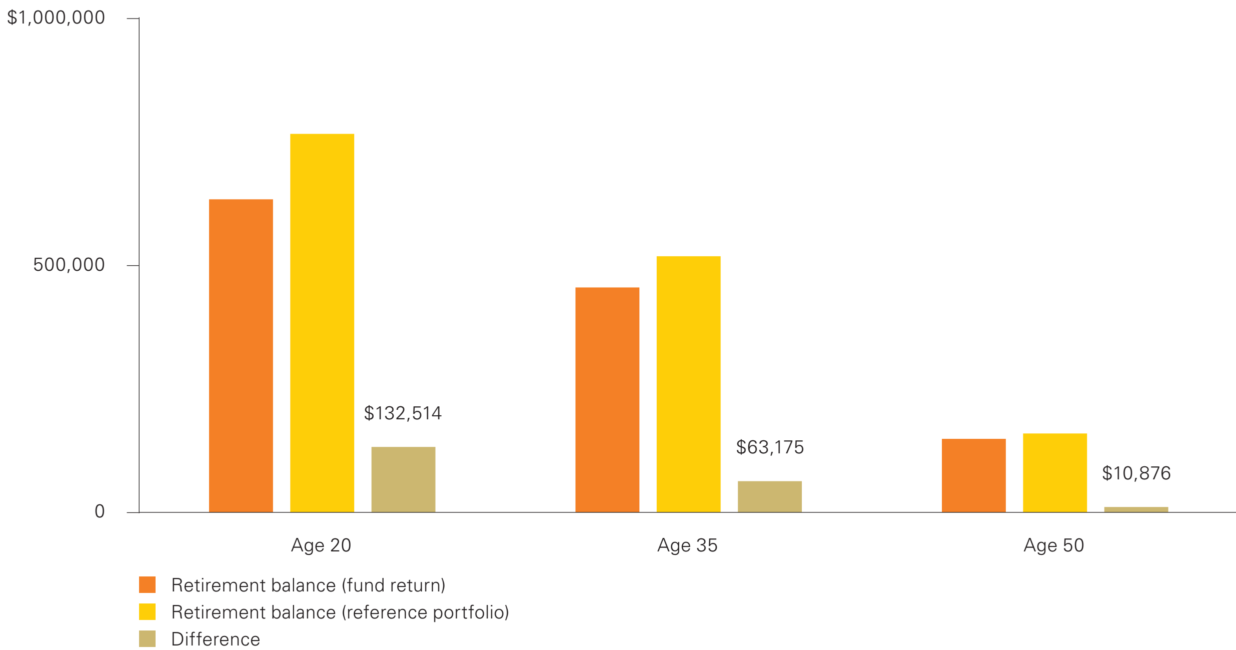
Source: Vanguard using First State Super, Sunsuper and VicSuper data, 2019.

Addressing the gap in system performance

The gap in system performance appears material by most measures, with the median fund excess return underperforming the reference portfolio by –0.8%, but how does this translate to member outcomes?

With the assistance of Rice Warner, **Figure 7** models the difference in the retirement balance of members in nominal terms that result from the gap in median fund excess return. Due to the powerful effects of compounding, the earlier the gap can be closed in a member's retirement savings journey, the more profound the effect, given the long time horizon over which the difference is compounding.

Figure 7. Median return scenario nominal retirement balance



Note: In producing these results a number of assumptions were made - wage inflation for projections to retirement of 3.5% p.a., annual superannuation dollar fees of $68 p.a. (indexed to CPI) plus a % of assets fee of 0.31%, increases in the CPI of 2.5% annually and retirement age of 67.

Sources: Rice Warner assumptions, Vanguard calculations and data from APRA.

IV. Improvements in data collection

One of the challenges evident in the Productivity Commission's report titled *Investment performance: supplementary analysis* relates to deficiencies in the data reported to APRA. Despite this, the APRA data set still represents the most complete data set available for the purposes of benchmarking the system. Further improvements in the quality and granularity of the data would greatly assist to attribute sources of return more accurately for parties external to the super fund such as regulators, research houses, tender consultants and members.

The principle of focusing on long term returns which is a feature of APRA's current reporting requirements should be maintained, though with a higher standard applied to the level of disclosure.

At present, funds disclose to APRA end of period fees, end of period asset allocation, and 10 year whole of fund returns. Therefore, assumptions need to be made that the end of period asset allocation and expenses are a close approximation of the average over the 10 year period.

A separate deficiency is that the seven asset class categories are missing some important categories that make up most funds' investment portfolios.

