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3 February 2020

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Summary of ISA Submissions to the Retirement Income Review

Industry Super Australia (ISA) undertakes policy research and advocacy on behalf of over five million members of industry superannuation funds, to ensure that the policy settings for superannuation are consistent with the objective of maximising their retirement incomes.

We welcome the opportunity to provide comment on the goals, principles and performance of Australia's retirement income system.

ISA supports the Panel's mission of "establishing a fact base" to understand how the Australian retirement income system is operating and responding to the needs of ageing society. The Retirement Income Review is the first wholesale review of the retirement system in nearly three decades and presents a significant opportunity to further improve the system. It should aim to build on the success of our universal super system, ensuring the pension and superannuation systems are working together as efficiently as possible so that Australians get the most out of every dollar in retirement with as efficient use of public resources as possible.

ISA is making three separate submissions. The focus of our submissions will be on how the three Pillars - compulsory superannuation, voluntary savings and the Age Pension - provide for people's retirement. ISA supports the goal of the system being:
"*To provide an adequate income to ensure all Australians achieve a comfortable standard of living in retirement, supplementing or substituting the Age Pension[1].*"

Our three submissions (papers) focus on:
1. *Cohesion*
2. *Equity*
3. *Adequacy*

Before outlining the focus of the three papers, it is worth providing an overall assessment of the system. In just under 30 years Australia has developed one of the leading and most comprehensive retirement income systems in the world. We have a generation retiring now

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[1] Joint Letter ISA, AIST, ASFA, SMSFA – Objective of Superannuation (2016). Available from: https://tinyurl.com/v7qzu6o

with the benefit of nearly three decades of compulsory superannuation, delivering them more choices in retirement and helping to ease pressure on the age pension.

Proposals that we advance in our three submissions for improvements must be seen in the context that Australia's retirement system is already world's best practice. Around 70 per cent of people see the compulsory super system as a safety net, like Medicare and public schools (UMR July 2019[2]). Nearly 90 per cent of Australians surveyed support increasing the super guarantee above its current rate (UMR July 2019), to further strengthen the system.

While there will always be controversies and disagreements, like those described in the Consultation Paper, it is uncontroversial that Australia's system is underpinned by the compulsory superannuation pillar that is the envy of the world. Indeed, it is one of the top ranked systems at meeting demands of demographic ageing and providing a dignified retirement and is consistently ranked among the top three in the Melbourne-Mercer Global Pensions Index on that basis. The Australian Age Pension is one of the most targeted and lowest cost systems in the OECD and is expected to remain so because of the rising private provision through Pillar Two.

Long before the World Bank published *Averting the Old Age Crisis* in 1994[3] Australian policy makers understood that the challenge of delivering better retirement living standards in an ageing society could only be met by a blended system – supporting the Age Pension with a universal occupational retirement savings scheme.

The universal and compulsory nature of our superannuation system has been critical to the system's success. Our submissions will demonstrate, using cameo analysis, just how much better off workers are at various deciles with compulsory superannuation, and the importance of continuing the schedule to 12 per cent as the original architects of the system planned.

The system has grown to comprise one of the largest and best performing pools of retirement-related assets in the world. Not only has our superannuation system fundamentally improved the standard of living in retirement for many Australians, it is a cornerstone of our economic and financial systems. With a capital pool of savings expected to reach as much as $6 trillion by 2030, it is a key driver of growth, jobs and productivity. This capital pool means that Australia is now a net capital exporter repatriating dividends and capital gains. Compulsory super:

- Also provides funds for investment that have, on-average, generated good returns that will enable more Australians to retire in comfort and dignity than would otherwise be the case (Pillar Two); and
- Has stabilised and insulated the Age Pension (Pillar One) against the fiscal implications of a rapidly aging population[4].

While our superannuation system is widely regarded as one of the most successful in the world, it is still maturing and needs to be allowed to develop on its current path. Nonetheless there are areas where the efficiency and equity of the system can and should be improved. We now outline the argument of the three submissions and the expert evidence that accompanies them in Attachments.

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[2] UMR Strategic Research, 'Public attitudes to increasing the Super Guarantee', July 2019

[3] World Bank, 'Averting the old age crisis: Policies to protect the old and promote growth' (Washington: World Bank), 1994

[4] *Australia to 2020,* The Intergenerational Report, 2010, Appendix C, Treasury.

It is also important to understand that these themes developed (cohesion, equity, adequacy) interact and are not mutually exclusive. For example, things that cause lack of cohesion/ fragmentation in the system, such as the $3 asset taper rate, have implications for both equity and adequacy.

Wherever possible we will try to acknowledge these interactions in our three submissions. One theme explicitly singled out by the Consultation Paper concerns the affordability of the retirement income system. We have not explicitly addressed this in a single submission because it cuts across all the issues of cohesion, equity and adequacy. Nonetheless, our submission provides an assessment of the fiscal costs of Pillar One and Two in relation to Adequacy. The work was undertaken for ISA by Rice Warner Actuaries using the Rice Warner / ISA Sprout Model.

Paper 1: Cohesion

Our first submission examines the coherence in the system. Rather than looking just at the coherence between the pillars, we also focus on coherence within the pillars and in Pillar Two in particular. The primary justification for a universal system of compulsory contributions is that when those contributions are made to superannuation funds, they are managed by those funds in ways that generate good returns for members. Good returns in Pillar Two means fewer public resources need to be directed toward Pillar One in order to help fund the costs of retirement.

But the performance of superannuation products varies widely. For example, the recent Productivity Commission (PC) inquiry into super found that across the MySuper and Choice markets there are 29 underperforming funds containing 5 million accounts and about $270 billion in assets. This underperformance is further concentrated in the Choice market.

The financial harm for those members that are in underperforming products can be significant. The PC estimated that a member in a poor performing fund could retire with $600,000 less than one in a top fund. Such variable outcomes are clearly a problem. But a robust system-wide solution cannot rely primarily on members choosing which product to join. While choice should be available for those who want to make one, the behavioural evidence is that people also need a strong system underpinned by defaults for those who choose not to choose or are less engaged. To strengthen the system, our submission supports:

- The application of robust performance benchmarks by APRA to all MySuper and Choice products;
- Facilitating the consolidation and merging of funds;
- Eliminating unintentional multiple accounts by stapling balances to members which are automatically rolled over into an employer's default fund every time a member changes job;
- Strengthening the industrial default safety net by removing underperforming funds and requiring that all default products used in workplaces are drawn from those approved by the Fair Work Commission every four years;
- Reducing the incidence of unpaid super, partly by aligning the payment of super with the payment of wages;

- Addressing the complexity of the retirement decision for people by designing defaults into retirement and facilitating access to cost effective, conflict free, trusted retirement advice;
- Addressing some of the anomalies created by the SMSF market for which there is no prudential oversight and unique exemptions such as for borrowing.

Paper 2: Improving Equity

Engaging the issues around equity is relevant to adequacy. For lower income deciles the equity issues are tangibly linked.

Our system does ameliorate wealth inequality to an extent, nevertheless there are significant issues to consider. The way superannuation tax concessions interact with labour market outcomes and the retirement income system is complex and at times perverse.

Tax concessions in our superannuation savings system are designed to:

- Compensate for the deferral of current consumption arising from mandatory savings and preservation requirements;

- Maximise the compounding value of contributions from investment returns to boost final retirement income; and

- Incentivise voluntary saving.

The income tax system is progressive while the superannuation tax system is flat and therefore the concession a taxpayer receives increases with their income. This has dramatic implications for lower income deciles in terms of providing for their retirement. The benefits of superannuation concessions accrue disproportionately to people with high incomes and high superannuation balances. Those with the greatest need receive the lowest concessions and those with the lowest need receive the greatest concessions. Tax concessions which fail to adequately boost the savings of low earners risk millions retiring without enough super to provide income above the Age Pension. Such an outcome will only increase pressure on government to increase Age Pension levels at significant fiscal cost.

The current minimum superannuation threshold of $450 per month exacerbates inequities experienced during working life because it creates an unnecessary gap in super coverage that affects workers most in need of superannuation such as low income and casual workers – a group in which women are over-represented. It also affects workers in multiple jobs[5]

Retirement outcomes for women are also inequitable. Women are retiring with an average super balance $90,000 lower than men. Factors contributing to this include broken work patterns, lower wages, insecure employment and multiple and often part time jobs.

To address these equity issues, ISA proposes the following:

- Remove the $450 minimum monthly pay threshold before super is paid;

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[5]One in four employed people under 30 work in multiple jobs, Australian Bureau of Statistics, Media Release, 1 August 2019,

- Ensure super is paid on Commonwealth Paid Parental Leave so that all parents can continue to grow their superannuation while on parental leave[6];
- Provide some capital injection into superannuation to support low-income earners with inadequate retirement savings.

The age at which Australians access the Age Pension is also relevant to any consideration of equity in the system. This is because those with lower superannuation balances are more likely to access the Age Pension than those with higher balances.

Therefore, without access to the Age Pension at an appropriate age, those with lower superannuation balances will need to work longer, but often cannot due to ill health and age and occupation related disability.

Under current legislated policy, the Age Pension age will increase to 67 on 1 July 2023 for Australian residents born after 1 January 1957. The legislated Age Pension age is an appropriate policy setting and should be retained.

Paper 3: Adequacy

A key strength of our Retirement Income System is that nearly every employee is required to make a minimum rate of contributions regardless of their income or occupation. The architects of the system refer to this as compulsion plus universality. ISA will present evidence to the Review showing that in several countries where participation in Pillar Two is voluntary, and where contributions are allowed to vary or be used for purposes other than retirement saving, problems of coverage and adequacy are significant. Clearly also having an impact on the equity of their systems.

To many in the UK, the US and New Zealand, Australia's mandatory and universal approach is an example of how the foundations of an effective Pillar Two should be designed.

Though not explicitly stated in the Consultation Paper an obvious consideration will be an assessment of evidence around what level of compulsory superannuation is adequate. ISA has presented evidence to the Review Panel that for too many Australian workers an SG rate of 9.5 per cent will not be enough to generate the level of retirement incomes they should reasonably expect given a lifetime of contributions.

The most effective way (outcomes and public costs) to boost the adequacy of the retirement income system is to proceed with the legislated increase in the SG rate to 12 per cent. ISA has presented original modelling to the Review Panel showing that an increase in the SG rate to 12 per cent will:
- Increase the replacement rate for couples across all income deciles by between 4 per cent and 14 per cent;
- Increase annual disposable incomes during retirement across all income deciles by between 1.3 per cent and 22.4 per cent.

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[6] This position was recommended by the Productivity Commission in its 2009 report *Paid parental leave: support for parents with newborn children*

In addition, Table 1 presents the results of modelling how a 12 per cent SG rate will change average annual disposable incomes during (i) working life, (ii) in retirement and (iii) for a whole adult life. At a whole adult life level, disposable incomes increase for all in a range from 0.6 per cent to 3.7 per cent.

These are significant results because it has been claimed by some that increasing the SG rate will negatively impact levels of consumption. But our modelling shows that disposable incomes over an adult life will increase for all income deciles.

Table 1: Change in average working life and retirement disposable income (both wage-deflated)

Decile	Working Life	Retirement	Whole adult life
1	-0.3%	1.3%	0.6%
2	-0.6%	5.1%	1.5%
3	-0.7%	4.1%	0.7%
4	-0.7%	5.9%	1.1%
5	-0.7%	8.2%	1.5%
6	-0.8%	10.1%	1.8%
7	-0.8%	12.2%	2.2%
8	-0.8%	14.3%	2.5%
9	-0.9%	17.6%	3.0%
10	-0.8%	22.4%	3.7%

Fixing Taper Rates

Throughout our work on the three themes of cohesion, equity and adequacy it has become very clear to us that the current taper rate of $3 is a significant problem. The $3 taper rate reintroduced in 2016 has disincentivised saving for retirement particularly for middle income deciles and has created extreme anomalies in the system. ISA has presented evidence to the Review Panel that for couples with assets between $405,000 and $877,500 the current assets test taper rate of $3 per fortnight per thousand dollars results in a reduction in disposable income from $55,584 to $43,875. In short, the $3 rate penalises these couples for having saved more by reducing their disposable income by $11,979.

ISA suggests that an appropriate way to fix this problem would be to reduce the taper rate to $2. Modelling shows this would incentivise saving and generate less budgetary costs than returning to the pre-2017 rate of $1.50.

ISA has asked Rice Warner to model the net fiscal consequences of a $2 rate compared to a $3 rate - both in the context of 12 per cent SG. Initial results suggest that compared to staying at $3, moving to a $2 taper rate will have a small negative impact on the government's net fiscal position over a 40-year period.

Expert research

ISA prides itself on presenting work that is evidence based. We have contributed to countless inquiries and made submissions on this basis for more than fifteen years. While our three submissions present modelling, statistical analysis, consumer research, and extensive review of evidence - we also submit expert research from third parties and our own ex-Treasury Modelling team (Phil Gallagher PSM and Bruce Bastian) that underlies this work. The detailed reports are provided to the Panel as attachments to our submissions. A brief summary of these follows.

Retirement Expectations – Susan Bell Research

To better understand the financial expectations and experiences of Australian pre-retirees and recent retirees, ISA commissioned Susan Bell Research to design and conduct consumer research. In the study, a total of 734 industry fund members aged 47 years and over participated in either an online survey (undertaken by another third party, UMR Market Research), or a telephone interview (conducted by Q&A Market Research) between December 2019 and January 2020. The final report (Attachment 7), prepared by Susan Bell Research, is a rich source of data on the level of financial comfort among older Australians. Drawing on a 2010 ISA report that similarly explored retirement intentions and expectations, some longitudinal findings were also able to be made. The report found that:

- The proportion of recent retirees either "not making ends meet" or on a "very tight budget" has increased to 38 per cent from 30 per cent in 2010;
- Financial discomfort in retirement appears to decline rapidly over time. While 28 per cent of respondents who retired within the last year were "not making ends meet", among those who retired four to five years ago this figure jumped to 48 per cent;
- Half of recent retirees were carrying debt when they left the workforce, with 28 per cent having debts of between $50,000 and $300,000. 14 per cent held debts of greater than $100,000 at retirement;
- Just under half of respondents reported having retirement forced on them unexpectedly, either because of difficulty finding employment or the need to manage their own or a loved one's ill health;
- Almost a quarter of recent retirees are finding retirement worse financially than they had expected;
- Among pre-retirees, there is a significant level of anxiety about their ability to finance their lifestyle in retirement;
- On average, pre-retirees are carrying greater levels of mortgage ($350,000) and other debt ($30,000) than they have superannuation savings ($263,000).

Phil Gallagher PSM

Phil Gallagher PSM has prepared a paper for the Colloquium of Superannuation Researchers demonstrating that the Grattan Institute models of retirement income adequacy are based on poor research, and entirely inappropriate methods.

Census data shows that 42.5 per cent of Australians aged 20 to 65 are not employees, and the evidence from the labour force gross flows data is that there are massive changes in employment status each month. Very few workers are continuously employed in jobs paid the full SG rate from ages 30 to 66, but Grattan's analysis assumes that this applies in all deciles. Grattan's analysis is a hypothetical analysis, not a population analysis.

But this hypothetical analysis is deeply flawed by not looking at the actual SG population, their savings and the 70 per cent who are couples when they retire. When the method is corrected, we find that:

- Replacement rates in all deciles of couples improve, with five deciles going from a replacement rate below 70 per cent to above[7]; and
- Disposable income across the whole of adult life improves, with working life disposable income being reduced by 1 per cent and retirement disposable income increasing by up to 22 per cent (10 per cent in decile 6).

Rice Warner / ISA Sprout Model on Fiscal Impacts of the Retirement Income System.

ISA has requested that Rice Warner, using our joint Sprout model, provide detailed analysis of the implications of several possible adjustments to existing superannuation policy in comparison with the continuation of the current policy. This research is ongoing and we may submit further data.

ISA has asked Rice Warner to considered five scenarios, namely that the:

- Superannuation Guarantee (SG) rises to 12 per cent as legislated and the Age Pension taper rate remains at $3. This is the current policy Business as Usual (BAU) scenario;
- SG rises to 12 per cent as legislated and the taper rate is adjusted to $2;
- SG is frozen 9.5 per cent and the paper rate is retained at $3;
- SG is frozen at 9.5 per cent and the taper rate is adjusted at $2;
- A world with no SG and the Age Pension is increased by 50 per cent with the current means tests.

This research shows the reduction to the government budget brought about by increasing the SG to 12 per cent. It also provides a counter-factual position. In a world with no compulsory superannuation and only an increased Age Pension (by 50%) to compensate, the impact to the Budget would be dramatic – 4 per cent of GDP and rising to 4.4 per cent by 2050.

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[7] 70 per cent replacement of disposable is a frequently used standard.

We are currently reviewing the size of the population that will be subject to an SG increase, and this may have an impact on the assumptions about how an SG increase will offset wage growth. This is work is on-going.

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Submission 1: Cohesion – Underperformance and Protecting Members

Industry Super Australia (ISA) undertakes policy research and advocacy on behalf of over five million members of industry superannuation funds, to ensure that the policy settings for superannuation are consistent with the objective of maximising their retirement incomes.

ISA will be making a series of submissions to the Review Panel. This first submission discusses a set of issues relevant to the Panel's principle of 'Cohesion.' In the Consultation Paper the question of whether the retirement income system is 'cohesive' is largely discussed in terms of how the three pillars interact to generate desired outcomes for the individuals involved. This raises issues relating to matters such as concessional taxation, the assets test and taper rates. We will be presenting evidence on these issues when we make further submissions to the Panel on 'Equity' and 'Adequacy.'

In relation to its principle of Cohesion the Panel states:

> All elements of the retirement income system should work together to support the outcomes the system intends to achieve for individuals. Cohesion considers the drivers, processes, and incentives that exist in the system. It looks at whether they reinforce outcomes in line with the system's objectives, or conflict with one another.[1]

The Paper then asks: what should the Panel consider in assessing whether the retirement income system is cohesive?

In this submission we will be taking a distinctive approach to this question by presenting evidence that there is a lack of cohesion between the performance of some funds within Pillar Two of the system and the system's primary rationale. This takes the form of members being sold or defaulted into underperforming products, the effect of which will be that they retire with less – and sometimes considerably less – superannuation than they otherwise could. This

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[1] Retirement Income Review Consultation Paper, p. 24.

generates outcomes that are inconsistent with the key objective of the system: the maximisation of retirement incomes.

The Panel rightly states that in a cohesive retirement income system 'all elements of the retirement income system should work together to support the outcomes the system intends to achieve for individuals.'[2] That several million members are in underperforming products (either by mis-selling, choice or through a default) in Pillar Two is inconsistent with maximising retirement incomes; the primary justification for having a system based on compulsion. It is clear evidence of a lack of cohesion.

The recent Productivity Commission (PC) inquiry into the superannuation system generated some important evidence of the scale of the underperformance problem. Using its own performance assessment methodology, the PC estimated that there are 29 underperforming funds containing 5 million member accounts and about $270 billion in assets.[3] These underperforming funds are in both the choice market and MySuper market – although our evidence suggests there are more underperforming choice funds.

The costs of underperformance for affected members is significant. Cameo modelling by the PC estimated that a member receiving the median bottom quartile fund return over the course of their working life would retire with $660,000 less than a member who received the median top quartile return.

At a system level the PC estimated that if underperformance (and the problem of unintended multiple accounts) was fixed, members could benefit by around $3.8 billion each year. A 55-year-old today could gain an extra $79,000 by the time they retire. A new job entrant today would have an extra $533,000 by the time they retired in 2064.[4]

Further evidence of the costs of underperformance within Pillar Two has been generated by KPMG in modelling for ISA. KPMG has estimated that if members were defaulted into better performing funds, with underperforming funds compelled to consolidate or exit the system, this could generate a 'performance dividend' of an additional $416.3b (in real terms) over a 25-year period for current members.[5] A full copy of KPMG's report is attached to this submission as an appendix.

ISA analysis of APRA data further confirms the wide variation in performance, particularly between the MySuper and choice segments of the system, and the potential this demonstrates for significant improvements across the system. Table 1, below, shows that over a range of periods, choice products are more likely to underperform than those in the MySuper range of products.

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[2] Ibid, p. 24
[3] PC Final Report, p. 9
[4] Ibid, p. 2
[5] The KPMG report discusses these issues in more detail. It is available here:
https://www.industrysuper.com/assets/FileDownloadCTA/cd90417983/KPMG_StaplingReport-Final.pdf

Table 1 – Proportion of underperformance/outperformance[6] by segment, to 30 June 2019, against a Vanguard Wholesale Index Benchmark

All MySuper products	1-yr returns	3-yr returns	5-yr returns	7-yr returns	10-yr returns
Above benchmark	37%	91%	77%	94%	93%
Below benchmark	63%	9%	23%	6%	7%

All Choice products	1-yr returns	3-yr returns	5-yr returns	7-yr returns	10-yr returns
Above benchmark	34%	76%	65%	74%	67%
Below benchmark	66%	24%	35%	26%	33%

Source: ISA analysis of SuperRatings Fund Crediting Rate Survey and Vanguard performance data (various products), June 2019

Reflecting on evidence of the scale and impact of underperformance within parts of Pillar Two the PC's conclusion was clear:

> It is nigh impossible to overstate the significant implications for members' retirement incomes from this wide dispersion in fund performance over the long term.[7]

This submission summarises a selection of relevant evidence on the incidence and causes of underperformance within Pillar Two, and on why a dominant policy emphasis aimed at solely promoting 'choice' by individual members is inadequate as the main means of protecting members from that underperformance.

The compulsory nature of superannuation will always mean there is an overriding need for a default safety net that connects disengaged members to good quality funds, while affording those who choose the opportunity to do so. However, it is incumbent on the system's regulators to ensure that opportunities to choose do not translate into opportunities for some providers to mis-sell. Prior to the Royal Commission there was significant evidence of superannuation being mis-sold in the retail / banking superannuation sector.

The paper also examines other issues related to cohesion. In particular we examine the importance of continuing defaults into the retirement phase. Currently, our system protects members in accumulation by underpinning the system with a series of default settings. These stop at retirement. It would make sense to develop some form of de-accumulation product that members can default to if they find the retirement decisions too complex. There is also a need for more cost-effective, conflict-free retirement advice at this important stage of the life cycle. Finally, the submission looks at some of the impacts associated with the SMSF sector which create obvious fractures particularly where limited recourse borrowing has been allowed.

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[6] Benchmarks provide an indicator of relative performance. To construct benchmarks, the Vanguard Wholesale Index Fund was used as a starting point, with adjustments made to account for superannuation earnings tax.
[7] ibid, p. 10

Where appropriate, full copies of the documents that discuss the evidence in greater detail are attached to this submission as appendices. The submission concludes with an outline of how this lack of cohesion in Pillar Two can be solved, before further issues contributing to the disjuncture are also discussed.

1.   Evidence on underperformance

1.1 The Productivity Commission Inquiry into Superannuation

The recent Productivity Commission (PC) inquiry into the efficiency and competitiveness of the superannuation system has generated a significant body of evidence that makes clear the wide variation in performance across the funds and products that comprise much of Pillar Two. Some of those findings have been discussed above. Additional key findings by the PC included:

- At a segment level, retail funds on average delivered returns below the PC's benchmarks and significantly below not-for-profit funds. PC analysis found an almost 2 per cent point gap in net returns between the retail and not-for-profit segments.[8]

- The default segment, in which many members are defaulted into a MySuper product determined by an industrial award or enterprise agreement, outperformed the choice segment by nearly 1 per cent in terms of net returns for the period 2005-2017.[9]

- While on average most members of default products did better than those in choice products, there is considerable variation around this measure. 1.6 million MySuper accounts and $57 billion in assets in MySuper products underperformed the PC's benchmarks over the 11 years to 2018.[10]

- There is also considerable variation within the choice segment. Around 36 per cent of choice investment options underperformed the PC's tailored benchmarks over the 2005-2017 period. Nearly all these underperforming options were offered by retail funds. The PC concluded 'many choice members could be doing a lot better.'[11]

- The SMSF segment of Pillar Two is where individual choice is most promoted and catered for. But this has not meant better performance for many. The PC found that over the five years to 2016, on average 'all but the largest SMSFs appear to have earned lower net returns than APRA-regulated funds…which returned 7.3 per cent a year, compared with 6.0 per cent for SMSFs.'[12]

In sum, the performance of superannuation funds within Pillar Two varies widely, with potentially significant negative financial implications for those who are defaulted or sold into poor performing products – be it a MySuper product or one designed to facilitate choice by individual members. Within the MySuper segment this variation has been further confirmed by APRA's recent 'heatmap', with 5-year net investment returns ranging from between 6.16 per cent to over 9.5 per cent.[13] A similar picture is likely to emerge when APRA eventually produce a 'heatmap' for choice products, as indicated by Table 1.

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[8] PC Final Report, Figure 2.8
[9] ibid, Figure 2.7
[10] ibid, Finding 2.4
[11] ibid, Finding 2.5
[12] ibid, p. 151
[13] https://www.apra.gov.au/mysuper-product-heatmap

This lack of cohesion related to performance variation within Pillar Two and the objective of maximising retirement incomes for all should be a key concern for the Panel. An appropriate policy response to this is outlined in the final section of this submission.

1.2 Evidence on the causes of poor performance in Pillar Two

While the PC quantified varying degrees of underperformance between segments, funds and products, it did not draw clear conclusions about the causes of that underperformance. To help identify these sources ISA asked Dr Wilson Sy to undertake detailed analysis of the superannuation system and the role of various factors in explaining underperformance.

Dr Sy is a former manager of APRA's research unit from 2009-2013 and was senior technical adviser to the Cooper Review in 2009-10. Dr Sy authored two papers on performance, both of which are attached to this submission as appendices. The key findings presented in each paper include the following:

Paper One: 'Financial Performance Trends of Australian Superannuation: System and Sectors'

The first paper by Dr Sy outlines key trends and dynamics across the superannuation system using APRA data for the 19-year period from 1997 to 2016. This provides context for assessing the efficiency and competitiveness of the system and identifying where key inefficiencies arise from.

Superannuation system growth in net assets to $2 trillion in 2016 has been largely due to the role of compulsory contributions, the quantum of which has amounted cumulatively to $1.7 trillion since 1997.

However, system investment performance has been lacklustre, compared to a range of market indices (see Table 6 in Sy's report). So far this lacklustre performance has been masked by large contribution flows into the system (see Figure 3). But, in recent years, the system has been rapidly approaching the 'withdrawal phase' – defined by negative net contributions (see Figures 6 and 7). In this phase, the future sustainability and efficiency of the system will increasingly depend on net earnings from investment performance to fund future payouts.

This raises the question of where investment underperformance arises from. Drawing on his detailed analysis of 19 years of audited APRA performance and flow of fund data, Dr Sy offers a clear set of findings:

> The inefficiency of the superannuation system can be attributed significantly to the consistent and persistent under-performance...of the Retail sector compared to the Industry sector or to the rest of the system respectively. At March 2017, Retail sector assets [were] $577 billion; if the Retail sector had performed in line with the rest of the system, then the outcome of the whole system would have improved by about $10 billion per annum. (p. 3)

<u>Paper Two:</u> 'Impact of Asset Allocation and Operational Structure on Investment Performance of Australian Superannuation'

Dr Sy's first paper established the increasing importance of investment performance as the superannuation system matures, and that inefficiency can be shown to come significantly from the persistent underperformance of the retail sector.

The second paper explains this persistent underperformance via an assessment of the relative impact of factors including asset allocation, operational structure and scale on long-term trends in investment performance. Using APRA data, Dr Sy's conclusions include the following:

i) For the three years to September 2016, the industry sector outperformed the retail sector by 2.7 per cent per annum in measured investment performance (see Table 14).

ii) Breaking down this 2.7 per cent outperformance, 1.1 per cent can explained by asset allocation and 1.6 per cent by operational structure and costs (i.e. the for-profit and not-for-profit business models and how these determine the differential costs that members pay for related services) (see Table 16).

iii) Retail members faced additional costs from: (i) choice of asset allocation and portfolio construction costs, amounting to 1.1 per cent per annum, or $6.3 billion; (ii) indirect investment costs from trading, financial advice and other activities, amounting to 1.2 per cent per annum, or $7.5 billion; and (iii) increased complexity of administration and operation costs, amounting to 0.3 per cent per annum, or $1.7 billion.

The reasons for these additional costs can be traced back to the different business models at work. Dr Sy concludes:

> Trustees of Non-profit funds mostly accept the tasks of asset allocation and portfolio construction as their fiduciary duty and they offer and encourage members to select optimised portfolio options. In contrast, trustees of Retail funds eschew those important tasks and encourage their members to construct their own portfolios, thus making them bear additional costs which often involve the services of financial advisers. (p. 38)

iv) Analysis of quarterly data from 2004 to 2016 shows that the risk aversion of retail funds, evident from more conservative asset allocation data, had failed to achieve benefits because the lower returns and higher cost of retail funds did not benefit members with lower risk. Once costs are included in analysis (which many academic studies ignore because they assume frictionless equilibrium), then lower retail returns came with higher volatility – not less (see Figure 4).

v) The benefits of scale for members apply only to industry funds and other non-profit funds, and not to retail funds (see Table 15), because industry and other non-profit funds have substantial direct investments in long-term illiquid assets, leading to higher fixed cost and lower variable cost in their operational structures.

vi) At March 2017, with retail assets of $577 billion, the 2.7 per cent return deficit relative to industry funds represents about $15.5 billion per annum in additional costs to retail members.

Dr Sy concludes:

> …the dominant factor which explains most of the persistent performance differences observed are the costs associated with the operational structures of two distinctly different types of trustees: For profit shareholder-oriented retail trustees, and non-profit member-oriented mutual trustees. (p. 4)

2. Evidence on member switching behaviours and behavioural barriers to good choices

One response to the problem of members being in underperforming products is to emphasise the need for them to engage more with their super by making more choices between funds, products and investment options.

The Productivity Commission found significant evidence of underperformance among funds and products in *both* the choice and MySuper markets – although the PC's public comments tended to focus more heavily on MySuper, because this is the default market. Nonetheless, underperformance by funds in the choice market is important as well. This is because any underperformance within parts of Pillar Two will lead to a greater reliance on public finances to help fund Australia's retired population.

The next section reviews some of the evidence on underperformance in the choice sector.

2.1 Net impacts of member switching between APRA-regulated superannuation funds

In 2017 Rice Warner completed a report commissioned by ISA that examined switching behaviour by a sample of members using a data set of 10 million accounts. The analysis focused on the year to June 2015. For the duration of this year Rice Warner used the data set to examine: (i) who switched?; (ii) where did they switch to?; (iii) did the product into which they switched charge higher or lower fees?; and (iv) did the product into which they switched have higher or lower returns?

A full copy of the report by Rice Warner is attached to this submission as an appendix.

In summary, Rice Warner made the following findings:

- Just under 1 million Australians switched super funds in 2014-15 with more than half paying higher fees and switching to funds with lower returns
- Switchers paid an estimated additional $170 million in fees after switching super funds
- Of those additional fees, 92 per cent or $157 million was in retail funds; $12 million or 7 per cent was in industry funds
- Retail super funds are the main switching destination, accounting for 72 per cent of all switches

- Retail super funds account for 92 per cent of those members switching to a fund with higher fees
- Of members switching from industry to retail funds only 7 per cent paid lower fees
- Members rolling into industry funds are generally twice as likely to pay lower fees than those rolling into retail funds (21 per cent against 9 per cent)
- Retail funds accounted for 87 per cent of decreases in investment returns
- The net impact of changing super funds was a $137 million increase in fees p.a.
- Net impact of changing funds is a $284 million decrease in investment performance p.a.

The significance of these findings is they show that in practice choice of fund during this period operated as a sales-driven model of connecting some members to funds in parts of Pillar Two in which retail providers have the commercial incentive and opportunity to sell members into poorer performing products. It was a largely successful model until the Royal Commission. Far from increasing the efficiency of the system, the aggregate net impact of members switching translates into many losing out through higher fees and lower returns.

However, following publication of the findings of the Hayne Royal Commission in 2019, there has been a steep increase in engagement by some groups of members, who have responded to the publicity generated by the Commission by moving their super into a number of better performing not-for-profit funds. Figure 1, below, shows that since the beginning of the public hearings in early-2018, retail funds have experienced an average net quarterly rollover of – $3.29 billion. Over the same period, industry funds have received an average quarterly net rollover of $4.04 billion.

Figure 1 – Quarterly net benefit transfers by sector
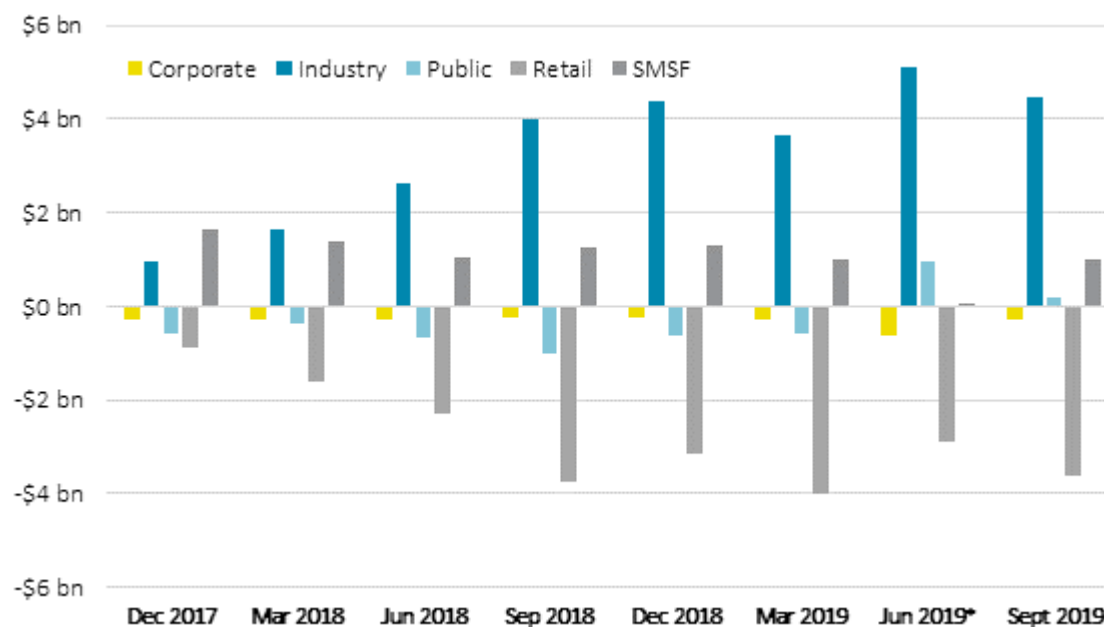
Source: ISA analysis APRA Quarterly Superannuation Performance, Sept. 2019
Note: The estimated effect of merger activity has been removed from the June 2019 data

While exactly how these choices were decided remains unclear – but which we are investigating in a current research project – it seems likely people have identified good performing funds not subject to the same mis-selling issues prevalent in the Royal Commission.

The Royal Commission effect is an early but promising trend. However, it still does not solve underperformance and underperforming funds in its own right. Superannuation also remains compulsory and for all the super fund members that engage in selecting their fund there will remain a vast majority who rely on the system and its default designs to connect them to high performing funds. This point has been recognised by the International Organisation of Pension Supervisors:

> The limited capacity of individuals to choose what is best for them means that competition and markets rarely work effectively within pension systems – leaving too much power in the hands of pension providers. The problem is only exaggerated where pension providers are commercial financial institutions. Conflicts of interest can therefore exist between the fiduciary duty to act in the interest of the pension fund members and beneficiaries and making profits for shareholders.[14]

In a compulsory system where asymmetries of knowledge between members and funds are pervasive, the system should offer a reliable means of connecting members to good products. Members should not be required to make choices they are ill-equipped to make, nor should providers seeking to exploit such information asymmetries be incentivised to engage in such activity.

2.2 Behavioural economics and problems of choice

That many consumers routinely make poor choices is not limited to Pillar Two of the Australian retirement income system. It is a recurring feature of many markets for financial products. Understanding why this is the case is a key concern of behavioural economics.

When the Wallis Inquiry into Australia's financial system reported in 1997, it was assumed by the Inquiry that fund members could better shape the superannuation industry to their advantage if they were given more opportunities to express their individual preferences via making active choices. It was thought that if members were sufficiently well-informed, rational and self-motivated to make choices, funds would be compelled to improve their performance, potentially forcing persistently poor performers to exit the system.

However, in 2010 the Final Report of the Cooper Review into the superannuation system reflected on the worldview that had been adopted by Wallis thirteen years before:

> A key tenet of the 1997 Wallis Report was that super fund members should be treated as rational and informed investors, with disclosure and market conduct controls being the main regulatory instruments with which to oversee the industry.

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[14] International Organisation of Pension Supervisors (2010) Managing and Supervising Risks in Defined Contribution Pension Systems, Working Paper No. 12.

More specifically, these settings assume that members have the tools at their disposal, and the necessary regulatory protections in the market place, to enable them to make optimal decisions about their investment strategies, about when to enter and exit the market, and about what to do with their super on reaching retirement.

In a compulsory system, it also assumes that members have the requisite degree of interest. But, for many members, this is not the case.[15]

This lack of understanding and engagement was recognised early by Australian policymakers in 1992 when nearly all employees were required by law to make a minimum level of contributions to a superannuation fund. It was understood then that simply hoping workers would voluntarily contribute a sufficient proportion of their wage to a fund on a consistent basis for up to forty years would fail. While other countries such as the US and the UK hoped that education and exhortation would increase employee participation in (and contributions to) defined contribution pension schemes, the Australian government concluded that the most effective way to tackle under-saving among employees was via 'hard compulsion.'

Australia's compulsory and universal settings have been in place for over twenty-five years and have played a key role in helping Australia's second pillar develop into one of the deepest and best performing pools of retirement assets in the world.[16]

The scale delivered by the compulsory and universal nature of SG coverage has been key to this development, with the Productivity Commission finding a positive relationship between scale and net investment returns to members among not-for-profit funds.[17] The 2019 Willis Towers Watson study of global pensions assets placed Australia first in terms of asset growth over the past twenty years, noting that 'critical features in this success have been government-mandated pension contributions.'[18]

In our forthcoming submission on 'adequacy' we will discuss the experience of those countries who have taken a 'soft compulsion' approach to saving for retirement, and the problems this has generated.

In the years since the introduction of the SG a substantial body of research in the field of behavioural economics has confirmed what policymakers in 1992 had already concluded: that many consumers, particularly when confronted with complex and unfamiliar products, should not be expected to behave rationally.[19]

This is particularly true in the context of markets for 'credence goods', such as superannuation, where information asymmetry, the infrequency of choice, and the time-delayed nature of the

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[15] Super System Review Final Report, p. 8.
[16] In its comparative analysis of a selection of national Pillar Two systems, the OECD reports Australia as having the second highest average investment rate of return over 15 years (nominal and real). See Table 1.1 in OECD (2019) Pension Markets in Focus 2019. Not all members benefit to the same extent from this aggregate return performance, an issue we discuss later in this submission.
[17] Productivity Commission (2018) Economies of scale in superannuation Technical Supplement 8, p. 38.
[18] Willis Towers Watson (2019) Global Pensions Assets Study 2019, p. 8.
[19] An overview of behavioural economics and its relevance to policy design is provided by Lunn, P. (2014) Regulatory Policy and Behavioural Economics, OECD, Paris.

eventual benefit make it very difficult for consumers to accurately assess the true value of competing product offerings.[20]

Historically the evidence has been strong that when superannuation fund members do engage and make choices, such as deciding to switch between investment options, such choices are negatively associated with financial outcomes.[21] The weight of behavioural evidence is that it is unrealistic and inefficient to expect all employees to acquire the knowledge and skills to make rational choices in a superannuation context. To do so would require millions of fund members to acquire and be able to apply knowledge of topics such as: (i) the risk-return relationship; (ii) portfolio diversification; (iii) the impact of comparative pricing structures on net returns over time; and (iv) the interaction between different superannuation products and the tax-transfer system.

It is because consumers of complex financial products do not have the capacity to acquire and apply such knowledge that when they do make choices they resort to 'heuristics': ad hoc mental short-cuts that consumers use when confronted with complex or unfamiliar options. These substitute for the expert knowledge they would need to make fully rational choices, but which is impractical to acquire.

Behavioural research has identified a number of heuristics commonly used by consumers in this context.[22] These include:

- *The Familiarity Heuristic*: when consumers opt for a product because the name or branding is familiar, making the assumption that familiarity and recognition is a proxy for quality.

- *The Affect Heuristic*: when consumers opt for a product because of intuition or a 'gut feeling', perhaps because the product triggers a memory or association with a positive event in their lives.

- *The Availability Heuristic*: when consumers rely on a limited amount of immediately available information to make a product choice, even though a rational choice would require them to expend resources to acquire additional but less accessible information.

In practice, research has established that consumers use a mix of these and other heuristics when they are required to make decisions in relation to complex products. This is particularly the case in the context of financial products where consumers are not persistently engaged, dispassionate financial experts:

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[20] 'Credence goods include medical procedures and all professional services. Few consumers possess sufficient medical or professional skills to evaluate whether an operation was necessary or performed properly, a solicitor or accountant trustworthy, or a pension plan good value; such services are generally taken on trust,' p. 119 in Asch, D. (2001) 'Competing in the new economy', European Business Journal, Vol. 13, No. 3.
[21] See, for example, Gan, S. et al. (2014) 'Individual investor portfolio performance in retirement savings accounts,' (2014) Australian Journal of Management (analysing 10 years of data for 15,000 members and finding that "switching activity is invariably associated with lower risk-adjusted returns (alphas) and this is also evident across the various analyses reported.")
[22] An overview of heuristics and the behavioural biases they give rise to is provided by Baddeley, M. (2013) Behavioural Economics and Finance, Taylor & Francis. See also: Tversky, A. and D. Kahneman (1974) 'Judgement under Uncertainty: Heuristics and Biases', Science, Vol. 185, No. 4157.

> When uncertainty characterises the decision-making context, limited availability of information, or urgency, simplifying shortcuts or heuristics can lead to financial planning errors…Heuristic-driven decisions are made quickly and are frequently accompanied by relatively high emotions (or affect) and serious financial decision-making errors.[23]

While most employees have the right to choose any fund they wish, most do not. This tendency is exacerbated in superannuation because it is compulsory. This is not a 'failure' on their part. Low levels of engagement are a rational response to the complexity of a superannuation system that employees do not have the resources to navigate to their benefit.

One policy response to these problems has been to place emphasis on increasing the financial literacy of consumers. However, despite a range of initiatives funded by government and the financial industry itself in recent years, levels of literacy have remained stubbornly low.[24]The PC found that about 30 per cent of Australians have low financial literacy, and a quarter do not understand basic financial concepts.[25]

But these findings likely underestimate the scale of the problem. The PC's research into member literacy was based on how many factual questions were correctly answered by the sample of respondents. It did not test the ability of members to make use of what they know to make effective choices between products under simulated real-life conditions – such as when product information is filtered through complex and often confusing marketing messages. As such, the PC tested factual knowledge, not the capacity of members to choose appropriate funds and products.

The persistence of low financial literacy among large sections of the population has led ASIC to conclude that there is 'little reliable, conclusive research about whether financial literacy campaigns and programs work (i.e. whether they result in sustained changes in behaviour and improved financial outcomes).'[26]

That there is little reliable evidence financial literacy programs work in markets for complex products such as superannuation suggests that a more cost-effective approach to responding to the problems such markets generate would be to underpin Pillar Two in a default system in which those who do not make choices can trust they will still be connected to quality performing super funds.

Such a default system must be designed to eliminate underperformance within the MySuper market. While the MySuper default market has on average tended to outperform the choice market, the PC's inquiry, and the APRA heatmap published late last year, have served to highlight some significant underperformance. Good averages across the MySuper market mask significant variation in which 1.6 million accounts are in underperforming products.[27]

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[23] Howard, J. and R. Yazdipour (2014) 'Retirement Planning: Contributions from the Field of Behavioural Finance and Economics', p. 290, in H. Kent Baker and V. Ricciardi (eds.) Investor Behaviour: The Psychology of Financial Planning and Investing, John Wiley & Sons.

[24] ISA has previously published a report that examined the implications of persistently low levels of financial literacy amid product market complexity for the superannuation system. That report, titled 'Supernomics: addressing failures of competition in the superannuation market' is attached to this submission as an appendix.

[25] PC Final Report, p. 21

[26] ASIC (2011) Financial Literacy and Behavioural Change, Report 230, p.4

[27] PC Final Report, p. 12

We outline what this means in policy terms next.

3. Policy Implications

There is considerable evidence of a lack of cohesion between persistent underperformance by some funds within Pillar Two and the objective of maximising retirement incomes for all those compelled by law to make contributions but who lack the financial understanding to ensure their contributions are made to the best performing funds.

In the context of a market for complex financial products that mean members are unlikely to be able to exert sufficient demand-side pressures to force underperforming funds to improve or exit the system, it is essential that government implement a robust default system that effectively tackles underperformance while ensuring members are continually connected to good funds as they progress through their working lives toward retirement. There are several necessary aspects to this:

3.1 Apply robust performance benchmarks

All funds, whether they operate primarily in the MySuper market or the choice market, and who wish to continue to receive contributions from mostly disengaged members, should be able to prove that they deliver good long-term returns on an objective and standardised basis. In part this will require a greater focus by APRA than hitherto on challenging choice funds to justify why they should continue to be allowed to continue to manage compulsory contributions.

That means being able to meet or exceed robust and fairly-applied benchmarks that are representative of market returns on a simple diversified portfolio. Good net return performance needs to be demonstrated over the long term, such as 10 years, or for the life of the product. Those funds that do not meet such benchmarks and cannot do so within a reasonable period of time should be removed from Pillar Two by APRA.

While APRA now requires each RSE licensee to undertake an annual outcomes assessment, we are concerned that licensees will be allowed the discretion to design and apply their own benchmarks, rather than standardised benchmarks that would enable objective measurement and comparison.

ISA has expressed our concerns to APRA about their approach and recommended a different benchmarking methodology. We are concerned that if APRA proceeds with its current approach, underperformance will remain a significant feature of Pillar Two of the retirement income system.

3.2 Facilitating mergers

It is crucial that the superannuation system delivers positive outcomes for members. We have already outlined in this submission the potential impact on a member, by the time they reach retirement, of remaining in a poorly-performing fund. Guided by the objective of reducing such underperformance in the system, it is important that policy settings facilitate the consolidation and merging of funds - this may mean absorbing underperforming funds to achieve greater economies of scale.

One possible recommendation is that underperforming funds –be required to merge.