Suggestions for improving the level of disclosure

For the purposes of improving the ability for investors, researchers and regulators to measure the performance of the system as a whole and by fund, the following changes and/or additions in data collection would be beneficial:

1. Additional sub-asset class and exposure categories:

   - Separating equities into domestic and international
   - Separating fixed income into domestic and international
   - Disclosing the currency hedge ratio for all international exposures
   - Separating listed and unlisted property
   - Separating listed and unlisted infrastructure

2. Increasing the frequency of data points:

- Disclosure of annual asset allocation (currently end of 10 year period)
- Disclosure of annual fees (currently end of 10 year period)

Note: We support the focus on long-term results through the use of 10-year returns, though evaluating 10-year returns based on end of period asset allocation and expense ratios introduces a higher level of estimation error.

3. Extending performance analysis further

- We encourage APRA to publish asset class statistics, on the same basis as the fund level returns, ensuring reporting funds are adjusting for survivorship bias, and not just reporting at the product level based on surviving products at the end of period.
- We encourage APRA and/or ASIC as the key disclosure regulator to publish definitions of growth and defensive assets. This would likely require industry consultation to reach agreement on the appropriate definition for each asset class. The industry surveys in existence allow considerable discretion for funds to make their own definitions of growth and defensive, making true comparison of risk-adjusted returns difficult.
- In addition – the absence of more frequent disclosure of returns makes the calculation of portfolio risk measures by third parties difficult. Reporting of specified risk measures to enable comparison across funds would be beneficial.

The benefits of improved disclosure

At present, performance measurement at either the individual fund or system level is subject to a broad set of assumptions which increases the estimation error.

The improvements in the granularity of data recommended above would allow for more accurate attribution of investment manager selection decisions, asset allocation decisions, and the impact of expenses on returns. It is also in the interest of super funds to improve the disclosure standards. Far better for the industry to drive improvements in disclosure requirements that increase transparency and improve system level outcomes for members, than to require a regulatory response to address current deficiencies.

V. Conclusion

Our analysis suggests that the returns of Australia's superannuation system has fallen short of its potential with 76% of the funds measured, underperforming an index reference portfolio that matches their specific fund-level asset allocation profile reported to APRA.

We find that the relationship between lower expenses and higher returns is evident in the Australian superannuation industry, and that greater investment choice does not equate to improved outcomes when measured at the fund level.

We propose a methodology that could help industry participants and policymakers identify opportunities for improvement. This methodology presents the system level returns on a post-tax and fees basis, and risk-adjusting the results. Compared with current approaches which favour a mix of peer relative and real return measures, our methodology can serve as a superior methodology for benchmarking both system level, and individual fund results in future periods. The current approaches have their place, but are an inadequate measure of risk-adjusted outcomes.

Improvements in the quality and transparency of reported data will allow for greater attribution of fund and system level results, increasing accountability and driving improvements in the return outcomes for superannuation beneficiaries.

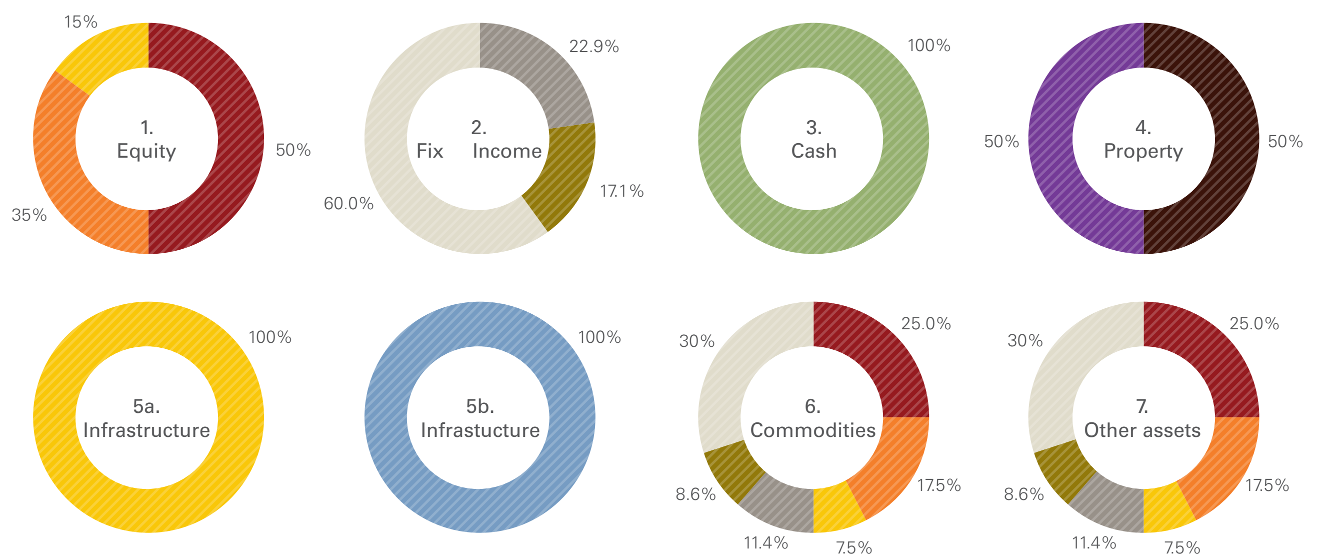
Appendix

Index Reference Portfolio

For every fund, APRA reports seven asset classes and the allocation to each: equity, fixed income, cash, property, infrastructure, commodities and other.