Specific assistance that could be granted to funds entering into merger discussions include:

1. The removal of capital gains tax
    2. The ATO has granted this relief until mid-2020. This needs to be extended. The tax relief for successor fund transfers (SFTs) should be permanently embedded in legislation. The extensions to the temporary rollover relief creates uncertainty.
*   Reducing transaction costs
    3. There are a variety of relief measures that will assist to reduce transaction costs associated with mergers. These include:
        ‣ Time limits on incumbent administrators, and caps on exit fees and fund termination from administrators;
        ‣ Relief around member communications on successor fund transfers so that only two communications are received (from old and new fund); and
        ‣ It may be reasonable for there to be some relief from the PDS obligations (and rely on the significant event reporting to provide members with the information they require).

3.3 Eliminate multiple accounts

Unintentional multiple accounts erode savings and retirement living standards. Duplicate fees and insurance are an important source of underperformance.

Dealing with the multiple accounts generated by job change by stapling members to funds, as recommended by the Hayne Royal Commission, only creates new potential sources of underperformance. Members will be at risk of being stapled to a fund, perhaps for life, that underperforms. What they save from being stapled to one fund may be dwarfed by the costs of that fund being a poor one.

A better way is to staple balances to members, so that when they change jobs their balances will be automatically rolled over into the new employer's default fund. This proposal not only eliminates future multiple accounts, it deals with the existing stock of additional accounts and improves the system by migrating members from underperforming to high performing funds. Analysis for ISA by KPMG has indicated that in an automatic rollover model, workers in

underperforming funds would benefit from an extra $416 billion in returns over a 25-year period.

3.4 Strengthen the default safety net

The evidence is that for many members the industrial relations system is an effective means of being connected to good and industrially-relevant funds. But the safety net provided by awards and workplace agreements can be improved in a number of ways:

- Remove underperformers – No underperforming product should form part of the default safety net. As elsewhere in the system, rigorous and robust long-term net-return benchmarks should also be used by the Fair Work Commission to ensure members are defaulted only into the best funds.
- Expand workplace coverage – Only about 50 per cent of workers are covered by industrial instruments such as awards and workplace agreements. All workers, regardless of their employer or industry, should have the same level of protection. These workers are vulnerable to being defaulted into products that are selected for reasons other than net returns. This can be fixed by requiring that all default products used in workplaces must be drawn from those approved every four years by the Fair Work Commission.

3.5 Assets test taper rate

Another current policy setting that has undermined cohesion between pillars of the retirement income system is the level at which assets are means tested for age pension eligibility.

Attached to this submission as an appendix is a recent ISA Briefing paper that details why the increase in the taper rate from $1.50 to $3.00 acts as a major disincentive for some to save for retirement.

In short, our paper shows (see Chart 2) that for couples with a 5 per cent drawdown, their level of disposable income falls for those with assets from $405,000 to $877,000.

The reduction in disposable income over this asset range is from $55,854 to $43,875.

This is a reduction in income of $11,979 as a result of having saved $472,500 more in assets.

The current assets test taper rate is clearly inconsistent with incentivising savings by some in Pillar Two – a problem that will become more acute over time because wages and returns are usually higher than CPI (see Chart 3).

These and related issues are discussed in more detail in the attached appendix.

3.6 Reducing the incidence of unpaid superannuation

The withholding of Superannuation Guarantee (SG) entitlements by employers – whether deliberate or unintentional – unfairly limits employees' capacity to prepare themselves financially for retirement. The practice also increases the burden on government to fund the age pension.

In March 2017, ISA developed the most comprehensive analysis of the underpayment of employer SG contributions hitherto published. The analysis was based on data from the ATO's 2 per cent sample file for the 2016-17 financial year. This file is a 2 per cent sample of individual income tax returns from that year. A sample size of 277,202 individuals out of a population of 13,860,100 – made up of approximately 2 per cent of the original records and of each sample subgroup (such as gender, age range, region and lodgment method) – ensures an appropriately representative, but manageable sample size.

The ISA analysis estimates that in 2016-17 around 31 per cent of employees eligible for the SG received employer contributions of less than 8.75 per cent of their ordinary time earnings (OTE – the wage base used to calculate SG entitlements). In using this lower threshold of 8.75 per cent (compared to the actual legislated 9.5 per cent that applied in the 2016-17 financial year), our estimates are conservative, understating the extent of the underpaid and unpaid super problem. The cohort of SG-eligible employees underpaid employer SG contributions in this analysis comprised 2,850,000 individuals. Well over half a million SG-eligible employees are estimated to have received no employer contributions at all.

Based on this analysis, the total dollar amount of underpaid SG contributions in 2016-17 was an estimated $5.9 billion. This equates to each individual being underpaid an average of $2,070.

To reduce the incidence of unpaid super, ISA has proposed several preventative and prescriptive fixes, including:

- Aligning the payment of super with the payment of wages;
- Better monitoring and stronger enforcement by the ATO, including effective utilisation of existing penalties;
- Facilitating other agencies and actors to assist in recovery of unpaid SG; and
- Extending the Fair Entitlements Guarantee to cover SG contributions.

4.   Other issues

4.1 The disjuncture between accumulation and retirement

Australia's superannuation system is maturing. Until recently most focus has been on the accumulation phase of the retirement system. With the retirement of baby boomers en masse, our system is shifting. However, the protections and safety nets embedded in the accumulation

phase – particularly the default settings for people not actively making decisions – do not carry into this retirement phase.

The lack of continuity between accumulating super and drawing down on it in retirement is challenging for people retiring. A new report by Susan Bell Research (See Attachment 7) confirms this is an issue for people. It found that:

- 54 per cent of retired respondents did not seek any financial advice or planning before retiring;
- 45 per cent of recent retirees did not choose when to retire, instead having it forced on them by external factors such as the inability to find employment, or their own or another's ill health;
- Qualitative interviews highlighted the difficulties people did have even when they tried to actively engage in retirement planning:
  - "[It] is very complicated and need not be so complex, that's my main concern. A lot of people put it off as there is no confidence the rules are going to be the same now and the age they retired"
  - "It's scary because I have no idea how much I will need and don't know the different options to access it"
  - "I don't know a lot about retirement. It seems quite complex; the system is way too complicated"

It is important that people have access to quality unconflicted advice and information about retirement and that we facilitate their decision-making. Industry funds take an active role in this space, providing financial planning, calculators, seminars and significant financial information about retiring. However, this system need not be so complex or fragmented.

The system needs to support people making active choices about how to use their super. However, where it is too hard or whether they want their fund to take care of it, we would see a simple solution being to continue defaults through to a drawdown phase. Here, MySuper members could then shift seamlessly to a drawdown phase into retirement with a simple request once they have reached preservation age. While members should remain free to access their superannuation savings in retirement however they wish, extending the default safety net to their retirement phase would reduce some complexity and place the onus on trustees to devise a retirement framework and product that is in the best interests of their fund members. We also see a role for expanding intra-fund advice to assist people in these funds to determine if they have enough to retire and take account of age pension eligibility rules.

4.2 Self-managed super funds

A number of critical fractures in the retirement income system can be traced to complications around the self-managed super fund (SMSF) sector. Related issues include:

- High levels of leverage (not allowed in APRA-regulated funds), through the use of limited recourse borrowing arrangements (LRBAs) which place the system at unnecessary systemic risk;

- The frequent concentration of a single asset class, and associated lack of diversification, in some SMSF portfolios – which contributes to this systemic risk;
- Underperformance of small to medium SMSF balance sizes after service provider fees and costs; and
- A disjuncture, where some people are setting up SMSFs that are completely inappropriate for their financial circumstances, levels of engagement and financial literacy, on the basis of conflicted advice and sales structures.

A key area of concern continues to be use of limited recourse borrowing arrangements (LRBAs). Introduced in 2007, LRBAs allow SMSF trustees to borrow money to purchase property assets, with returns generated by these investments transferred to the SMSF. The concept of 'limited recourse' refers to the fact that in case of default on the loan, recourse is restricted to the assets themselves; and not any other assets held in the SMSF. Although by 2019 the major banks had exited the SMSF lending market, LRBAs continue to be offered by non-bank lending institutions. Such lending arrangements have created a systemic risk: the increased leveraging of property by SMSFs has played a role in the development of a housing and property asset bubble.

SMSF borrowing under such terms has led to a concerningly high concentration of certain asset classes – typically property – at the expense of portfolio diversification. Beyond contributing to tax arbitrage within the housing market, the concentration of such assets within the SMSF segment has enhanced the level of risk held by trustees, who are at danger of being disproportionately affected by a downturn in the housing market. In addition to the lack of diversification, risks associated with low liquidity levels are also of concern.

In September 2019, the ATO warned the trustees of more than 17,000 SMSFs that their lack of diversification (some having greater than 90 per cent in a single asset class such as property) contravened Regulation 4.09 in the *Superannuation Industry (Supervision) Regulations 1994*.[28] In submissions to the Financial System Inquiry, concerns over the use of LRBAs prompted the government to ask the Council of Financial Regulators (CFR) to monitor and report on leverage and risk in the SMSF segment. The CFR's subsequent report (in conjunction with the ATO) found that although there was no systemic risk to the SMSF system, leveraging facilitated by "LRBAs can represent a significant risk to some individuals' retirement income."[29] This lack of diversification is a result of the misalignment of incentives in the system associated with the tax advantages of leverage and a conflicted distribution system for SMSFs.

Investment risk among SMSFs is far from limited to concerns around LRBAs and leveraging. The Productivity Commission has found that SMSFs with balances below $500,000 generally underperform – after expenses and tax – not only other SMSFs but accounts with similar balances in APRA-regulated funds. SMSFs below this size were also found to have significantly higher expense ratios, even for well-established funds.[30] The appropriateness of SMSFs for people with balances below such levels has been the subject of several ASIC reports in recent

[28] Australian Taxation Office, 'Our August letter to SMSF trustees "Does your SMSF investment strategy meet diversification requirements?"', September 2019, https://www.ato.gov.au/Super/Sup/More-information-for-SMSF-trustees-on-investment-diversification/

[29] Council of Financial Regulators and ATO Report to Government: Leverage and Risk in the Superannuation System, February 2019, p.17

[30] Productivity Commission, 'Superannuation: Assessing Efficiency and Competitiveness – Final Report', December 2018, pp.151-152

years, which have brought into sharp focus the issue of mis-selling.[31] In *ASIC Report 575*, for example, 91 per cent of assessed cases in which people were recommended to open an SMSF were identified as either being: non-compliant with the best interests duty; increasing the risk of financial detriment; or – in 10 per cent of the cases – likely to contribute to clients being "significantly worse off in retirement."[32]

ISA supports the Actuaries Institute who, in their 2014 submission to the Financial System Inquiry, argued:

> there is a need to confirm that the level of prudential oversight for the SMSF sector is appropriate to manage the potential for systemic risk in the event of, for example, widespread inappropriate investment strategies such as excessive property gearing or large scale mis-selling.[33]

Conclusion

This paper has reviewed the key issues that we believe are relevant to the Panel's principle of 'Cohesion.' These are underperformance, multiple accounts and unpaid superannuation. In the Consultation Paper the question of whether the retirement income system is 'cohesive' is largely discussed in terms of how the three pillars interact to generate desired outcomes for the individuals involved. We will consider this further when examining concessional taxation, the assets test and taper rates in our subsequent two papers on Equity and on Adequacy.

If the Panel would like to discuss this submission with ISA, please contact Michael Fisher on 03 9657 4350..

Nick Coates
Head of Research and Campaigns

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[31] See: *ASIC Report 337 – SMSFs: Improving the quality of advice given to investors*; *ASIC Report 575 – SMSFs: Improving the quality of advice and member experiences*; and *ASIC Report 576 – Member experiences with self-managed superannuation funds*.
[32] *ASIC Report 575*, pp.7-8
[33] Actuaries Institute, 'Submission to Financial system Inquiry Report', August 2014, p.8

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Submission 2: Equity – Tax concessions, fair retirement outcomes for women, superannuation threshold and the Age Pension age

Industry Super Australia (ISA) undertakes policy research and advocacy on behalf of over five million members of industry superannuation funds, to ensure that the policy settings for superannuation are consistent with the objective of maximising their retirement incomes.

This is ISA's second submission to the Review Panel. This submission presents evidence relevant to a number of considerations raised by the Panel's principle of 'Equity.' In its Consultation Paper the Panel states:

> 'The outcomes the retirement income system delivers vary depending on an individual's circumstances and life experience. Equity considers the systemic issues that affect whether those outcomes are fair and adequate in the circumstances, including whether individuals in similar circumstances achieve similar outcomes in retirement, and whether public support is appropriately targeted to those who need it most'.[1]

The Paper then asks: What should the Panel consider when assessing the equity of the retirement income system?

This submission commences with an analysis of inequities in superannuation outcomes for those approaching retirement and then focusses on four areas which the Panel should consider. They are:
1. Tax concessions,
2. Retirement outcomes for women,
3. Inequities arising from the current minimum superannuation threshold, and
4. The age at which people can access the Age pension.

ISA views these as the key areas where unequal outcomes are clearly pronounced and changes are required for a fairer retirement income system.

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[1] Retirement Income Review Consultation Paper, p. 16.

Inequities in superannuation outcomes for those approaching retirement

An examination of equity in superannuation inevitably commences with an examination of superannuation inputs. Superannuation balances derive from three key inputs. They are a job (as an employee) to which the employer Superannuation Guarantee (SG) contribution applies, contributions and the starting balance for the next year. Contributions are a function of ordinary time earnings and are reviewed in Section 3. The chart below looks at contributions in terms of work status and shows the proportion of employees and owner managers by age and gender[2].

Status in Employment by Age and Gender, Census 2016
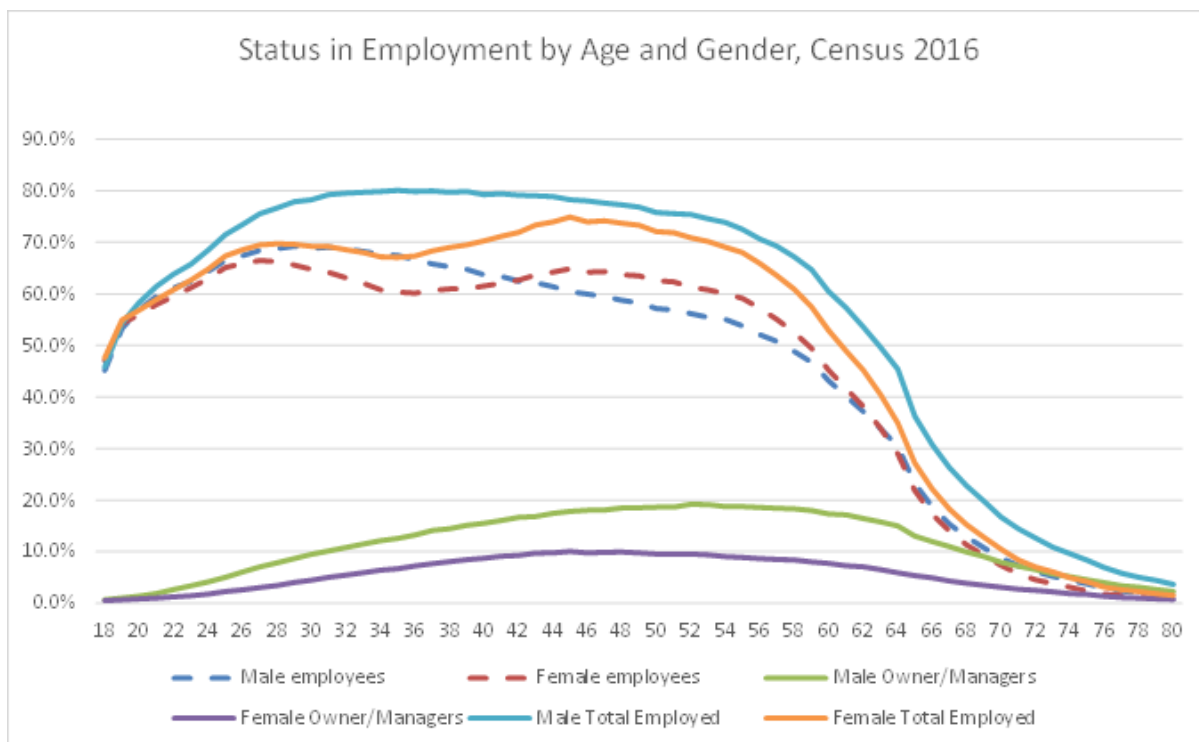
It shows that:
- The top male employment age is 29 years when 69.2 per cent are employees and potentially SG eligible,
- The top female employment age is age 26 years when 65.9 per cent are employees and potentially SG eligible.

This means that less than 70 per cent of any age group will have SG contributions. Consequently, not only is there a pronounced gap in Pillar 2 coverage but there is also a noticeable gap in workforce membership with a maximum of 80 per cent of people aged 30 to 45 actually working. This is important. When ISA presents modelling on Adequacy in our third submission, it can be observed that much modelling of retirement income assumes consistent stable employment with no broken work patterns. But as will be seen this coverage of 70 per

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[2] Percentages are of the relevant age and gender population in Australia. For example, 69.2 per cent of all Australian males are employees.

cent has significant implications for final balances and contributes to inequalities in retirement outcomes.

The chart also shows that:
- For women there is a large drop in the employee ratio between ages 30 and 45 corresponding to time taken out of the workforce to care for children, parents and often grandchildren. At age 30, 64.7 per cent of women are employees and this drops to 60.1 per cent before recovering to 64.8 per cent at age 45.
- For men, the employee ratio also drops from the late 20s, but this coincides with a rise in the proportion of men who are self-employed.

The employee ratio is actually higher for women than men between ages 43 and 62, but many women are working part-time.

The most important decline in the employee ratio is related to age, not gender. From age 55 there is an accelerating drop in proportion of the population who are employees and who may receive the SG.

Table 1 summarises the decline in terms of 50 per cent, 25 per cent and 10 per cent markers. It shows that by their late 50's less than 50 per cent of men or women will be eligible for SG contributions. This drops to 25 per cent by early to mid-60's and only a few years before the current Age Pension age of 66 years. This shows that people are retiring before Age Pension age and drops in workforce participation rates have little to do with life expectancy. This is explored further in Section 4.

Table 1 – Decline in Employee Proportion of Population by Age and Gender

	Age at which Proportion goes below:		
Gender	**50%**	**25%**	**10%**
Male	57	64	69
Female	58	63	68

ISA notes that the statistics in the Chart above and in Table 1 do not isolate unpaid work undertaken by women. ISA refers the Panel to the submission to this Review by Women in Super[3].

1. Tax concessions

The availability of tax concessions has long been a feature of our superannuation savings system. They are designed to:
- Compensate for the deferral of current consumption arising from mandatory savings and preservation requirements,

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[3] Achieving a fairer retirement outcome for all Australians, including women

- Maximise the compounding value of contributions from investment returns to boost final retirement income, and
- Incentivise voluntary saving.

However, the current superannuation tax system is inequitable because it differentially favours people who earn more money. It also favours men. This inequity is driven fundamentally by the fact that the income tax (and capital gains tax) system is progressive while the superannuation tax system is flat. As a result, the benefits of superannuation concessions accrue disproportionately to people with high incomes and high superannuation balances. This leads to some perverse outcomes in terms of who benefits from government support of the retirement income system. People in the tenth decile receive a greater tax benefit than the value of the Age Pension they forgo as a result of having high superannuation balances. In other words, those with the greatest need receive the lowest concessions and those with the lowest need receive the greatest concessions. This consequence has evolved over time and clearly was not intentionally designed to be so regressive or such a significant waste of public resources.

The Retirement Income Review Consultation Paper highlights this issue noting that more public support is provided to those in higher income brackets than those in lower income brackets[4].

1.1   What are superannuation tax concessions and how do they come about?

To encourage savings for retirement, the government has a commitment to tax income contributed to superannuation at a lower rate than income which is retained as current earnings. Likewise, earnings within superannuation funds are taxed at a lower rate than capital gains accrued outside the superannuation system. The aggregate difference between what a taxpayer would have paid in tax if all their money was outside the superannuation system versus what they pay with some of their money inside the system is referred to as the taxpayer's superannuation concession.

The Low Income Superannuation Tax Offset (LISTO) is an expenditure which counters the effect of contributions tax on SG payments for people below the second tax threshold (i.e., who earn $37,000 or less – and pay little or no income tax). LISTO is a payment by the government of up to $500 to help low-income earners save for retirement. It assists those with inadequate superannuation savings, especially women.

Table 2 shows the changes in marginal tax rates for wage earners (including bracket, Low Income Tax Offset[5] (LITO) and Medicare levy taper rates), and how this impacts the tax concession from concessional contributions. In other words, it shows how the marginal tax rate structure leads to different levels of concession.

It also shows that LISTO is targeted but the level at which it is set is inadequate to provide any meaningful concession because at 15 per cent it neutralises contributions tax without providing tax concessions until the effective tax threshold of $21,936.

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[4] Retirement Income Review Consultation Paper, Figure 4

[5] A person with a taxable income of less than $66,667 will receive the LITO. The maximum tax offset of $445 applies if a person's taxable income is $37,000 or less. This amount is reduced by 1.5 cents for each dollar over $37,000.

Importantly, LISTO accrues only on contributions and does not address the tax paid by low income earners on earnings in the fund. This is a fundamental problem with the tax settings which means they do not fulfil a key objective for why concessions exist – namely to compensate for the deferral of current consumption arising from mandatory savings and preservation requirements.

Table 2 shows how marginal tax rates and effective contribution tax rates interact to provide tax concessions on concessional contributions. The concession is the percentage by which each dollar of contribution to the fund is better than making an after-tax contribution (on which the marginal tax rate will go as personal tax). So, it is the marginal tax rate in column 3 less the effective contributions tax rate in column 2.

Column 5 shows that the effective tax concessions on contributions is uneven and particularly unfair on:

- those with a taxable income between $37,000 and $48,000 who receive only 13.5% in concessions, and
- those with a taxable income below $21,936 who receive no concessions, which particularly impacts women and students.

Table 2: Marginal tax rate ranges and concessions on concessional contributions, 2019-2020

Taxable Income in 2019-20	Current Contributions Tax Rate	Marginal Tax Rate	Marginal Tax Rate tax event at start of range	Effective Tax Concession on contributions
0 – $18,200	0 with LISTO	0		0
$18,200 - $21,936	0 with LISTO	0	No tax because of LITO (low income tax offset)	0
$21,936 - $22,938	0 with LISTO	19%	Effective Tax Threshold with LITO	19 %
$22,938 - $27,998	0 with LISTO	29%	Med Levy threshold with 10% shade-in[6]	29%
$27,998 - $37,000	0 with LISTO	21%	Med Levy to 2%	21%
$37,000 - $48,000	15%	28.5%	.325 tax threshold, LITO shade-out, LAMITO[7] shade-in	13.5%
$48,001 – $66,667	15%	36%	LAMITO shade-in ends	21%
$66,668 – $90,000	15%	34.5%	End LITO shade-out[8]	19.5%
$90,001 – $126,000	15%	0.42%	.37 bracket + LAMITO shade-out	27%
$126,001 – $180,000	15%	39%	LAMITO shaded out	24%
$180,001- 250,000^	15%	47%	.45 Bracket	32%
$250,000^ and over	30%	47%	Div 293[9] tax on contributions starts based on income + concessional contributions	17%

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[6] A shade-in can be an increasing tax rate e.g., the medicare levy or an increase in the value of a tax offset e.g., LAMITO

[7] LAMITO is the Low and Middle Income Tax Offset and it applies if a person's taxable income is less than $126,000. The maximum amount is $1,080 per annum and the minimum amount is $255 per annum. The amount of the offset will depend on individual circumstances.

[8] LITO shades out a 1.5 cents in the extra dollar between $37,000 and $66,667. The amount of tax offset reduces from $445 to zero.

[9] Division 293 tax is an additional tax paid where a person's contributions are greater than the Division 293 threshold. The current threshold is $250,000.

1.2 The effect of superannuation tax concessions

As described above, the taxation of superannuation contributions and earnings is poorly structured. This is primarily because income tax is progressive, and superannuation is taxed at a flat rate and therefore the concession a taxpayer receives increases with their income. ISA has undertaken further analysis which is set out in the Attachment to demonstrate the inequity in government support through tax concessions. Our analysis looks at tax expenditures on:

1) Concessional contributions to superannuation,
2) Earnings within superannuation, and
3) Combined contributions to and earnings of funds.

ISA recognises that the Attachment to this submission contains a large amount of technical analysis which is referenced in this submssion. We would be happy to meet with the Review Panel to explain our analysis and answer any questions.

1.2.1 Concessional contributions to superannuation

ISA's analysis shows that contributions concessions rise strongly up the *taxable income deciles* because of higher average contributions and more favourable tax breaks. Men are estimated to have $10.6 billion in contribution tax concessions and women $7.3 billion. Women also out-number men in the lower taxable income deciles (see Tables A1-A3[10]) and have more concessions in taxable income deciles 1-6.

Our analysis also shows that:
- Men are 51.4 per cent of taxpayers, but they get 59.4 per cent of the contribution tax concessions,
- Women are 48.6 per cent of taxpayers, but they get 40.6 per cent of the contribution tax concessions,
- The top 10 per cent of taxpayers get 28.7 per cent of the contribution tax concessions, with men getting 21.5 per cent and women 7.3 per cent,
- The top 20 per cent of taxpayers get 50.7 per cent of the contribution tax concessions, with men getting 35.3 per cent and women getting 15.5 per cent, and
- The bottom 50 per cent of taxpayers get 15 per cent of the tax concessions (see Table A3 and A4).

1.2.2 Earnings within superannuation

As with contributions concessions, ISA's analysis shows that earnings concessions rise strongly up the *balance deciles* because of higher balances and more favourable tax breaks. Men are estimated to have $19.9 billion in earnings tax concessions and women $13.2 billion. Women also out-number men in the lower balance deciles (see Tables B1-B3) and have lower concessions in all balance deciles.

Our analysis also shows that:

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[10] Additional Tables are in Attachment 8

- Men are 51.5 per cent of taxpayers with a balance, but they get 60.2 per cent of the earnings tax concessions,
- Women are 48.5 per cent of taxpayers with a balance, but they get 39.8 per cent of the earnings tax concessions,
- The top 10 per cent of taxpayers get 60.2 per cent of the earnings tax concessions, with men getting 37.1 per cent and women 23.2 per cent,
- The top 20 per cent of taxpayers get 75.9 per cent of the earnings tax concessions, with men getting 46.8 per cent and women getting 29.2 per cent,
- The bottom 50 per cent of taxpayers get 4.8 per cent of the earnings tax concessions (see Table B3 and B4).

1.2.3 Combined concessions on contributions to earnings and funds

When earnings and contributions concessions are combined, ISA's analysis demonstrates that the combined concessions are greater than the sum of concessions for contributions and earnings. This is because by adding both to taxable income some people increase their marginal tax rates.

Table 3 shows the aggregates for tax concessions. For those working, concessions on earnings are almost twice those on contributions. The retired only have concessions on contributions, and those over 60 benefit from tax free super.

Table 3: Tax Expenditure Aggregates 2019-2020

	Combined Tax Expenditures	Earnings Tax Expenditure	Contributions Tax Expenditure 2019-20
	$m	$m	$m
Work Status			
Working or contributing	$48,632	$30,118	$17,723
Retired with balance - not working or contributing over 60	$2,884	$2,884	$0
All	$51,516	$33,002	$17,723

Again, as with our analysis of concessions on contributions and earnings by balance decile, combined concessions rise strongly up the *taxable income deciles* because of higher balances, higher contributions and more favourable tax breaks. Men are estimated to have $30.8 billion in combined tax concessions and women $20.7 billion. Women out-number men in the lower income deciles (see Tables C1-3) and have lower concessions in deciles 1 and 6-10) (Table C1).

Our analysis shows that:

- Men are 51.5 per cent of taxpayers with a balance, but they get 59.8 per cent of the combined tax concessions,
- Women are 48.5 per cent of taxpayers with a balance, but they get 40.2 per cent of the combined tax concessions,
- The top 10 per cent of taxpayers get 31.5 per cent of the concessions, with men getting 22.8 per cent and women 8.7 per cent
- The top 20 per cent of taxpayers get 49.3 per cent of the combined tax concessions, with men getting 33.9 per cent and women getting 15.4 per cent;
- The bottom 50 per cent of taxpayers get 21.5 per cent of the combined tax concessions (Table C3 and C4).

Our analysis also shows that:

- The average combined concession for a person in decile 10 ($17,898) is 72 times the average concession in decile 1 ($248),
- Within deciles, average concessions for men and women slightly favour men.

Overall men have an average concession which is 40 per cent more than women (Table D5). We also analysed average combined concession differences for the SG population (i.e., employees) versus non-employees (i.e., business owners and self-employed people and the retired). Non-employees have 47 per cent higher average concessions than those eligible for the SG. This is because of the very high balances of non-employees in decile 10. We expect that people in this decile will mostly be using self-managed superannuation funds. Non-employees have a balance of $1,145,300 compared to $729,400 for employees (see Table D6).

1.3   Recommendations

The data show that superannuation and earnings tax concessions are poorly targeted. This has long term fiscal implications. Tax concessions which fail to adequately boost the savings of low earners risk millions retiring without enough super to provide income above the Age Pension. Such an outcome will only increase pressure on government to increase Age Pension levels at significant fiscal cost. Any future savings for government should come from those with high balances and high levels of government support which is not needed. This problem can be addressed by:

1) Reducing the misallocation of concessions to those who do not need them by introducing progressivity into the structure of the concessions, and
2) Adjusting LISTO to $530 and then along with the legislated schedule for the SG increases so that it provides an effective concession for low income earners. LISTO fails to cover contributions tax at $37,000. This is because the contributions tax is 15 per cent of the current SG of 9.5 per cent[11].

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[11] $37,000 X 095 X 0.15 = $527.25

2.   Retirement outcomes for women

The national gender pay gap is calculated by the Workplace Gender Equality Agency (WGEA) using statistics from the Australian Bureau of Statistics (ABS). The national gender pay gap is the difference between women's and men's average weekly full-time base salary earnings, expressed as a percentage of men's earnings. It is a measure of women's overall position in the paid workforce and does not compare like roles. Australian Bureau of Statistics data show that currently women retire with an average super balance $90,000 lower than men[12].

Factors contributing to this inequality include:
- Broken work patterns due to time taken out of the workforce to care for children, parents and often grand children with these caring roles being largely unpaid,
- Lower wages in female dominated sectors such as nursing and teaching than in male dominated sectors such as mining,
- Generally lower wages for women than their male counterparts when doing the same work,
- Women being more likely to have multiple and often part-time jobs and multiple low-balance accounts.

Research conducted for ISA found that men who retired recently had on average spent 12 more years working full time than had women, and that women had done more part time work and had more time out of the workforce to bring up children[13].

Table 4 shows the gender super balance gap.

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[12] Australian Bureau of Statistics, 4125.0 – Gender Indicators, Australia, Nov 2019, Table 2.7
[13] Australians experiences and expectations of retirement, Research conducted for Industry Super Australia by Susan Bell Research, January 2020, p.8, Attachment 7

Table 4: The Gender Super Balance Gap by Age for Wage and Salary Earners, 2016-17

Age group	Male median super balance	Female Median Super Balance	Gender Super Gap
20 to 24	$6,523	$6,083	6.7%
25 to 29	$21,843	$19,861	9.1%
30 to 34	$45,800	$38,886	15.1%
35 to 39	$75,102	$56,610	24.6%
40 to 44	$102,810	$70,994	30.9%
45 to 49	$128,343	$83,245	35.2%
50 to 54	$153,133	$93,919	38.7%
55 to 59	$186,584	$111,125	40.4%
60 to 64	$188,024	$133,197	29.2%
All	$63,123	$45,443	28.0%

The gender super gap by balance increases markedly from age 35. This reflects career interruption to care for children, parents and often grandchildren. Clearly, superannuation balances benefit from compound earnings over a full career and the gender super gap from career breaks can persist even if the pay gap is subsequently reduced. We note that there is a slight decrease in the in the gap between ages 60-64. This likely illustrates that those who remain employed at this stage tend to be higher income earners and/or those who were able to accumulate more super during their working lives, perhaps because they had little or no career breaks, no health issues and/or did not take early voluntary or forced retirement. Chart 1 and Table 1 in this submission show a marked decline in employment population so it is not surprising that this increase reflects the group outside the declining population.

Table 5 shows the gender super SG contribution gap. The contribution gap increases significantly from age 30, which again, corresponds with time taken out of the workforce.

Table 5: The Gender Employer Contribution Gap by Age for Wage and Salary Earners, 2016-2017

Age Group	Male Median Employer contribution	Female Median Employer Contribution	Gender Super Contribution Gap
20 to 24	$2,661	$2,444	8.2%
25 to 29	$4,465	$3,958	11.4%
30 to 34	$5,694	$4,171	26.7%
35 to 39	$6,493	$4,212	35.1%
40 to 44	$6,758	$4,441	34.3%
45 to 49	$6,553	$4,477	31.7%
50 to 54	$6,479	$4,531	30.1%
55 to 59	$6,338	$4,551	28.2%
60 to 64	$5,940	$4,387	26.1%
All	$5,380	$4,021	25.3%

Table 6 below shows the aggregate differences and ratios. In the ATO data, men have $282 billion more in super than women, women's balances are 73 per cent of men's balances and the aggregate gender gap was 27 per cent. Men have $11 billion more in employer contributions each year.

Table 6: Aggregate gaps in superannuation, 2016-17

Aggregate	Gender gap (M-F)/M	Billions (M-F)	Ratio (F/M)
Balances	27%	$282.17	73%
Employer Contributions	28%	$11.18	72%
Total Contributions	11%	$7.43	89%

To address these clear equity issues, ISA proposes the following.
1) Remove the $450 minimum monthly pay threshold before super is paid because it creates an unnecessary gap in super coverage,
2) Ensure super is paid on Commonwealth Paid Parental Leave (PPL) so that all parents can continue to grow their superannuation while on parental leave[14],
3) Provide a one off or an annual capital injection into superannuation to support low-income earners with inadequate retirement savings[15]. Compound earnings from such a capital injection would help ease financial pressures in retirement by increasing balances.
4) Adjust LISTO as identified in the section 1.3 above.

3. Inequities arising from the current minimum superannuation threshold

The retirement income system - and in particular superannuation – is linked to wages. This means that inequalities in the labour market are both reflected and exaggerated in the super system. A critical example of this is in the case of women who are far more likely than men to experience poverty in retirement.

The $450 per month threshold is a key factor that exacerbates inequities experienced during working life. The original purpose of the threshold was to align with the annual tax-free threshold in 1992 – 93 of $5,400 to encourage part time or casual employees to make contributions to their super. These concerns are now addressed by the LISTO and the $18,200 personal tax threshold below which no income tax is paid.

Therefore, the $450 threshold creates an unnecessary gap in super coverage that affects workers most in need of superannuation such as low income and casual workers – a group in which women are over-represented. It also affects workers in multiple jobs. Figures released by the Australian Bureau of Statistics on 1 August 2019 found that 1 in 4 employed people under 30 work in multiple jobs[16].

To address this inequity, ISA proposes that the $450 minimum monthly pay threshold before super is paid should be removed.

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[14] This position was recommended by the Productivity Commission in its 2009 report *Paid parental leave: support for parents with newborn children*
[15] ISA is among a range of organisations, including WIS and the Australian Services Union, that have made proposals regarding the size and timing of such a capital injection.
[16] Australian Bureau of Statistics, Media Release, 1 August 2019

4. Access to Age Pension

The age at which people can access the Age Pension also highlights inequalities in the system because those with lower superannuation balances are more likely to access the Age Pension than those with higher balances. Without access to the Age Pension at an appropriate age, those with lower superannuation balances may need to work longer – and often cannot due to the nature of their previous work (for example, occupations that require intensive manual labour) resulting in them 'retiring' via access to Newstart or a disability pension.

As Table 1 in this submission demonstrates, by their late 50's less than 50 per cent of women will be eligible for SG contributions. This drops to 25 per cent by early to mid-60's and only a few years before the current Age Pension age of 66 years.

Under current legislated policy, the Age Pension age will increase to 67 on 1 July 2023 for Australian residents born after 1 January 1957. Retaining the legislated Age Pension age is an appropriate policy setting for a range of reasons.

Firstly, the data show that most of the workforce has retired before Age Pension age and that drops in workforce participation rates have little to do with life expectancy.

Secondly, while life expectancy is around 80 for men and 84 for women, individuals can expect to live an average of 62.4 years (men) and 64.5 years (women) free of disability[17]. Disability is a major driver of social security take-up. According to the Productivity Commission, in 2013-14, almost 90 per cent of those who took up an Age Pension at 65 transitioned from another government payment[18].

Thirdly, raising the Age Pension age has not been demonstrated to lift the labour force participation of women and we have no evidence that lifting it beyond age 66 will raise the participation of older people, most of whom are likely to retire before age 66. There is no obvious link between life expectancy rising and employment of people in their late 60s.

Finally, statutory age rises can be effective in changing behaviour if retirement is voluntary. The Productivity Commission estimate that around 50 per cent of retirements for people aged between 60-64 are involuntary[19]. They estimate that 28 per cent of men and 25 per cent of women aged 60-64 retire because of ill health and caring responsibilities[20]. A further 20 per cent of men and 11 per cent of women have their employment terminated or cannot find work[21].

The current preservation age after which super can be accessed is 60 for Australians born after 1 July 1964. Again, retaining the current preservation age is an appropriate policy setting. The arguments above about disability, health and involuntary retirement apply to proposals to lift the preservation age as well.

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[17] Australian Institute of Health and Welfare, Bulletin 126, Healthy Life Expectancy in Australia: Patterns and Trends 1998 to 2012
[18] Productivity Commission, Superannuation Policy for Post-Retirement, Productivity Commission Research Paper, July 2015, p.33
[19] Ibid, p.54 and p.55
[20] Ibid, p.9
[21] Ibid, p.9

Conclusion

This submission considers issues around equity in the superannuation system. ISA's first submission considers cohesion and our third submission will consider adequacy. There is however considerable overlap in the issues raised in our submissions. Importantly, the four areas raised in this submission – tax concessions, retirement outcomes for women, inequities arising from the current minimum superannuation threshold and the age at which people can access the Age Pension - all affect adequacy of retirement income. Key to a full consideration of the issues raised in this submission is an understanding of the impact of the SG and legislated increases on retirement outcomes and the interaction between the assets test taper rate and access to the Age Pension. These issues will be explored further in our third submission to the Panel.

If the Panel would like to discuss this submission with ISA, please contact Phil Gallagher on 02 6269 5708 or Ella Cebon on 03 9923 7133.

Nick Coates
Head of Research and Campaigns

Financial Performance Trends of Australian Superannuation: System and Sectors[1]

Wilson Sy

Investment Analytics Research

1 March 2018

Report to
Industry Super Australia

Abstract

This paper provides an overview of the financial performance trends of the Australian superannuation system in the period 1997-2016, based on audited accounting data. Strong contribution flows have allowed total assets to grow at an average annual rate of about ten percent to $2 trillion by June 2016. However, the system is rapidly approaching the withdrawal phase due to demographic and policy factors when net contributions to the system may be negative, in which case investment performance will be critical to sustain the system. Historically, the lacklustre performance of the system, at about 1.3 percent per annum over cash return, may be attributed significantly to *Retail* funds which underperform other *Public offer* funds, on long-term averages, by about two percent per annum.

Executive summary

Using official data which are publicly available, applying international professional standards of financial analysis, and using scientifically replicable methods, a review is presented here of the main financial performance trends of the Australian superannuation system emerging over the 19-year period 1997-2016, in order to establish significant facts.

The major findings are stated summarized below. The terms in italics have their suggestive and intuitive meanings, but are defined more precisely in the text and in the Appendix. References to tables and figures are for those contained in the main text.

- The growth in *Net assets* of the superannuation system (to $2 trillion in 2016) was largely due to contributions which totalled cumulatively to $1.7 trillion since 1997 (see Figure 2). The fact that investment performance of the system has been lacklustre, compared to a range of market indices (Table 6), has been masked by large contribution flows into the system. *Net earnings* from investments which provided about 4.1 percent *Net return* per annum have been cancelled out by *Net payouts* to beneficiaries (see Table 1 and Figure 3).

- In recent years, the system has been approaching rapidly the withdrawal phase, defined by negative *Net contributions* (Figures 6 and 7). In this phase, the sustainability of the system will increasingly depend on *Net earnings* from investment performance to fund future payouts.

- Of institutional funds, the *Retail* sector has always been the largest sector by asset share with 35 to 45 percent of system assets. It has captured the highest share (39 percent) of cumulative *Total contributions* into the system (see Table 7). *Retail* share of cumulative *Net contributions,* at 45 percent, is only about the same as that of the *Industry* sector, due to increasing *Retail* payouts, but the payouts are much less in relative terms than those of the *Public* and *Corporate* sectors. Despite its relatively large size and substantial contribution flows, the *Retail* sector's share of the whole system has been limited by its long-term under-performance in investing (Table 9).

- The inefficiency of the superannuation system can be attributed significantly to the consistent and persistent under-performance by an average of 2.1 or 1.7 percent per annum (after all costs but before taxes) of the *Retail* sector (at 4.6 percent, Table 9) compared to the *Industry* sector (at 6.7 percent) or to the rest of the system (at 6.3 percent, Table 11) respectively. At March 2017, *Retail* sector assets was $577 billion; if the *Retail* sector had performed in line with the rest of the system, then the outcome of the whole system would have improved by about $10 billion per annum.

- The lower volatilities of *Retail* funds have inadequately compensated for their lower returns. The risk-return trade-off achieved has been inefficient, with half a percent reduction in volatility costing about one percent loss in return (Figure 19).

These significant facts provide a sound basis for assessing the competitiveness and efficiency of the Australian superannuation system. A second paper will use performance attribution and analysis to propose potential explanations for the long-term trends observed here.

Introduction

This report was triggered by the current Productivity Commission (PC) inquiry into "*How to Assess the Competitiveness and Efficiency of the Superannuation System*" (PC, 2016). The implication of this public inquiry is that we do not yet know how to properly assess the system, let alone having anything approaching an authoritative assessment. It is as though all previous official inquiries into the system have achieved nothing trustworthy by way of reliable assessment frameworks. This fact alone suggests management inefficiency.

Apart from tinkering with tax-related issues and contribution rules in nearly every annual budget, the Australian Government has had three major inquiries or reviews, including the current one, since 2009. That is, no sooner had one major inquiry or review finished, another one began. Judging by the volume of submissions from the public in each of these undertakings, there has been enormous waste of public and Government resources, with each review seemingly ignoring or rejecting previous recommendations.

The impact on ordinary citizens is even greater. With such rapid rate of change in Australian superannuation it has been difficult to understand the legislative changes, let alone comply with them. Typically, there is insufficient time to collect and analyse data to assess the impact of previous legislative changes before new ones are introduced. Increasingly, new reforms are based more on the opinions of stakeholders or interested parties than on any authoritative facts, resulting in progressive decline in the quality of reforms.

To cut the Gordian knot of perpetual reform, there needs to be a greater emphasis to have reforms based on agreed facts. The Government's practice of accepting and acting on propriety data and secret submissions (PC, 2016, p.166) must stop because it is unscientific and potentially corrupt. Any claim or evidence which cannot be openly scrutinized is unacceptable in any court of law and should be ignored. Secret information cannot be the basis for establishing agreed facts.

It is the purpose of this report to enlarge the set of agreed facts about broad features of the Australian superannuation system, particularly in relation to financial performance trends. The approach taken is strictly scientific, in the sense that the data, the methods and the conclusions are verifiable by the reader, without having to make unarticulated or unproven theoretical assumptions. The method of assessment of the system should be based on a science of facts rather than a politics of opinions.

The data used in this report are non-proprietary and easily available from official sources. The methods used are based on international accounting and performance measurement standards. No unproven assumptions or untested models from economic or finance theory are used in analysing the data. All conclusions drawn in this report are replicable. Most business or academic research reports are based on data, methods or analyses which do not satisfy these scientific criteria (see discussion below). Many studies use theory to prove theory, with theories and facts highly confused and often contradictory.

Since its inception in 1998, the Australian Prudential Regulation Authority (APRA) has collected and published audited accounting data from superannuation funds at system and sector levels. Other APRA publications, including quarterly data, have been added since

2004. To the extent that regulators and auditors are trustworthy, these official data are as trustworthy and complete as it is possible to get, with minimal potential conflicts of interest in the collection.

The official aggregate data on the superannuation system and on individual sectors (defined by APRA) provide an accurate, but broad, overview of the financial performance of Australian superannuation entities. Not only are the broad facts essential for informing Government policy deliberations, they are also useful for individual members wishing to make decisions about superannuation funds.

In "*A Scandal in Bohemia*" (Doyle, 1892, p.5), responding to Watson's invitation to speculate on the meaning of a mystery, Sherlock Holmes replied:

> *I have no data yet. It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.*

As a first step to developing theories to fit those facts, this report will convert trustworthy data into significant facts which should form the factual basis for system assessment. It is emphasized that, unlike others, we delay theorizing for as long as possible – leaving this task for future reports.

Growth in Total Assets

For this report, details about the exact location of the data sources are either described immediately or are located in the Appendix. The longest period of available and reliable data, covering 19 years from 1997 to 2016, is based on the published collection by APRA referred to above. Important data quantities are italicized in the report and are defined, together with accounting identities, in the Appendix (where references to equations are A1, A2, etc.).   The growth of the Australian superannuation system is shown in Figure 1.

Figure 1

System Total Assets vs GDP (1997-2016). Vertical axis: Nominal Dollar Value ($B). Horizontal axis: Data (years). Legend: Total assets ($B) (green), GDP ($B) (red).
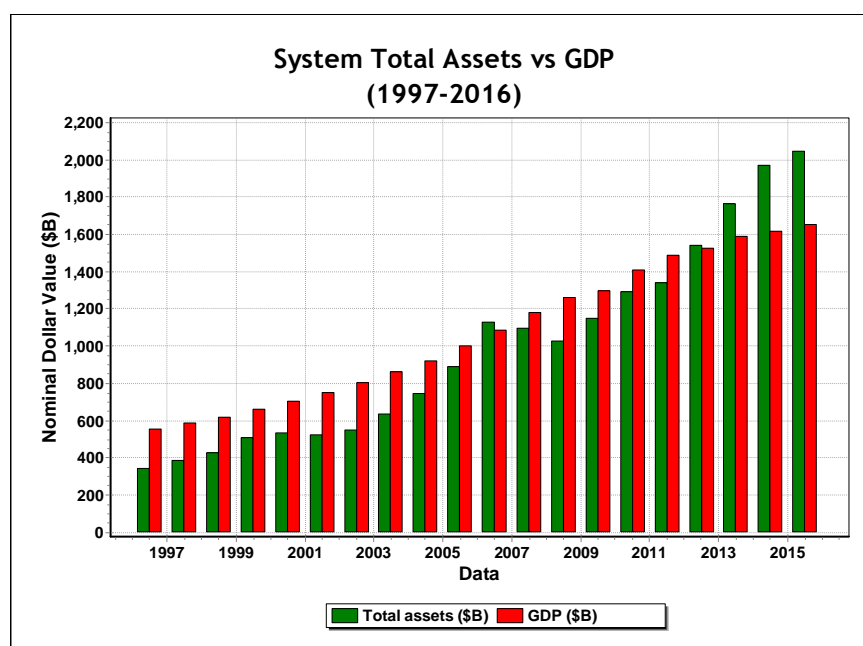
In a global comparison (Willis Tower Watson, 2017), Australian superannuation *Total assets* relative to gross domestic product (GDP) is second only to the Netherlands. From $344 billion, or 62 percent of GDP, in June 1997, Australian superannuation *Total assets* grew to $2.05 trillion, or 124 percent of GDP, in June 2016. Over the 19-year period, the annual compound growth rate of *Total assets* averaged 9.8 percent, compared with the nominal GDP growth rate of 5.9 percent (see Figure 1).