Accordingly, we created seven asset class benchmarks using the returns of various Vanguard index funds (**net of investment fees but before tax**) based on the following weightings as detailed below in **Figure 8**:

Figure 8. Asset classes and weightings



Legend
- Vanguard Australian Shares Index Fund
- Vanguard International Shares Index Fund
- Vanguard International Shares Index Fund (Hedged)
- Vanguard International Fixed Interest Index Fund (Hedged)
- Vanguard International Credit Securities Index Fund (Hedged)
- Vanguard Australian Fixed Interest Index Fund
- Vanguard Cash Plus Fund
- Vanguard Global Infrastructure Index Fund (Hedged)
- Vanguard Australian Property Securities Index Fund
- Vanguard International Property Securities Index Fund (Hedged)

Note: 5a & 5b 100% Vanguard International Shares Index Fund (Hedged) used from July 2007 to June 2008, after that 100% Vanguard Global Infrastructure Index Fund (Hedged) due to fund inception (Vanguard Global Infrastructure Index Fund inception date: 30 November 2007)

Source: Vanguard 2019.

Tax treatment of Vanguard's funds

To account for the tax paid by superannuation funds, we decomposed Vanguard funds' returns (net of investment fees but before tax) into "Income" and "Capital Gains" returns. We then applied a 15% superannuation tax rate to the "Income" returns, and a 10% tax rate on "Capital Gains" for the growth asset classes, and a 15% tax rate on "Capital Gains" for Fixed Income and Cash assets classes.

The only exception is Vanguard Australian Shares Index Fund which is subject to franking credits. We treated the "Income" returns of the Vanguard Australian Shares Index Fund as follows:

$$\left(\left(\left(\frac{\text{Pre-Tax Income Return}}{1-\text{Company Tax Rate}}\right)\times \text{The Franking Percentage}\times \text{Company Tax Rate}\right)+\text{Pre-Tax Income Return}\right)\times\left(1-\text{Superannuation Tax Rate}\right)$$

In this case, the company tax rate is 30%, the franking percentage is assumed to be 70% and superannuation tax rate is 15%.

The post-tax returns of the Vanguard funds are calculated as: post-tax income return + post-tax growth return. An index reference portfolio (net of investment fees and tax) is then calculated for each superannuation fund as the weighted average of the seven asset class benchmark returns weighted according to each superannuation fund's fund-level asset allocation reported to APRA.

Administration expenses adjustment

Compared to superannuation funds, Vanguard funds don't pay administration expenses. Therefore, to make the appropriate adjustment to the index reference portfolio calculation, we incorporated the median administration expense ratio (calculated as: administration expenses/cash flow adjusted net assets) of all the superannuation funds.

Figure 9. The benchmarks of Vanguard funds

Vanguard Fund Name	Benchmark	Inception Date
Vanguard Australian Shares Index Fund (Wholesale)	S&P/ASX 300 Index	30-Jun-97
Vanguard International Shares Index Fund (Hedged)	MSCI World ex-Australia Hedged in AUD Index	2-Aug-00
Vanguard Australian Fixed Interest Index Fund (Wholesale)	Bloomberg AusBond Composite 0+ Yr Index	6-Jun-97
Vanguard Australian Property Securities Index Fund (Wholesale)	S&P/ASX 300 A-REIT Index	27-Mar-98
Vanguard Cash Plus Fund (Wholesale)	Bloomberg AusBond Bank Bill Index	26-Aug-98
Vanguard Cash Reserve Fund (Wholesale)	Bloomberg AusBond Bank Bill Index	31-Oct-07
Vanguard Global Infrastructure Index Fund (Hedged) (Wholesale)	FTSE Developed Core Infrastructure Index Hedged into AUD	30-Nov-07
Vanguard International Credit Securities Index Fund (Hedged) (Wholesale)	Bloomberg Barclays Global Agg Govt-Related and Corp Index in AUD (Hedged)	23-Feb-01
Vanguard International Fixed Interest Index Fund (Hedged) (Wholesale)	Bloomberg Barclays Global Treasury Index in AUD (Hedged)	27-Jul-99
Vanguard International Property Securities Index Fund (Hedged) (Wholesale)	FTSE EPRA/NAREIT Developed ex AUS Rental index, AUD Hedged with net dividends reinvested	30-Sep-05
Vanguard International Shares Index Fund (Wholesale)	MSCI World ex-Australia Index in AUD	6-Jun-97

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