The Superannuation Guarantee levy is a compulsory contribution to superannuation assets, currently running at 9.5 percent of wages and salaries. Any assessment of the efficiency of the Australian superannuation system must take into account the impact of such substantial money flows, which can mask the system's performance.

It is very useful to get a feel for the relative magnitude of the money flows in the superannuation system by simply adding up the various types of money flows over the 19-year period, even without allowing for inflation of the currency. As indicated above, superannuation assets grew by $1,702 billion from 1997 to 2016. Interestingly, this increase in *Total assets* almost exactly equals the cumulative *Total contributions* flowing into the system over the period (see Figure 2).

Figure 2
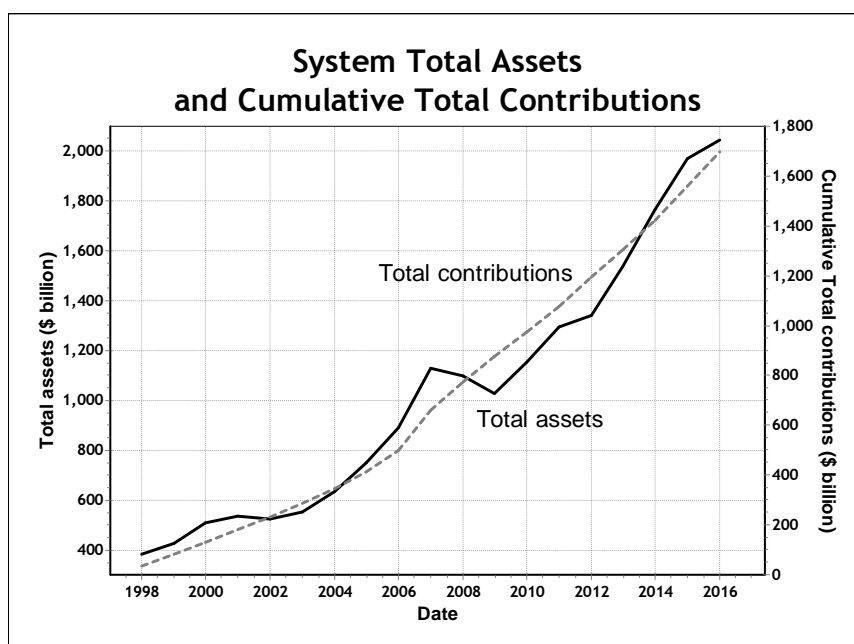
The manner in which total superannuation assets grew is much more volatile than the way contributions accumulated. Note that Figure 2, the scaling of the left and right axes are the same, with only the left axis off-set by $300 billion (which was about the same order as the total superannuation assets starting in 1997).

Obviously, there are several other important money flows into and out of the system, but they have more or less cancelled out each other over time (see Table 1). Table 1 shows that the increase in *Total assets* is equal to *Total contributions* minus *Net payout* plus *Net earnings* (see A9).

Table 1

Flow Quantity	Aggregates over 1997-2016 ($ billion)
Increase in total assets	1,702
Total contributions	1,697
Net payout	828
Net earnings	833

These aggregate values show how different components affect the growth in total assets of the superannuation system. For example, superannuation contributions are significant, totalling $1,697 billion – almost the size of the increase in *Total assets* of the superannuation system. But about half of incoming contributions, on average, immediately flow out as benefit payments totalling $828 billion. *Net payout* (defined in the Appendix) is benefit payments adjusted for rollovers from insurance flows. Hence the cumulative increase in *Total assets* equals *Total contributions*, because *Net payout* has so far been roughly matched by *Net earnings* from investments (see Figure 3).

Figure 3
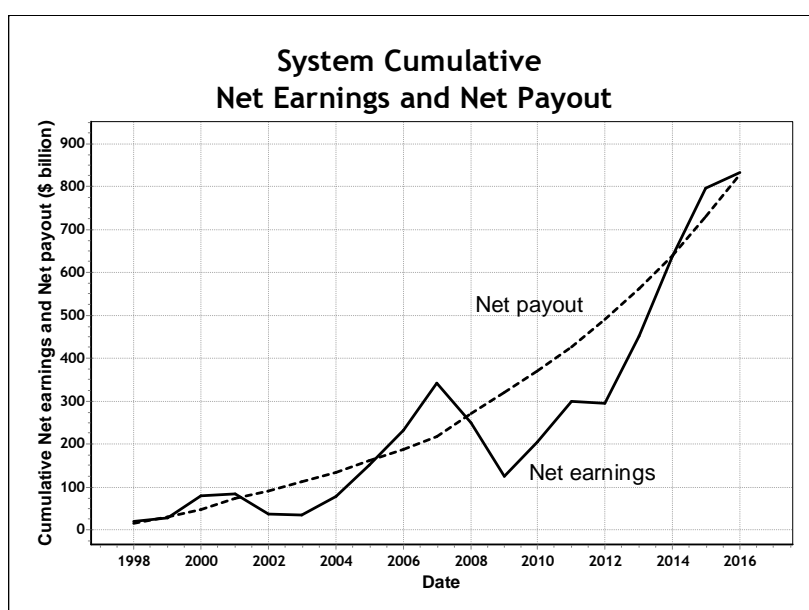
Hence over the 19-year period (1997-2016) the Australian superannuation system was behaving, on average, like an ordinary savings account, where savings deposits are accumulated to increase the account balance, but the interest earnings are withdrawn and spent. The few years of deficits in bear markets have been followed by several years of surpluses to restore the account balance.

This is a statement of fact of the past, rather than a prediction of how the system will behave in the future. Indeed, the situation is expected to change as the rate of payouts increases while the rate of contributions declines, due to changing demographic trends and government policy. Using the accounting identity that *Net contributions = Total contributions – Net payout*, (see A2), Table 1 can be converted to Table 2 below (see A9).

Table 2

Flow Quantity	Aggregates over 1997-2016 ($ billion)
Increase in total assets	1,702
Net contributions	869
Net earnings	833

About half of the increase in total assets of the system is due to $869 billion worth of *Net contributions*. Somewhat less than half, $833 billion, comes from *Net earnings* from investments, after fees and tax. Hence it is observed that the growth in *Total assets* depends nearly equally on the growth in *Net contributions* and *Net earnings* in the past, but this situation may change in the future.

It is instructive to analyse separately the two main components which determine the growth in the *Total assets* of the superannuation system (see A9). Their impacts on asset accumulation annually are shown in Figure 4.

Figure 4
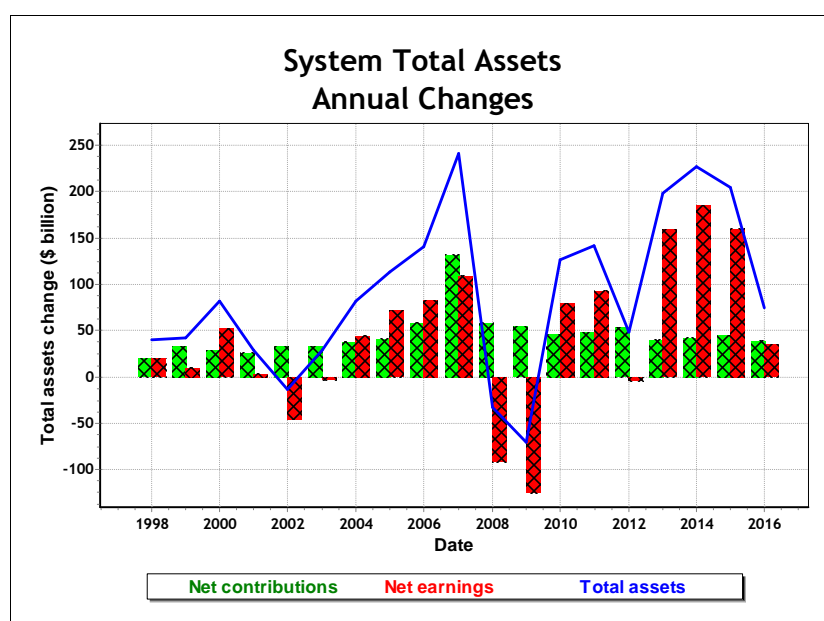
Evidently, *Net contribution* flows are less volatile and much more predictable than *Net earnings* flows.

Net Contributions and Payout Flows

Total contributions are largely determined by Government mandate, with some voluntary contributions added to the compulsory Superannuation Guarantee. From *Total contributions,* a substantial proportion leaves the superannuation system as *Net payout* (see A3) which consists of retirement incomes and other net benefit payments from life and disability insurance (see Table 3). Thus the superannuation system has already paid out,

over the period, $828 billion to beneficiaries for whom the superannuation system is designed and expected to provide such income streams.

Table 3

Flow Quantity	Aggregates over 1997-2016 ($ billion)
Net payout	828
Benefit payments	992
Net rollovers	164

Although *Total assets* of the superannuation system increase at the same rate as *Total contributions*, yet the system has been able to pay out $828 billion in benefits over the 19-year period. The data suggest another view of the performance of the superannuation system as a provider of income. A useful analogy is a landlord with a property which produces rental income. The realized benefits of owning the asset are the rents received, while the asset value of the property, which determines unrealized capital appreciation, is left to the vagaries of price fluctuations of the property market.

Thus *Net payout* plays two significant parts in the superannuation system: income provision and asset accumulation. On income provision, *Net payout* can be seen as similar to the dividend yield of a common stock. The income yield of superannuation can be measured by a *Net payout rate* which is defined here by *Net payout* as a percentage of weighted total assets of the system: *Payout rate = Net payout / Weighted total assets* (see below)*.

Net payout also reduces asset accumulation in the system. Its negative impact can be measured by Net payout ratio which is defined here as a percentage of total contributions: *Payout ratio = Net payout / Total contributions.* *Payout rate* and *Payout ratio* are shown in Figure 5.

Figure 5
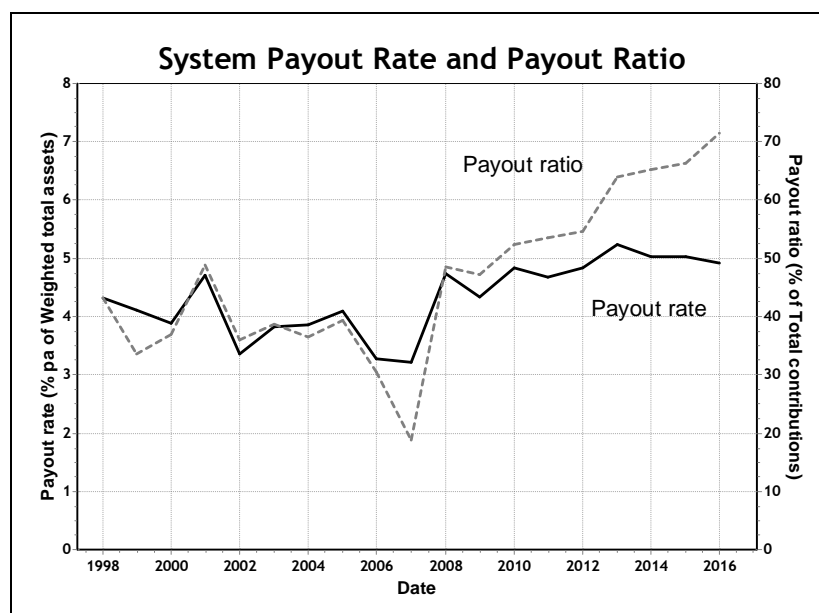
The data show that the net *Payout rate* as a percentage of weighted total assets is quite constant, between 3.5 percent and five percent per annum.   For the past several years, *Net payout* has been quite steady at five percent of weighted *Total Assets*. As will be shown below (see Figure 13), *Public sector* and *Corporate* funds have higher payout rates than *Industry* and *Retail* sectors.

The Government requires retirees to withdraw a minimum of four percent of their account balances per year. Since retirees are only a minority of members (but with a larger proportion of assets), the data suggest the rate of spending from retirement accounts is substantially higher, on average, than the minimum rate. That is, retirees generally withdraw much more than four percent of total assets per annum.

Figure 5 shows that the payout ratio as a percentage of total contributions is more volatile, with a significant dip in 2007 due a spike in total contributions arising from a one-off contribution window when the government allowed a maximum contribution limit of $1 million paying standard 15 percent contribution tax. Apart from this, the payout ratio would have been quite steady at about 40 percent of total contributions until around 2009.

The *Net payout ratio* started to trend upwards from 2010 due to increased *Net payout*, both absolutely in dollar terms and relatively to net contributions, as shown in Figure 6.

Figure 6
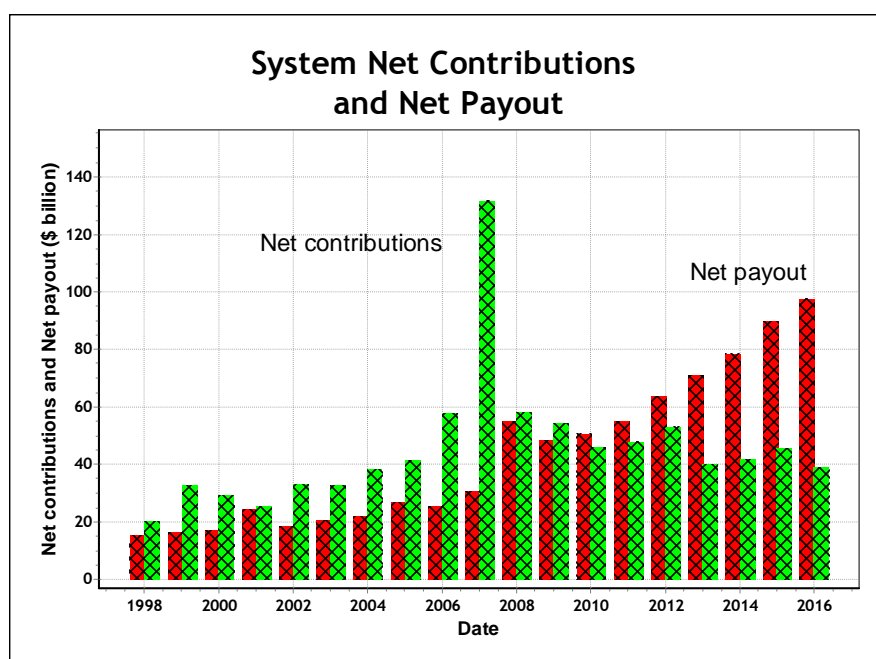
Since payout ratio is trending upwards (see Figure 5), now above 70 percent of *Total contributions*, unless total contributions increase sufficiently rapidly, then *Net contributions* can potentially decline in absolute dollar terms. This is already evident from Figure 6, which shows *Net contributions* falling from $59 billion in 2008 to $39 billion in 2016.

The same information as a percentage of *Total assets* is shown in Figure 7, which also indicates clearly that *Total contributions* (sum of *Net contributions* and *Net payout*) as a

percentage of *Total assets* is in secular decline. This is due to *Total assets* growing faster than *Total contributions* since 2007.

Figure 7
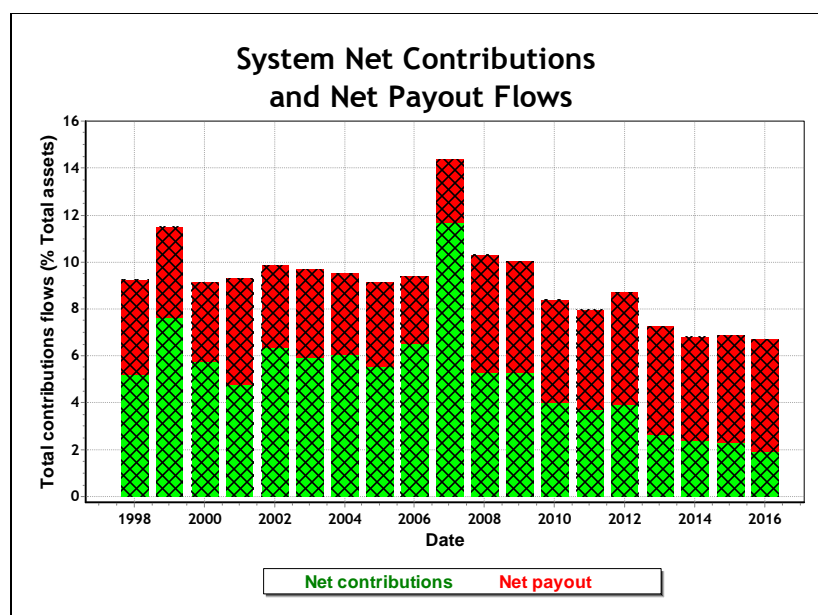
Net payout has started to exceed *Net contributions* from 2010. Clearly this is an important emerging trend because *Net contributions* are one of the two major sources of growth in *Total assets* of the system (see A9).

From an analysis of the money flows in the superannuation system, it is evident that the impact of contributions on the growth of *Total assets* will likely diminish in the foreseeable future. Much depends on whether the recently lowered caps for concessional and non-concessional contributions will be moderated by any increases in the Superannuation Guarantee levy. The current Government policy is likely to lead to reduced *Total contributions* flows in the future, at a greater rate than in the past. At the same time, the demographic trend of increasing cohorts of retirees implies greater *Net payout*.

At the current rate of decline, it is projected that *Net contributions* could be negative by 2032, when *Net payout* could exceed *Total contributions.* Defining negative *Net contributions* as the withdrawal phase of the system, this is likely to occur earlier than 2032, because of recent changes in Government policy on contributions.

The combination of accelerated reduction in *Total contributions* and greater *Net payout* to more retirees would lead to a rapid decline in *Net contributions*, moving the whole superannuation system quickly to the withdrawal phase. The sustainability of the Australian superannuation system in the withdrawal phase will depend critically on *Net earnings* from *Total assets* to pay retirement incomes. Any faltering of financial markets will lead to a much greater dependence on Government Age Pension for the income of the retirees.

The major conclusion from an analysis of money flows in the superannuation system can be summarised as follows:

The Australian superannuation system is moving quickly toward the withdrawal phase when *Net contributions* will be negative. Sustainability of the system will then depend critically on *Net earnings* from *Total assets* to pay retirement incomes.

Net Earning Flows

The Australian superannuation system will depend more and more critically on *Net earnings,* which is defined as gross investment earnings minus all costs and taxes. Due to the multi-layered and multi-intermediary arrangement of the Australian investment industry, gross investment earnings cannot be reported to the superannuation regulator. Except for direct investments, only *Net investment income* is delivered by investment managers to superannuation funds. Hence only *Net investment income* is reported and no audited investment cost data are available in the official data.

Various estimates suggest that overall investment cost, including manager fees and expenses, broking commissions, trading slippages, soft-dollar commissions and so on can be quite significant in their total cost effect, particularly when a superannuation fund invests indirectly through layers of investment managers. The actual investment cost is difficult to report and making such estimates requires substantial effort in research and calculation, which will be performed in the next publication.

The reported money flows leading from *Net investment income* to *Net earnings* for the superannuation system are displayed on a cumulative basis in Table 4.

Table 4

Flow Quantity	Aggregates over 1997-2016 ($ billion)
Net investment income	1,143
Operating expenses	104
Pre-tax earnings	1,039
Total tax	206
Net earnings	833

Pre-tax earnings in the present context is defined as earnings after all costs, but before taxes paid at the superannuation fund level. Pre-tax earnings of $1,039 billion, rather than Net earnings of $833 billion may better reflect the investment performance of the superannuation system. After investment costs, net investment income accrued to the superannuation system was $1,143 billion, which reduces to the *Net earnings* figure of $833 billion, after $104 billion was paid for operating expenses and $206 billion was paid for total tax, including contribution tax and tax on earnings. Most of the taxes paid by the superannuation funds are contribution taxes.

Note also that the $206 billion tax recorded in the APRA data represents a lower bound that the government collects from the superannuation system, because taxes are also levied during the investment processes undertaken by intermediaries. For example, some

investment funds, such as investment trusts, may pay tax on behalf of their investors. Therefore the cost of investing may include additional taxes paid by investment managers, particularly by those who are active traders.

It is difficult to be accurate about the precise amount of these taxes, or costs of investing superannuation assets, which impacts ultimately on the *Net investment income* reported. The investment expenses reported to APRA do not include many imbedded costs in the investment process. Various estimates tend to suggest investing expenses are substantially higher than operating expenses. If investment expenses were double that of operating expenses, then total expenses before tax is $312 billion, implying a gross investment income, before expenses and tax, of $1,351 billion.

The conjectured investment cost implies that, averaged over the data period, *Net earnings* of superannuation members was about 62 percent of total gross investment income, where operating expenses subtracted 23 percent and taxes subtracted 15 percent. The reason why superannuation members get only about 62 percent of gross investment earnings is due to the cost structure of the superannuation industry, which has high variable cost from many service providers charging asset based fees, and also high taxes on contributions and earnings.

System Net Return

In its final report on "*How to Assess the Competitiveness and Efficiency of the Superannuation System*", the Productivity Commission stated that the most important criterion to assess efficiency is *Net return* of the system (PC, 2016, p.7):

> *Maximising net returns (after fees and taxes) is the most important way in which the superannuation system contributes to adequate and sustainable retirement incomes.*

The *Net return* of the system is defined by its *Net earnings* from its *Total assets* weighted by, or adjusted for fund flows (see Appendix).

For individual members also, the Productivity Commission states (PC, 2016, p.112):

> *Maximising long-term net returns (after all fees and taxes) on a given account balance, including by taking account of the risks associated with investment, is the most important way in which the superannuation system contributes to adequate and sustainable retirement incomes.*

It can be proved mathematically that the asset-weighted average *Net returns* of all individual account balances is equal to the *Net return* of the whole superannuation system. Therefore, maximizing the *Net return* of the system is maximizing the average *Net returns* of *all* individuals.

Retirement incomes paid from *Net earnings* of the system are determined by the investment performance of superannuation assets. The above empirical observation about the approximate balance between *Net payout* and *Net earnings* in the system so far implies

that the *Net return* on superannuation investments to date must equal, on average, the *Payout rate* of the system. From Figure 5, it is evident that the *Net return* of the system must be between four and five percent per annum over the 1997-2016 data period.

The lower half of Figure 8 shows the annual *Net return* of the superannuation system is volatile, ranging between -11.1 percent in 2009 to 11.9 percent in 2014. A *Net return index* can be constructed from annual returns, showing how one dollar invested in June 1997 would have accumulated, net of all costs and taxes, to $2.14 by June 2016. The value of the *Net return index* is shown in the upper part of Figure 8.

Figure 8
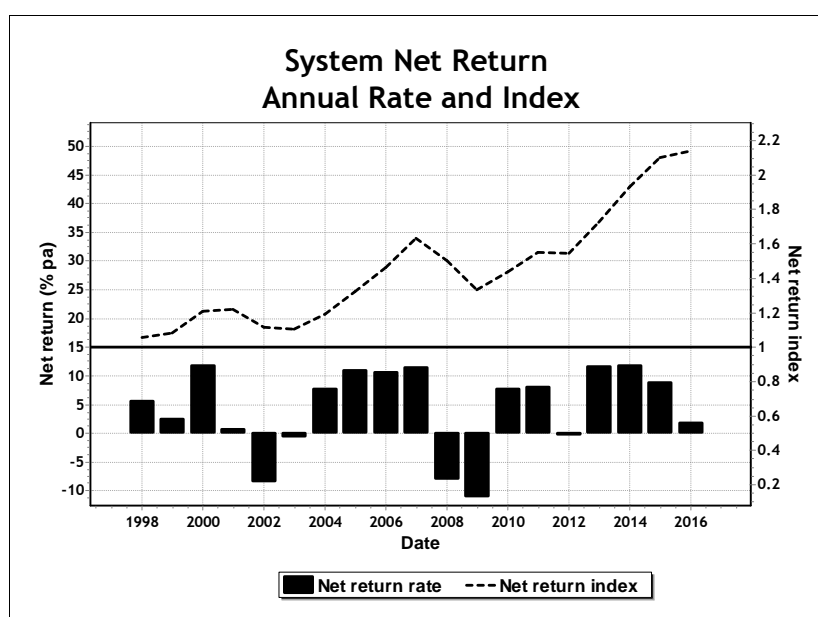
The data show that *Net earnings* in the system would have more than doubled an investment over the 19-year period, implying a compound annual geometric return (CAGR) of 4.1 percent. Due to the effect of return volatility, the CAGR *Net return* is less than the arithmetic average *Net return* of 4.3 percent per annum.

Analysis of System Net Return

Even though *Net return* is ultimately the most important determinant of superannuation efficiency for retirement income, *Net return* of the system is complicated by tax collection complexities. Not only do tax expenses depend on how the trustee structures its fund operations, but they depend also on Government tax policy, on individual investment decisions, and on how they impact on income and capital gains tax liabilities. Superannuation tax and *Net return* are complicated by the involvement of many parties.

In terms of the efficiency of a trustee in operating a superannuation fund, clearer measures may be either the *Net investment return,* which is the return after all investment costs, or *the Pre-tax return,* which is the return after all costs. The impact of operating expenses and

superannuation tax over the 19-year period is shown cumulatively in Figure 9, which shows *Net investment return* index, *Pre-tax return* index and *Net return* index.

Figure 9
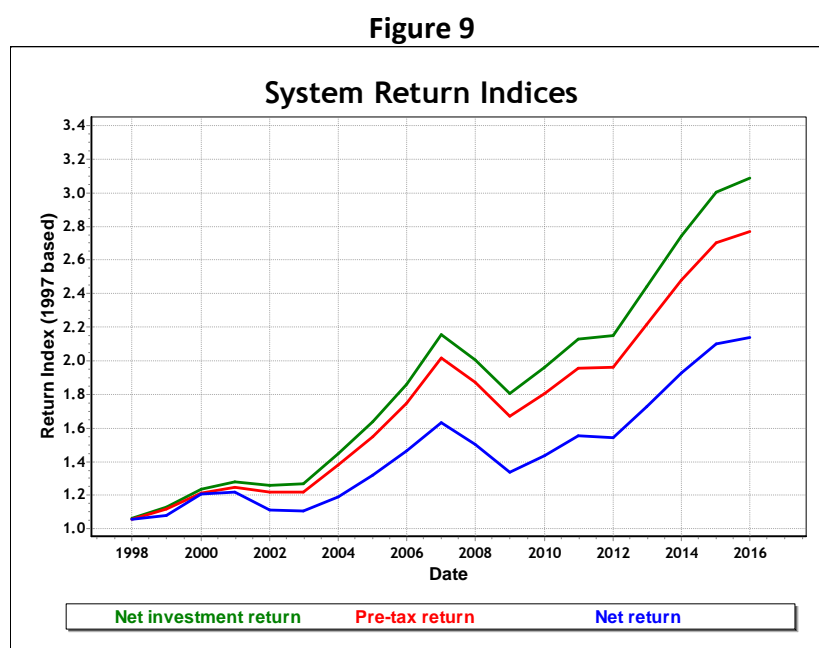
One dollar invested in June 1997 would have accumulated by June 2016 to $3.09, $2.77 and $2.14 respectively from *Net investment return*, *Pre-tax return* and *Net return*. That is, operating expenses and superannuation taxes reduce *Net investment return* by 30 percent over the period. The results expressed in terms of annual rates are analysed in Table 5.

Tab*l*e 5: System Returns (1997-2016)

Flow Quantity	Rate (% pa)	Method
[1] Gross investment return	7.1*	Calculated [2]+[3]
[2] Investment cost rate	1.0*	Estimated[2]
[3] Net investment return	6.1	Data given
[4] Operating expenses rate	0.6	Data given
[5] Pre-tax return	5.5	Calculated [3]-[4]
[6] Superannuation tax rate	1.4	Calculated [5]-[7]
[7] Net return	4.1	Data given

Note: Quantities with asterisks are given as a guide only, as they are not calculated from official data.

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[2] Rice-Warner (2014) estimates investment expenses to be about the same as operating expenses. These under estimates do not pass tests from simple cross-checks. For example, CBA in 2017 reported wealth management, broking and trading income or revenue of about $6 billion (fees and commissions), which would be similar to those of Westpac (BT), NAB (MLC) and ANZ, but less than AMP. Hence total fees from all areas of wealth management (investment expenses) by the five major vertically integrated conglomerates could be as high as $30 billion, which is 1.5 percent of total assets of the superannuation system. Sy and Liu (2010) calculated a total asset-weighted cost (excluding explicit taxes) from data for 115 largest APRA funds to be about 1.7 percent.

Over the 19-year period, substantial contribution flows attracted substantial superannuation contribution taxes, reducing the system *Net return* by 1.4 percent per annum. As superannuation contributions diminish relative to *Total assets* in future, the superannuation tax rate should decline.

Note that the non-tax expenses, estimated at 1.6 percent, are an historical average over 19 years. Since investment and operating expenses have been falling slowly over time, it is likely that current non-tax expense would be less than 1.6 percent. If the total fees collected from the superannuation system were $20 billion, as suggested by the Financial System Review in 2014, then starting from 2013 *Total assets* of $1,540 billion in the system, the non-tax expense could be about 1.3 percent in 2014. This may indicate a decline in non-tax expenses over time.

Evidently, about 42 percent of *Gross investment returns* goes to the payment of tax and expenses (out of 100 percent, 20 percent goes tax, 8.5 percent to operating expenses and 13.5 percent to investing costs; the remaining 58 percent are retained as Net earnings in the superannuation system). Judgements on whether gross or net investment returns are efficient or otherwise depend on the benchmarks and other criteria used in the assessment.

Assessment of System Net Return

The detailed analysis of investment and operational efficiency is postponed to a future study. However, some indication can be obtained from a comparison to a few standard benchmarks, such as inflation rate, cash rate, total returns of the stock and bond markets in Table 6.

Table 6: Comparison Returns and Rates (1997-2016)

Quantity	Rate (% pa)	Source
System gross investment return	7.1*	Estimated (above)
System Pre-tax return	5.5	Data (net of all costs)
System net return	4.1	Super system data
Balanced fund net return	6.5	SuperRatings median[3]
Stock market gross return	8.0	ASX 200 accumulation index
Fixed income gross return	6.5	Bloomberg AusBond Composite Index
Cash rate	4.8	Bloomberg AusBond Bank Bill Index
Cash net return[4]	4.2	RBA cash rate (after 12% tax)
Inflation rate	2.6	Consumer price index

Note: The quantity with an asterisk is given as a guide only, as it is not calculated from official data.

The balanced fund net return of 6.5 percent quoted above from SuperRatings may be an over-estimate due to selection bias. Many smaller funds with poor performances may self-exclude from the sample by not submitting data, but if they were included then the median

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[3] The data are sourced from http://www.netactuary.com.au/_ref/ref20.aspx?ID=manageyoursuper
[4] This is the CAGR from compounding 88 percent of monthly official cash rates.

return would be significantly lower. Hence the median of the selected sample may not be representative of what most superannuation members are likely to get.

Also, a large fund with large *Total assets* has many more members, but is counted only as one data point. Hypothetically, if more than half of all superannuation members were to belong to a large fund which has a *Net return* of four percent, for example, then superannuation members are more likely to get net returns of four percent rather than 6.5 percent. There are intrinsic problems in using medians of selected samples to represent the average of the population (see below).

The low *Net return* of the system, averaging close to the *Net return* of cash, is affected substantially by contribution tax which is paid at the superannuation fund level. It is therefore not indicative of the financial performance of the system, which may be better measured by the average *Pre-tax return* of 5.5 percent, which exceeds the cash net return of 4.2 percent. Nevertheless, given that the performance of the Australian superannuation system has suffered high volatility, the question arises as to whether the additional 1.3 percent in performance is adequate compensation for the risk taken.

To the casual observer, *Total assets* of Australian superannuation have grown impressively at an annual compound rate of about 10 percent. This growth, which is in line with the growth of *Total contributions,* may have masked the underlying performance of the superannuation system. This apparently lacklustre performance over a long period of time is noticed by most people except the presstitute.

In commenting on the Australian property bubble, the former leader of the Federal Liberal Party, John Hewson (2017), recently observed in passing about property investments:

> *…you would probably do better than you would in terms of investing in your superannuation which is generally pretty poorly managed in this country.*

In order to investigate further the apparently disappointing perception of the Australian superannuation system, we analyse more of the official data from APRA which classify components of the system data into well-defined sectors.   Who or which sector(s) or segment(s) are responsible for the perceived poor performance of Australian superannuation?

Analysis by Sectors

According to APRA's classification, the superannuation system consists of five main sectors: four sectors of institutional or Large APRA funds, with five or more members in each fund, plus a sector for the rest of the funds, mainly comprising small funds with four or fewer members, predominately self-managed superannuation funds (SMSF).

The sector composition of the system as it evolved over time is shown in Figure 10 which shows, remarkably, that institutional funds account stably for about 70 percent of the superannuation system.

Figure 10: Sector structure of the System
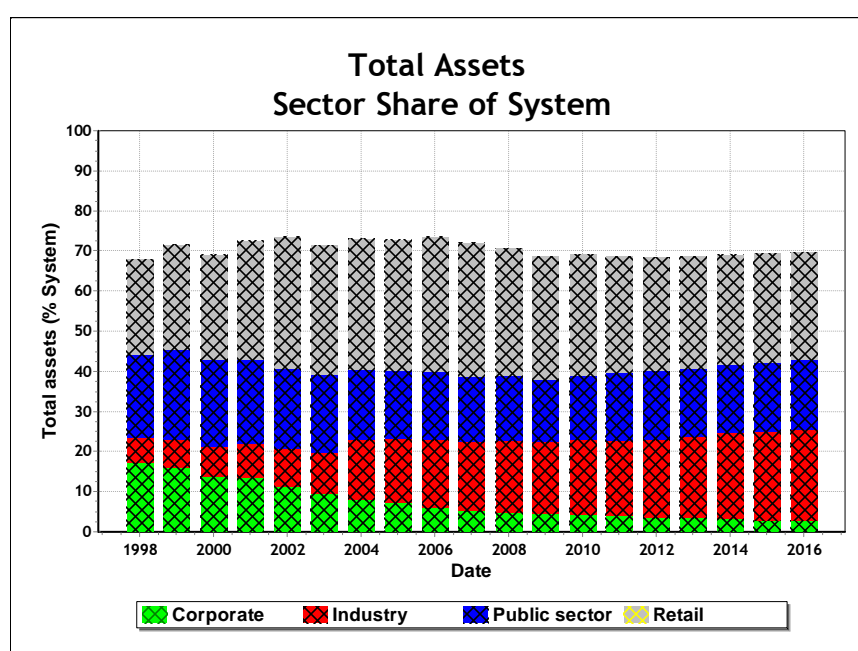
The sectors are defined by the APRA classification. Funds with more than 4 members are called large funds, regulated by APRA. The aggregate of the four main sectors of large funds are called here the *Large APRA* segment. The cumulative money flows of the individual sectors are shown in Table 7.

Table 7: Cumulative sector fund flows ($ billion) 1997-2016

Quantity	Corporate	Industry	Public sector	Retail	Large APRA
Total assets (1997)	62	20	71	78	231
Total assets (2016)	55	466	356	545	1,422
Increase in total assets	-8	446	285	467	1,191
Growth Rate (% pa)	-1	18	9	11	10
Total contributions	73	350	371	503	1,299
Net payout	103	90	276	246	725
Net contributions	-30	260	95	257	573
Net earnings	22	186	190	210	618
Operating expenses	60	211	203	242	716
Superannuation tax	4	15	8	44	71

Percentage shares of the various sectors contributing to the growth of the *Large APRA* funds segment are shown in Table 8 below. Some observations on superannuation sector evolution, which may confirm current perceptions, are as follow:

- The *Corporate* sector has been contracting (due to the winding up of many defined benefit plans), but only at about negative 1 percent per annum, on average in absolute terms.

- Strongest asset growths occur in the *Industry* and *Retail* sectors, which are the *Public offer* segment of Australian superannuation.

- The *Industry* sector has the highest asset growth rate, at 18 percent per annum, starting from a low base in 1997. The rate of growth is seven percent higher than the nearest rate of 11 percent from the *Retail* sector.

- The *Retail* sector attracted the highest cumulative total superannuation contributions of $503 billion, which was 39 percent of all *Large APRA* funds, while the *Industry* sector had $350 billion, or 27 percent of the total.

- The *Public sector* has the highest *Net payout* to fund the retirement of public sector beneficiaries. The high *Net payout* leads to low cumulative *Net contributions* of only $95 billion in that sector. The nine percent per annum growth in *Total assets* of the *Public sector* was achieved through significant *Net earnings* of $190 billion.

- Cumulative *Net earnings* are lowest for the *Corporate* sector due to contracting *Total assets*, probably due to liquidity preference during contraction and higher tax payments. The remaining sectors have achieved approximately the same *Net earnings* in absolute terms.

- The *Public sector* paid the least tax through its superannuation funds, while having the highest *Net payouts.* Perhaps the payouts are pensions with tax deferral, i.e. with significant taxable components in the hands of the beneficiaries.

Sector Structure of Large Funds

Percentage shares of the various sectors of the *Large APRA* segment are shown in Figure 11.

Figure 11: Sector structure of Large Funds
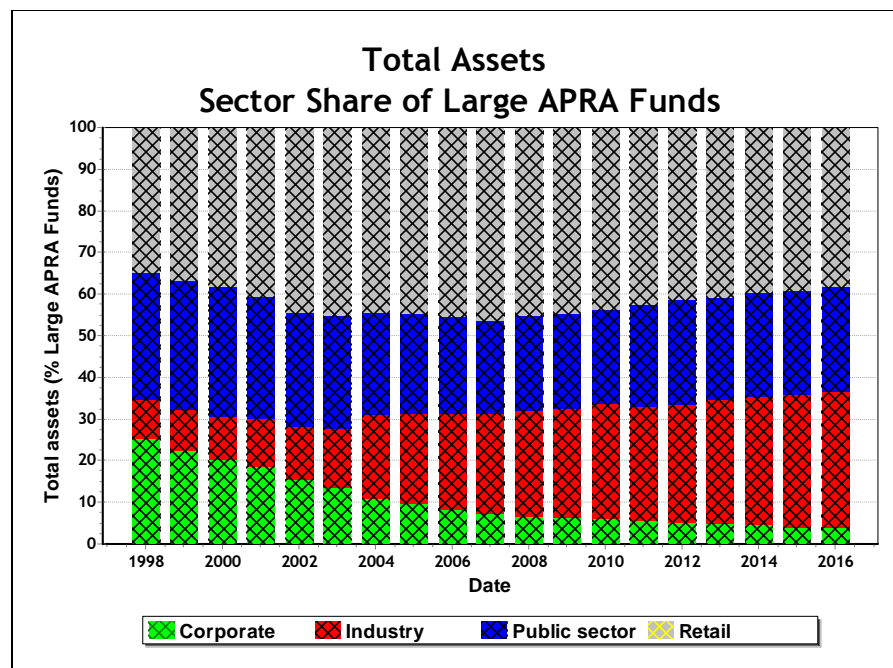
- The *Retail* sector remains the largest component, fluctuating slowly between about 35 to 45 percent of the segment. It started at 35 percent in 1997, increased to about 45 percent in 2003 and has since drifted lower to 39 percent in 2016.

- The major shift in sector structure has come from the *Corporate* sector, declining from 27 percent in 1997 to 4 percent in 2016, having halved rapidly within the first six years and then declining gradually thereafter.

- The *Public sector* also contracted in relative terms, falling moderately from 31 percent to 25 percent of the segment over the 19-year period.

- The major gainer from the shift in sector structure is the *Industry* sector, improving from 9 percent to 33 percent of the segment in a steady fashion.

Some of the fund flow dynamics responsible for the evolution of sector structure of large funds are analysed on a sector share basis in Table 8.

Table 8: Sector share (%) of *Large APRA* segment growth 1997-2016

Quantity	Corporate	Industry	Public sector	Retail
Total assets (1997)	27	9	31	34
Total assets (2016)	4	33	25	38
Increase in total assets	-1	37	24	39
Total contributions	6	27	29	39
Net payouts	14	12	38	34
Net contributions	-5	45	17	45
Net earnings	4	30	31	34
Operating expenses	8	29	28	34
Superannuation tax	6	21	11	62

- The *Retail* sector had 39 percent of the increase in *Total assets* of the segment, while the share of *Industry* sector was 37 percent.

- The *Retail* sector accounted for 39 percent of superannuation contributions (the highest share), while the *Public sector* and the *Industry* sector accounted for significantly lower shares of 29 percent and 27 percent respectively.

- *Net payouts* share was greatest for the *Public sector* and smallest for the *Industry* sector, reflecting the evolving history of Australian superannuation and demographics.

- *Net contributions* share of the *Corporate* sector is negative at -5 percent, reflecting low *Total contributions* but high *Net payouts*. Many *Corporate* funds have wound up over time.

- Despite having the smallest share of *Total assets* in 1997 (9 percent) and a modest share of *Total contributions* flows (27 percent), the *Industry* sector achieved 30

percent of *Net earnings*, comparable to 31 percent by the *Public sector* and 34 percent by the *Retail* sector.

Contribution Flows

The broad statistics in Table 8 suggest that contribution flows are not the main factor driving the evolving sector structure of institutional funds because, historically, the *Retail* sector has had the lion's share of fund flow from superannuation contributions, totalling 39 percent of cumulative flows over the period.

The sector contribution flows in the superannuation system are displayed in Figure 12, showing institutional funds receiving about 80 percent of all superannuation contributions. The dip in 2007 was a one-off anomaly, when a million-dollar concessional contribution window was opened temporarily and fund flows were largely directed to small funds (with less than five members).

Figure 12
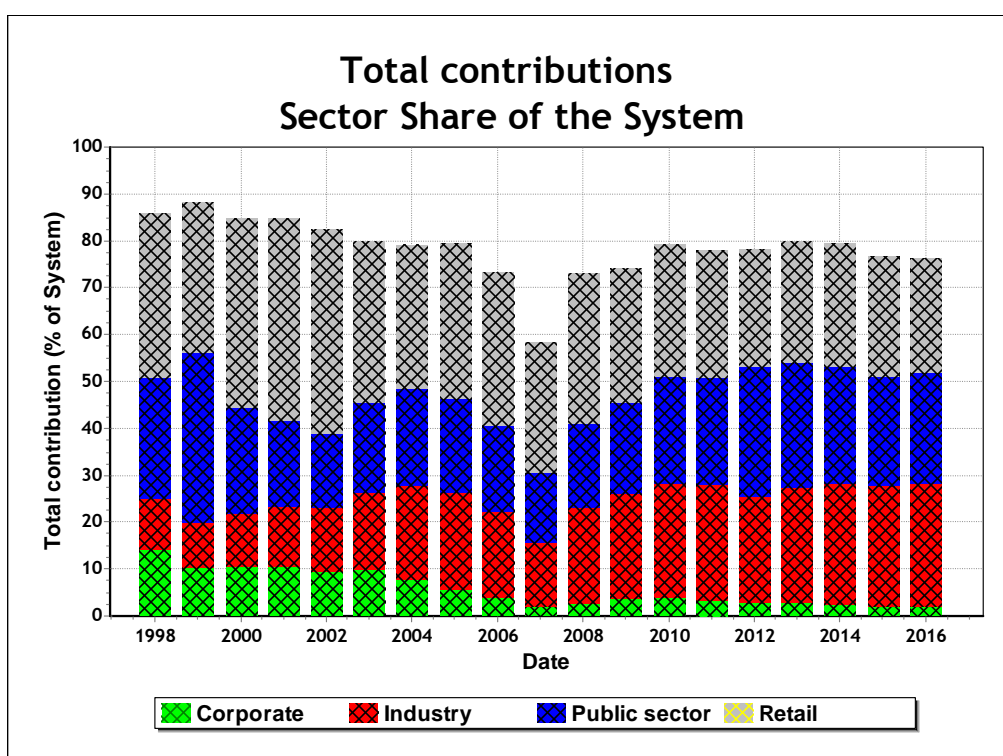
The government policy to transition from defined benefit schemes to defined contribution schemes over the past few decades has led to the relative rise in *Public offer* funds and a relative decline in *Non-public offer* funds. In particular, the policy caused the relative secular decline of the *Corporate* sector. *Public offer* funds are defined in this report as funds in the *Industry* and *Retail* sectors, ignoring a few exceptions of *Public offer* funds operating

in the other sectors. By definition, superannuation funds which are not *Public offer* are classified as *Non-public offer*.   *Public offer* funds are increasingly dominating the institutional sector, with 71 percent share of its *Total assets* in 2016.

The changes in sector sizes from money flows depend not only on inflows from *Net contributions* but also on outflows from *Net payouts*. The trends for *Net payouts* measured as the Payout rate (as a percentage of weighted total assets) are shown historically in Figure 13.

Figure 13
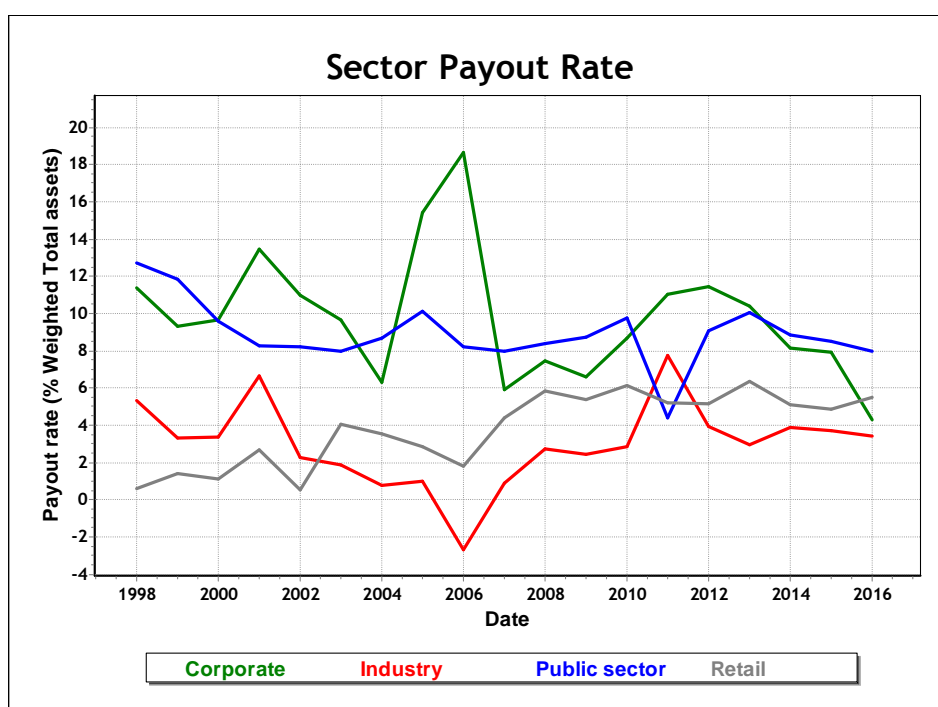
Public sector and *Corporate* funds have higher payout rates (as a percentage of weighted total assets) than those in *Industry* and *Retail* sectors.

Net Contributions Flow

Clearly the fund flow impact on sector sizes depends not only on inflows from *Net contributions* but also on outflows from *Net payouts*. The relative decline of fund flow impact on *Non-public offer* and *Retail* funds is due to increasingly high P*ayout* ratios rather than low *Total contributions*. The overall impact of relatively large payouts in these sectors is a relative decline in the system share of *Net contributions*, as Figure 14 shows.

Figure 14
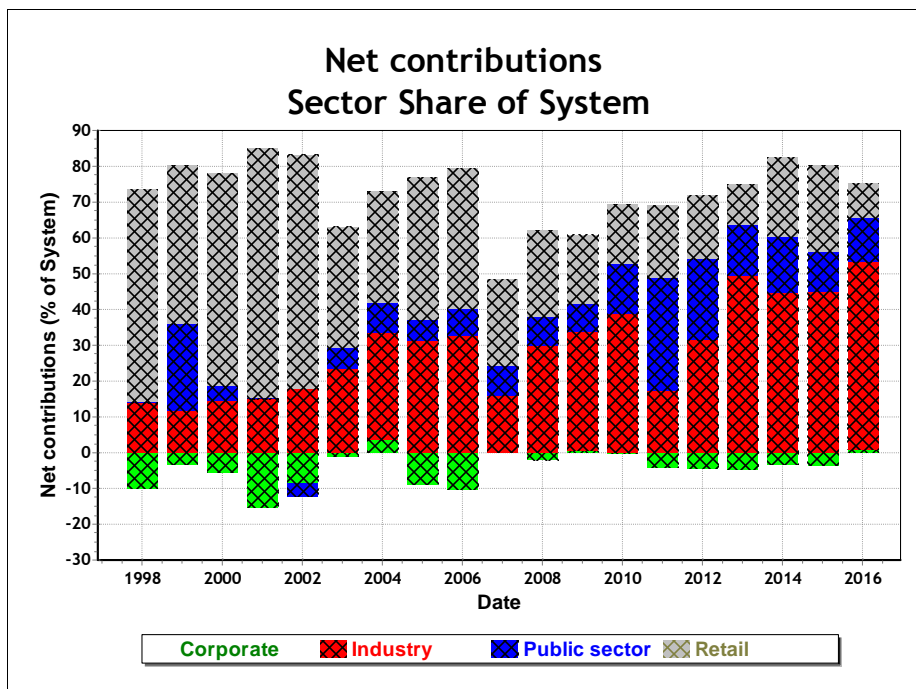
From the point of view of superannuation fund flows, the *Industry* sector was taking about 55 percent of the system's net flows in 2016, *Retail* and *Public sector* taking 20 percent combined, *Corporate* sector took no share, with the remaining 25 percent taken by SMSF and others. That is, in 2016 dollar terms, the Large APRA segment took $29.5 billion of *Net contributions* of the superannuation system, while the Small and other segments took $9.6 billion.

The sector shares of *Net contributions* of the superannuation system are an important determinant of the sector structure changes of the system, because sector growth or increase in *Total assets* is the sum of *Net contributions* and *Net earnings*. Evidently, the data show that *Net contributions* flows of the system strongly favour the *Industry* sector.

> The Industry sector has a high share of the Net contribution of the system, not because it has high share of contribution inflows, but because it has low share of payout flows.

The empirical data certainly support *Net contributions* factor as an explanation for the stronger growth of the *Industry* sector, but this factor has to be weighed against the *Net earnings* factor, which is even more important for investors and for the approaching withdrawal phase of the superannuation system.

Net Earnings Flow

Indeed, *Net contributions* may well be correlated with *Net earnings* in the sense that higher *Net earnings* from better net investment performance may well attract *and retain* a greater

share of contribution flows, possibly resulting in higher *Net contributions*. It is obviously important to investigate *Net earnings* and *Net returns* for different sectors.

The sector share of cumulative *Net earnings* responsible for cumulative *Net growth* of the system is shown in Figure 15.

Figure 15: Sector share of *System*'s cumulative *Net earnings*
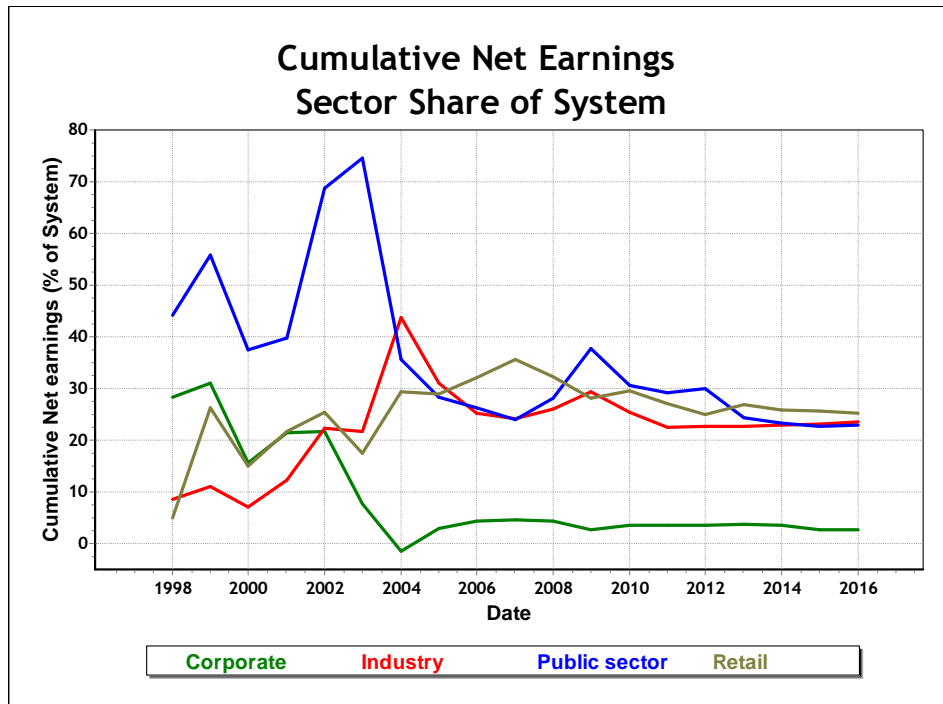
Note that there is volatility in the data for *Net earnings* over the period between 2000 and 2004, probably due to timing of tax losses following the bear market associated with bursting of the technology bubble. While this could lead to inaccuracies in short-term estimates of *Net returns*, the long-term average should remain accurate due to cancellation of over and under tax assessments over time.

Until 2016, the *Retail* sector accounted for about 25 percent of the system's cumulative *Net earnings*; the *Industry* sector and *Public sector* each accounted for 22 percent, the *Corporate* sector four percent, while the remaining 27 percent came from the *Small* and other sectors. Note that taxation may have a significant impact on *Net earnings* and it may be responsible for the volatility of sector *Net earnings* between 2001 and 2004. The volatility is apparently attenuated in the cumulative data over time, but actual volatility of *Net earnings* is even greater in 2008-2009.

The fact that cumulative *Net earnings* are not significantly different between the sectors may suggest that *Net earnings* are not a significant explanatory factor for the different growths in *Total assets* of the sectors. Perhaps, not only investment performance, but also taxation, has a significant impact on *Net earnings*. The cumulative *Net earnings* are *not* simply indicative of the investment performance of the sectors. For example, Figure 10 and Table 7 show that *Industry* funds have lower, or substantially lower, *Total assets* than *Retail* funds, throughout the data period.

Since the average *Total assets* over the 19-year period of the *Industry* sector was substantially lower than that of the *Retail* sector, and yet has accumulated the same *Net earnings*, it follows therefore that the average *Industry Net return* must be substantially higher than that of the *Retail* sector.

This conclusion will be verified with greater detail below. Investment performance should influence contribution flows, but other structural and regulatory factors may have greater impact on the relative growth of the sectors. Currently, *Public offer* funds are structurally divided into *Industry* funds, which have captured large numbers of blue-collar workers and *Retail* funds which have attracted a smaller number of white-collar professionals. While *Retail* funds still capture most of the contribution flows, they have large out flows, due to high payout rates.

Analysis of Sector Returns

Net returns defined as asset-weighted *Net earnings*, after all costs and taxes, are a useful measure for account balance growth, but are significantly affected by taxes which are controlled by Government policy. Better measures of investment performance are *Net investment return,* which is a return delivered by investment managers net of all investment expenses, or *Pre-tax return,* which is a return after all costs but before taxes.

The compound average geometric rates (CAGR) of sector returns over the 19-year period are shown with implied expenses rates and tax rates in Table 9.

Table 9: Average net returns for sectors (CAGR) 1997-2016

	Corporate	Industry	Public sector	Retail	Large APRA
Net investment return (after costs)	6.1	7.2	6.6	5.4	6.1
Operating expenses rate	0.4	0.6	0.3	0.9	0.6
Pre-tax return (net of all costs)	5.7	6.7	6.3	4.6	5.6
Super tax rate	3.6*	0.4	0.6	1.0	0.9
Net return (net of all costs and taxes)	2.1*	6.3	5.8	3.6	4.6

Note: the asterisks indicate potential inaccuracies due to special circumstances discussed below. See also a discussion on the complexity of tax in the Appendix.

- For the *Large APRA* funds segment, on average, the *Retail* sector has lowest *Net investment return*, being 0.7 percent below segment average. *Retail* funds have also the highest *Operating expenses*, being 0.3 percent above segment average, resulting in a Pre-tax return (net of all costs) one percent below average.

- The *Retail* sector has the lowest *Pre-tax return* (net of all costs) at 4.6 percent per annum compared with the *Industry* sector which has the highest at 6.7 percent per annum, being 2.1 percent higher than the *Retail* sector.

- On average, the *Corporate* sector paid the highest rates of superannuation tax at 3.6 percent, presumably due to wind-ups and the triggering capital gain taxes. The

Industry sector paid the lowest taxes at 0.4 percent per annum, consistent with a low *Payout ratio* (deferring capital gains tax) or transitioning to tax-free benefit payment in retirement pension mode.

- The *Retail* sector has the second highest tax rate at one percent, which may be due to relatively higher taxes before 2004, potentially related to high market volatilities and active investing. Most of the *Net return* gap relative to the *Industry* sector was due to 1.8 percent under-performance by the *Retail* sector in *Net investment returns*, even before costs and taxes were incurred at the superannuation fund level.

The *Net return* gap between the *Industry* and *Retail* sectors, while subject to some uncertainty on tax before 2004, appears consistent with an estimate of similar situations in the US context for "all-in" cost of active investing (Bogle, 2014, Table 3).

Another way of looking at the cumulative impact of the investment performances of different sector returns is to show what would have happened with one dollar of Superannuation Guarantee contribution from gross salaries deposited in an account in 1997. The account balances achieved by June 2016 are shown in Table 10.

Table 10: Accumulation of One Dollar Starting Account Balance 1997-2016

	Corporate	Industry	Public sector	Retail	Large APRA	Non-profit
Net investment balance ($)	3.07	3.77	3.36	2.74	3.11	3.40
Admin costs ($)	0.19	0.37	0.17	0.39	0.31	0.23
Pre-tax balance ($)	2.88	3.40	3.19	2.35	2.79	3.17
Tax costs ($)	1.39	0.20	0.30	0.37	0.43	0.52
Net balance ($)	1.50	3.20	2.90	1.97	2.36	2.65

- Despite the misleading impression created by superb performances of a few small-size funds, the asset-weighted performance of the *Corporate* sector has been quite ordinary even on a *Net investment return* basis. Many funds winding up may have triggered substantial capital gain taxes, to result in the lowest net balance.

- The *Retail* sector has the lowest balance from *Net investment return*. Most of the damage to a member account balance has already occurred before investment earnings are collected by the superannuation fund. Higher administrative costs and higher taxes further diminish the final net balance to $1.97, 68 cents less than the average *Non-profit* fund and $1.23 less than the average *Industry* fund.

Analysis of Segment Returns

Higher levels of aggregation into segments provide potential insights into the various factors which may influence investment performance and ultimately *Net returns*. Equivalent data to Table 9 for sectors are presented for segments in Table 11 below.

Table 11: Average net returns for segments (CAGR) 1997-2016

	Large APRA	Small and other	System	Public offer	Non-public offer	Non-Profit
Net investment return (after costs)	6.1	6.1	6.1	6.0	6.3	6.7
Operating expenses rate	0.6	0.7	0.6	0.8	0.5	0.4
Pre-tax return (net of all costs)	5.6	5.5	5.5	5.2	5.8	6.3
Super tax rate	0.9	2.4	1.4	0.7	2.1	1.0
Net return (net of all costs and taxes)	4.6	3.1	4.1	4.5	3.7	5.3

- While *Net investment returns* at 6.1 percent per annum are the same for both institutional and non-institutional funds, institutional funds have only marginally lower operating expenses rates, as the benefits of economies of scale are offset by higher administration costs of larger memberships.

- Institutional funds are more tax efficient in neutralizing capital gains and losses within the funds and also, by having on average a lower *Payout rate,* have benefitted from a substantially lower effective tax rate.

- *Non-public offer* funds have superior *Pre-tax returns* at 5.8 percent per annum relative to those of *Public offer* funds at 5.2 percent per annum. This fact may be due to simpler and more direct investment strategies and simpler administration.

- *Non-public offer* funds attracted on average much higher tax rates, detracting their *Net returns* to 0.8 percent per annum below *Public offer* funds, allowing the *Public offer* segment to become an increasingly larger segment of the superannuation system.

- The *Non-profit* or *Not-for-profit* segment is defined as the segment comprising funds outside the *Retail* sector. Considering that the *Non-profit* segment has 1.3 percent higher *Net investment returns*, 0.5 percent lower *Operating expense rate* and the same superannuation tax rate as the *For-profit* segment (*Retail* sector), one observes that profit making of *For-profit* funds in various ways may cost members as much as 1.8 percent per annum in either *Pre-tax returns* or *Net returns*.

In general, most of the differences in investment performance between various sectors and segments have occurred at the level of *Net investment return*, before any costs and taxes at the superannuation fund level are considered. This does not mean that costs and taxes incurred at the superannuation fund level are unimportant, as Figure 9 shows that they are indeed important for long-term accumulation. What it means is that the differences in *Net investment return* provide much of the explanation for the differences in end results.

Sector Return Trends

The consequences of investing one dollar in 1997 in an average fund in each of the sectors are shown Figure 16.

Figure 16

Pre-tax Return Indices
(after costs, before taxes)
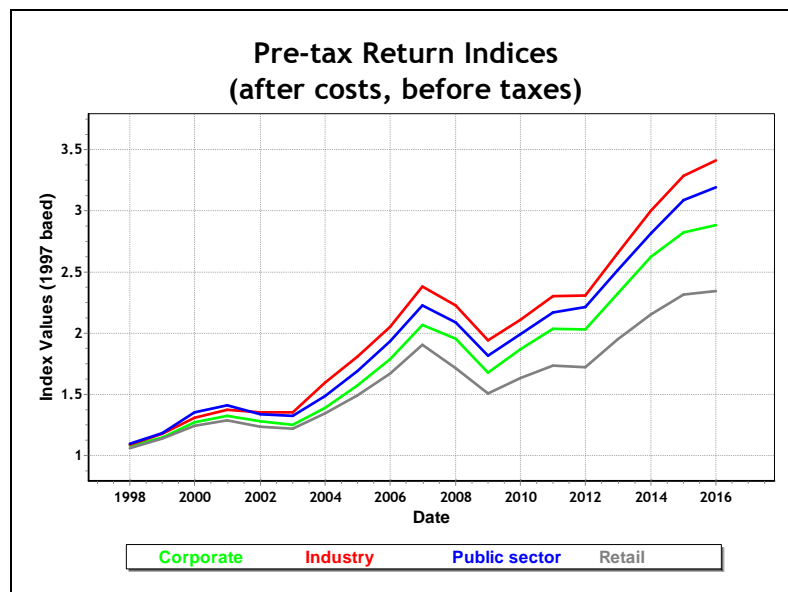
That is, on average, the one dollar in 1997 grew to $3.40 in the *Industry* sector, $3.19 in the *Public sector,* $2.88 in the *Corporate* sector and $2.35 in the *Retail* sector. The fluctuations in the return indices are all correlated with the market fluctuations.

Relative Performance

The noises from market fluctuations can be removed by creating relative return indices between two sectors simply by dividing one index time series by another. The relative return index then shows the cumulative performance of one index relative to the other. Figure 17 shows the performance of the *Industry* sector relative to the *Retail* sector both for *Net investment return* indices and *Pre-tax return* indices.

Figure 17
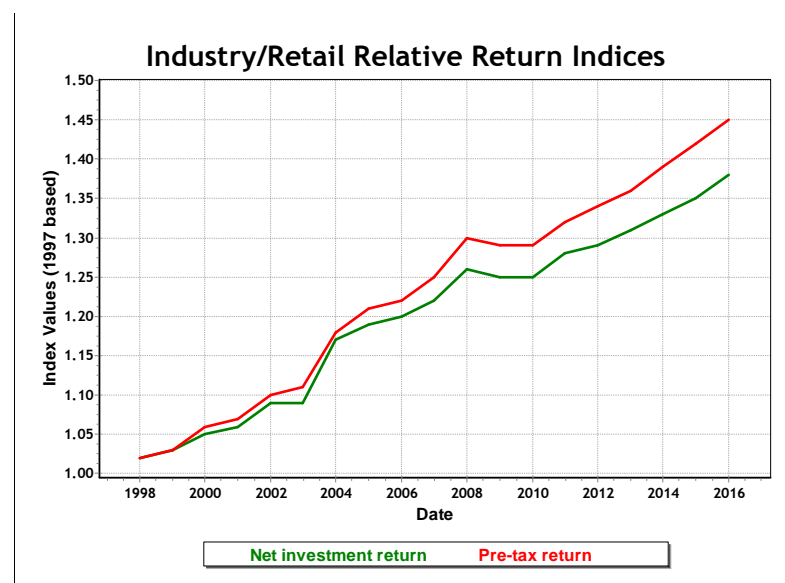
Industry/Retail Relative Return Indices

The steadily rising lines in the figure demonstrate consistent (low volatility) and persistent (almost monotonic) out-performance of *Industry* funds against *Retail* funds. The bottom curve is due to sector differences in average *Net investment return,* whereas the top curve is due to sector differences in average *Pre-tax return (*net of all costs). The gap between the top and bottom curves is determined by 0.3 percent per annum in differential *Operating expenses* (see Table 9).

After the 19-year period, the average *Industry* fund has performed cumulatively 45 percent better than the average *Retail* fund. Most of that superior performance has come from 37 percent increment in *Net investment return* and the remaining 8 percent of increase has come from greater operational efficiency.

In order to show what might be the principal factor behind this consistent and persistent investment performance difference, the for-profit factor is examined by creating *Non-profit* or *Not-for-profit return* indices, which represent the performance of all funds in the superannuation system outside the *Retail* sector.

The *Non-profit* sector contains all sorts of funds – *Public offer* or *Non-public offer*, large or small, high or low *Payout ratios* and mixed demographic profiles.   For example, the average *Payout ratio* of *Non-profit* funds is 64 percent (largely due to the *Public* sector), versus 44 percent for *Retail* funds. The only common element is that the *Non-profit* funds do not seek to make profits for shareholders of the companies which manage the funds.

The performances of *Non-profit* funds relative to for-profit *Retail* funds are shown in Figure 18.

Figure 18
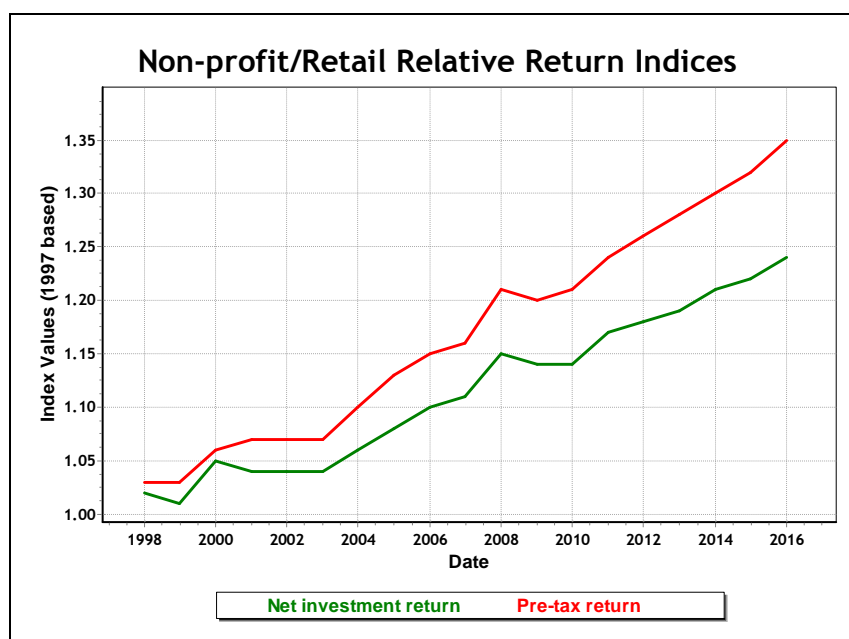
Again, the steadily rising lines in the figure demonstrate consistent (low volatility) and persistent (almost monotonic) out-performance of *Non-profit* funds against *Retail* funds. After the 19-year period, the average *Non-profit* fund has performed cumulatively 35 percent better than the average *Retail* fund. Most of that superior performance of *Non-profit* funds has come from 24 percent increment in *Net investment return* and the remaining 11 percent has come from operational efficiency.

> The often-cited claim that *Retail* funds out-perform in bear markets is supported only weakly by the evidence, because the relative out-performance of *Retail* funds in those periods has not been very significant.

Comparing Figures 17 and 18, the main differences between *Industry* funds and *Non-profit* funds in their relative out-performance against *Retail* funds are: *Industry* funds add more out-performance through *Net investment returns*, but add less out-performance through *Operating expenses* due to their higher *Public-offer* costs.

Figures 17 and 18 provide clear evidence that:

> The relative investment performances between the *Retail* sector and other sectors are highly persistent and predictable.

A reasonable interpretation of this consistency is that:

> *Retail* fund members, on average over all options, paid through fees and trustee policy on operations 1.6 percent per annum more than *Non-profit* fund members for investment choices and other services.

The financial conglomerates do not, and cannot, usually deny this fact of higher costs to their members as supporting data are available in their company annual reports in the wealth management sections, where the revenues reported also include fees from other investment services related to superannuation.   At 2016 *Total assets*, the additional revenue collected from operating *Retail* superannuation funds alone would be approximately $8.7 billion per annum.

The usual explanation for this additional cost to *Retail* members is that *Retail* funds provide more choices, more options and more financial advisors to make better investment decisions for members. One explanation often given for these additional activities is the benefit of risk management from dynamic asset allocation. A measure of such investment efficiency is the trade-off in efficiency between risk and return.

Risk Return Efficiency

Higher *Net investment returns* are assumed to come with higher volatilities, which is a common measure for risk. For *Net investment return* performance, the risk-return characteristics of the sectors and segments are shown in Figure 19.

Figure 19
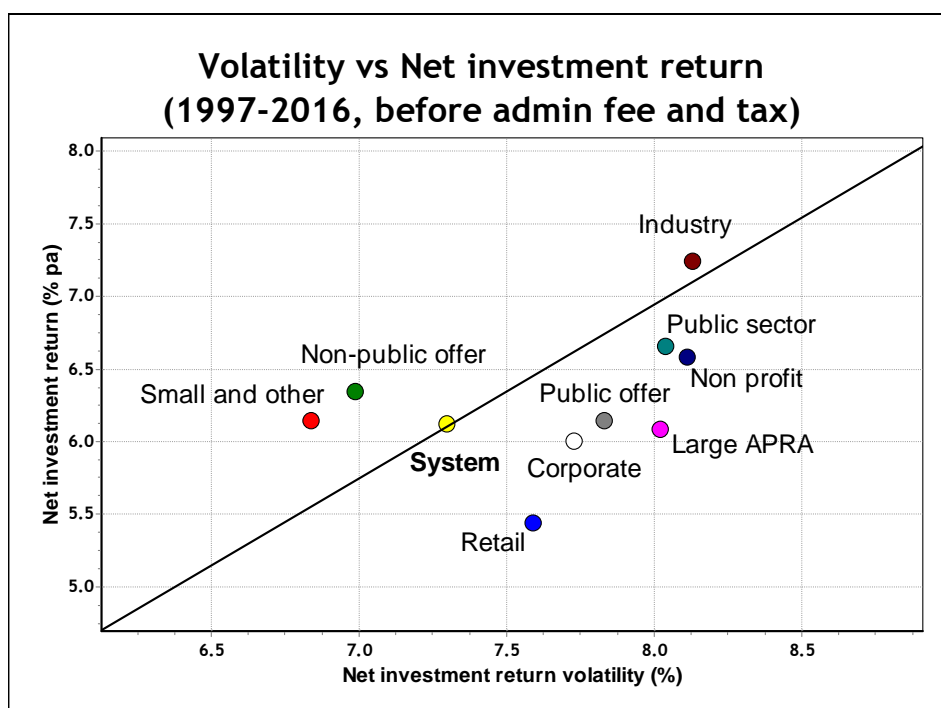
The diagonal line is a 45-degree line (distorted by the aspect ratio of the chart) representing equal increments in volatility and *Net investment return*, representing risk-return trade-off. The line is drawn through the point for the whole superannuation system, which is taken to be the benchmark for peer comparison. All points along the reference line represent equal risk-return efficiency to the system as a whole.

The points above the line are more risk-return efficient relative to the system, whereas the points below the line are less risk-return inefficient relative to the system. In approximate descending order of risk-return efficiency, the data suggest: *Non-public offer, Small and other, Industry, System, Public sector, Non-profit, Public offer, Corporate, Large APRA* then *Retail*. The first three sectors or segments are risk-return efficient, while the last six are risk-return inefficient compared to the system average.

> Figure 19 shows that *Retail* funds do have lower investment volatility (averaged over the 19-year period) than other institutional funds, but they also have substantially lower average returns. The resulting risk-return inefficiency indicates poor trade-offs for *Retail* members.

With the subtraction of *Operating expenses*, the risk-return characteristics of *Pre-tax return* performances of the sectors and segments would still be very similar to that shown in Figure 18, because *Operating expenses* are relatively constant and not very large compared to *Net investment returns*. The overall effect would be a lower and left-ward shift, to a greater or lesser extent, of the data points in Figure 19, as shown in Figure 20.

Figure 20
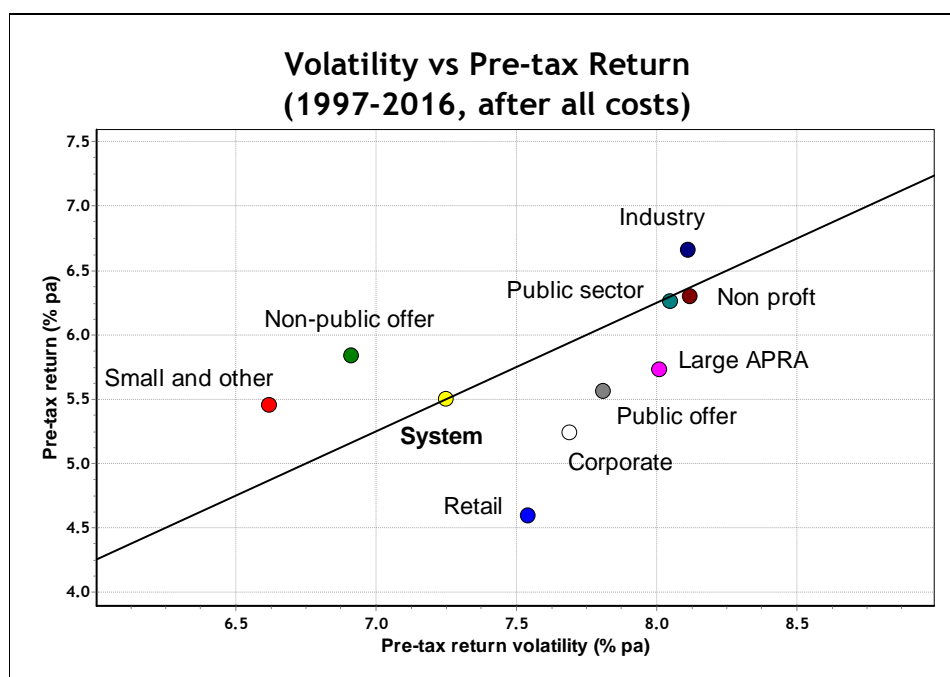
It is interesting to note that the *Industry* sector and the *Small and other* sector are both risk-return efficient, but are at the opposite ends of the risk spectrum. It is well-known (ATO, 2015) that funds in the SMSF sector have generally high asset allocation to cash. The sector has achieved a similar *Pre-tax return,* at close to 5.5 percent per annum of the system or *Public offer* funds, but has lower volatility.

The *Small and other* sector has nearly one percent higher return and one percent lower volatility than the *Retail* sector. From Figure 14, the share of *Net contributions* flows for small funds at about 25 percent is higher than that of the *Retail* sector at about 20 percent. There were high *Net rollovers* into the *Small and other* sector in the several years following the start of the global financial crisis (GFC). The loss of *Retail* share in *Net contributions* flows (see Figure 14) is unlikely to lead to a gain in *Industry* share, which has dissimilar demographics and is more likely to lead to a gain for the *SMSF* sector which has similar demographics to the *Retail* sector.

Sampling Bias

Note that many of the above trends have already been demonstrated in published papers several years ago (Sy and Liu, 2010; Sy, 2011). Based on fund level data between 2002 and 2006, Sy and Liu (2010) estimated *Retail* funds to have high active indirect costs, which appear to explain their low *Net investment returns*. Sy (2011) indicated the lacklustre performance to 2009 of the superannuation system as a whole and suggested that the lack of competition in the system may be caused by too many choices, particularly in *Retail* funds. This report has confirmed and updated those findings, but the importance and robustness of previous conclusions have not been widely appreciated.

In the interim, business and academic research, without a full understanding of the data, has added a lot of noise to confuse the facts, as discussed below. This is evident from the observation that inquiries and reviews are based on canvassing a variety of inconsistent opinions, rather than based only on authoritative agreed facts. There needs to be a set of agreed facts, which are important as a basis for research, policy and reform.

The conclusive research here is based on a macro or top-down approach (using audited financial data), whereas most of the inconclusive research elsewhere has been based on a micro or bottom-up approach, in the false belief that those other approaches are more relevant to individual decisions because "people invest in options or products, and not funds or sectors" ignoring the significance of quality data. This will be discussed in the next section.

Most research is based on statistical techniques taught at universities, which are *invalid* in general real-life applications, because of the false assumptions used. Essentially, the equilibrium assumption of normal distributions in textbooks has not been understood as significant or has been conveniently ignored. The fact that the distributions of actual data are often *far from normal* means that many of the conclusions using textbook techniques are invalid or not robust. Therefore the substantial body of research has led to random or contradictory conclusions.

Importantly, the implication of *non-normal* distributions is that conclusions drawn from standard techniques are invalid or unstable, being susceptible to:

- Sampling bias
- Survivorship bias
- Selection bias
- Unstable averages
- Unstable regression models.

The simple mean and median are widely and almost exclusively used for averaging in business and academic research, but they lead to invalid or unstable averages if the distribution of the population data is non-normal. In the context of investment research, the best and most convenient way of overcoming sampling bias for non-normal distributions is to use the data of full population and to use asset weighted averages, as is done in this report.

To illustrate the point, consider a very simple, but hypothetical example. Consider a population of 11 superannuation funds – five with $100 million assets with returns of 10 percent, one also with $100 million assets but a return of five percent, and the other five funds with only $10 million assets and also with returns of five percent.

The example happens to have a scale bias where large funds perform better than small funds, reflecting somewhat the reality, but the actual numbers and the scale bias do not affect or invalidate the points being made. What is the average return of the population of funds? The possible answers are shown in Table 12.

Table 12: Different Samplings and Averages

	Asset Weighted	Mean	Median
Population	8.8	7.3	5.0
Top 9 (by size or return)	9.0	7.8	10.0
Top 8 (by size and return)	9.0	8.1	10.0
Missing middle fund	9.5	7.5	7.5
Bottom 9 (by size and return)	8.6	6.7	5.0

The correct answer is 8.8 percent (in bold and green), being the asset-weighted return for the whole population, because that is the most probable return for any investor. Note that for the given non-normal distribution of returns, the mean and median are very far from accurate or useful. In making an investment performance comparison between sectors, Rowell (2015) has used misleadingly the median, like many other researchers in common practice.

Most leagues tables published by consultants and research houses do not include the whole population and the averages used are either the simple mean or the median, which are invalid because the return to the dollar is not normally distributed. Moreover, the averages are unstable to sampling errors.

In the above example, just by dropping two funds at the bottom, the median shot up from five percent to 10 percent, highlighted in yellow. Selectively dropping a poorly performing large fund from the sample would have the median rising to 7.5 percent, highlighted in aqua. This is the likely type of errors in the statistics of published research, because the samples generally include most large funds and exclude many small funds.

The mean is less often used because, unless only the best returns are selected, the under-estimation by the average increases as the sample size increases, as seen in the example above. Thus, using the mean, and including a large number of poorly performing small funds would be unflattering to the superannuation system, whereas the median could be manipulated to provide a more positive picture.

Just in case the above example is still too complicated for most to grasp easily, consider a very crude and simplified example of a population with just three funds: two funds with $1 million returning 10 percent and one fund with $100 million returning five percent. In this case, the asset-weighted return is 5.1 percent, the mean is 8.3 percent and the median is 10 percent. Which average captures the truth best? This report has used sound and robust statistical methods, free from unwarranted or false assumptions, such as normality of distributions in the data, widely and routinely assumed in business and academic research.

Comparison of Aggregates

The summary dismissal of sector comparisons by most researchers, based on perceived "usefulness" is unwarranted and is detrimental to the policy and reform of the superannuation system. The above remarks show why there is widespread ignorance about the significance in the statistical comparisons of aggregates as presented in this report. Quite apart from investment performance comparisons at the sector level, even comparisons at the fund level have been deprecated, as Rowell (2015) stated:

> On a number of occasions in the last few years I have noted that comparisons of investment performance at fund level is [sic] not comparing apples with apples.

The problem with this view is that no two apples are exactly alike, no two stocks are alike, no two investment options are alike, and no two funds are alike and so on, implying ultimately that all comparisons are invalid which leads to an absurd conclusion.

It is all very well to say one should make comparisons only between individual options and products, but which comparison out of literally millions of possible comparisons is useful or valid? For example, Colonial First State *FirstChoice* Super Trust alone has several hundred investment options. What should be compared with what? What could be learnt? In fact, most comparisons on the option or product level are statistically insignificant for reasons cited in the previous section and specifically:

- Nearly every product is in constant change, from manager and strategy changes to fund flow and membership turnover, as switching is often encouraged as a sign of "engagement".

- Selecting options and products in a comparison is inherently biased, leading to arbitrary conclusions from selection bias.

- Limited data are often insufficient to draw statistically significant conclusions, given the weak power of standard techniques.

Investment-option comparisons are generally statistical noise due to idiosyncrasies of individual options, limited data and the limited power of statistical techniques to draw valid conclusions. Indeed, the performance comparison of individual options is plagued by the effects of survivorship bias, market volatility and transient, non-permanent or unstable features of the products, not to mention that data reported to commercial agencies are not audit quality with varying inclusions or exclusions of tax and other costs.

Instead, many of these problems, such as survivorship bias, idiosyncrasy and transiency, are eliminated by aggregation or cross-sectional averaging. What are learnt from a comparison of aggregates may be significant facts which are stable, persistent and non-transient. For example, the management and operating structure of a fund is less likely to change than individual investment options. Also there are more data available, such as the actual investment strategy of a whole fund, whereas there is none for options or products, only indications from marketing.

It is important to note that sector comparisons are free from survivorship bias, free from sampling bias and relevant to every individual investor of a sector, because:

The performance of a sector is the asset-weighted average performance of every individual account balance in the sector. It represents unbiased and complete assessment of all investments in the sector.

Sector comparisons have shown that there are small but persistent effects due to different operational structures between sectors, such as fund size, *Public offer* status, *Profit* status and so on, which have powerful, cumulative consequences on the savings of individual superannuation members *regardless* of their particular investment options. These powerful and persistent effects are observable and quantifiable over the long-term, when short-term market fluctuations and idiosyncratic noises have cancelled themselves out. These effects have *predictable* impacts, on average, on *all* investments of superannuation fund members.

This report has proved that apple and orange comparisons are useful and valid, provided the comparisons are done intelligently, rather than routinely and thoughtlessly, and provided the conclusions drawn are proportionate to the weight of the evidence and the soundness of the method. The superannuation industry has powerful vested interests and conflicts of interests. The glib dismissal of unflattering comparisons is a way of avoiding competition, which should be challenged and not emulated by the regulator (Rowell, 2015).

Conclusion

The purpose of this report is to establish a set of agreed facts which are important for Government policy and for decisions of individual superannuation members. These facts are based on research using complete official data, unbiased statistics and replicable scientific methods, without untested or unproven assumptions of academic theories.

The financial performance results obtained in this report provide population statistics for the aggregate system and sectors against which all other sample statistics for selected funds and options must be compared for validation and interpretation.

The main facts collected are the broad features of the Australian superannuation system and sectors, which are both long-term (1997-2016) and also total cross-sectional (all funds) averages of the whole system and its sectors. The main findings are as follows (references are to tables and figures occurring in the main text):

- Up until 2016, the growth in *Net assets* of the superannuation system was largely matched by *Total contributions* growth at about 10 percent per annum (see Figure 2). The *Net return* of the system at about 4.1 percent per annum, has been cancelled out by *Net payout* to beneficiaries (see Table 1 and Figure 3).

- The trends in money flows show that the withdrawal phase of the system, defined by negative *Net contributions*, will approach faster than in the past, possibly arriving within the next ten years (see Figure 7). Sustainability of the system will depend more and more on *Net earnings* and *Net returns* to fund future payouts.

- Averaged over significant sectoral variations, the investment return of the system as a whole, net of all costs but before taxes, was 5.5 percent per annum (see Table 5). Compared with gross returns of the Australian stock market of 8 percent, fixed

income market of 6.5 percent and cash market of 4.8 percent, the system performance is lacklustre at best and is probably under-performing against reasonable benchmarks (adjusted for notional costs).

- Of institutional funds, the *Retail* sector has had the highest share (39 percent) of cumulative *Total contributions* into the system (see Table 7). However, its share of *Net contributions* has been declining due to increasing payouts (see Figure 14).

- *Public sector* and *Corporate* funds also have large payouts restricting growth in *Net contributions*; with the remaining *Industry* sector gaining in relative share of *Net contributions* of the system due to a lower *Payout ratio* (see Figure 14).

- In *Total contributions*, the *Industry* sector with $36 billion flow in 2016 has only just surpassed, for the first time in history, *Retail* flows of $34 billion. The higher *Net contributions* share has helped partially to boost relative *Industry* sector growth.

- The strong 18 percent per annum growth of the *Industry* sector is due importantly to investment performance rather than contribution flows (see Table 7). Starting from much smaller *Total assets* in 1997 (about a quarter of *Retail*, see Table 7), the *Industry* sector has accumulated *Net earnings* approaching that of the *Retail* sector, but with lower weighted *Total assets* and similar cumulative *Net contributions*.

- The main cause of the differences in relative sector growth is confirmed by comparisons of investment performance, which show that *Net investment return* (after investment costs) averaged 7.2 percent for the *Industry* sector, 6.6 percent for *Public sector* and 5.4 percent for *Retail* sector (see Table 9). The *Industry* minus *Retail* gap of 1.8 percent per annum over a 19-year period cannot be explained entirely by high payouts, because the *Public sector* has even higher payouts (see Table 7). The *Net return* gap may increase when *Operating expenses* and taxes are also included (see Table 9).

- Comparing *Retail* funds to the rest of the system's *Non-profit* funds shows (see Tables 9 and 11) the *Retail* sector has under-performed the rest of the system by 1.3 percent per annum in *Net investment return* and by 1.7 percent per annum in *Pre-tax return* (after all costs).

- Therefore, as at March 2017, with assets of $577 billion, *Retail* trustee directors, through their operational structure with additional services and profit making, have cost their members about $10 billion per annum more in additional fees and taxes, leading to reduced *Net investment income* relative to those in *Non-profit* funds.

- However, the additional services – including sophisticated financial advice needed for members to understand several hundred investment options – have not improved investment performance for *Retail* members (see Table 9). The claim that *Retail* funds out-perform in bear markets may be true, but not supported in any significant way by the evidence (see Figure 18).

- Even though *Retail* funds exhibited lower volatility than other institutional funds, over the 19-year period, the risk-return trade-off has been inefficient (see Figures 19 and 20), costing *Retail* members significant reductions (about one percent per annum) in investment returns for about half a percent lower volatility achieved.

To assess the competitiveness and efficiency of the superannuation system, the method should be based on a science of facts rather than a politics of opinions. The above set of facts provides a sound basis for this assessment. Efficiency, as defined (PC, 2016) by the *Net return* of the system as a whole, has been lacklustre at best. Competitiveness defined as a way of achieving higher efficiency of the system has been sluggish, hampered by misinformation from the media and by the ambiguity of most published research.

> *Competitiveness of the system has worked very slowly because the Retail sector has had the largest share of the system, while having the worst long-term performance, with lowest investment returns (4.6 percent per annum before tax since 1997) and least efficient volatility-return trade-off.*

Therefore the drag on efficiency of the superannuation system can be attributed substantially to the *Retail* sector which has high-cost structures for providing additional services to members. Highly engaged members are encouraged by advisors to switch and churn between many choices in their portfolios to increase corporate revenues and profits. Some scandals have occasionally been big enough to be reported by newspapers and they are subjects for a Royal Commission in 2018. It raises the questions of whether high-cost service structures are necessary and whether *Retail* directors have achieved the best results for their members.

In future, investment efficiency of the system measured against benchmarks will be assessed and published separately with substantial details in the next report.

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Appendix

Data Sources

The financial flows of the superannuation system collected by APRA data are contained in the data of *Annual Superannuation Bulletins*. APRA was created as a result of the recommendations of the Wallis Enquiry in 1996.   Under the APRA Act (1998), the first snapshot of the superannuation system was published in 1998 and the most recent one was for 2016, providing 19 years of annual snapshots. Data before 1998 may not be as reliable due to the rearrangements of regulators.

The total system assets are obtained by adding the total assets of APRA regulated funds to the total asset of self-managed superannuation funds (SMSF) regulated by the Australian Tax Office (ATO). At times, APRA statistics report total assets including pooled superannuation trusts (PST); at other times, they are excluded. In this report, PSTs are excluded, because as components of the portfolio of many superannuation funds, it would be double counting to include PST in total assets. The flows of balance of life insurance funds which are not part of normal superannuation portfolios are captured in the data on rollovers.

Australian Prudential Regulation Authority (APRA) databases are used with the sector classification defined by APRA, reflecting the historical evolution of Australian superannuation.   There are four main sectors: *Corporate, Industry, Public Sector* and *Retail* which constitute the segment of *Large APRA* funds. The segment outside, consisting of self-managed superannuation funds (SMSF), small APRA funds (SAF) and balance of life insurance funds is called the *Small and other* segment in this paper.

APRA calculates total superannuation assets by summing the total assets of five main sectors: *Corporate, Industry, Public Sector, Retail* and SMSF and adding APRA small funds and balance of life insurance funds, but excluding PST.

The main sources of data for the system come from two APRA files:

- Annual Superannuation Bulletin June 2013 (revised 5 February 2014): Table 7.
- Annual Superannuation Bulletin June 2016 (Issued 1 February 2017); Table 4a.

The main sources of data for sectors come from the two APRA files:

- Superannuation Trends September 2004 (issued 11 January 2005): Table 3, 4a-4d.
- Annual Superannuation Bulletin June 2016 (issued 1 February 2017); Table 4a.

It should be made absolutely clear at the outset that the database for this report has been manually constructed from the above files. The data cannot be, and have *not* been, downloaded from a single source file.   There are three distinctly different types of source files as listed separately above. Usually different file formats suggest potential inconsistencies across data boundaries, because the analysts compiling the data are not confronted with inconsistencies between sources and therefore are not obliged to resolve inconsistencies.

All data before 2004 were extracted from a single source in the "Superannuation Trends September 2004" file, which is a data summary of several years, going back incredibly as far as 1994, well before APRA was created. In this report, we accept data only as far back as 1997, since APRA was created only in 1998. The data for years from 2004 to 2013 come from 10 individual files in the same format of the "Annual Superannuation Bulletin".

The data for 2004, which is an overlap at the data boundary between the two sources, have inconsistencies between the sources. We have chosen to accept the data from later source and rejected the 2004 data from the earlier source, which however, remain the only available source for the data from 1997 to 2003. Hence there is potentially discernible data discontinuity around 2003 and 2004. It should be noted that:

> *APRA does not accept any responsibility for the accuracy, completeness or currency of the material included in this publication.*

Since the 2014-2016 file meets new reporting requirements, there is a warning issued by APRA that

> *APRA recommends that users of the statistics exercise caution in analysing and interpreting the publication, while the new superannuation data collection is still relatively new. During this early phase of a new collection, the systems and processes for collecting and reporting data in accordance with the new reporting requirements are not fully embedded across the industry.*

With this caveat, we have proceeded with system and sector analysis in this report. The statistical analysis for the whole Australian system can be presented similarly for each individual sectors and segments. Rather than doing the numerous identical analyses in this report, we just bear in mind that the information is available for potential explanations, should the need arise in future.

Method of Calculation

Imagine for a given account balance at the start of a period, deposits and withdrawals are made during the period. Then with the necessary data, it is possible to calculate the interest rate applied to the account, given the final balance at the end of the period. The interest rate applied to the savings is a measure of the financial performance of that particular financial product. In this paper, the same logic is applied to provide a measure of the financial performance of the Australian superannuation system and sectors.

The assessment of efficiency may be more complicated due to variations in risk aversion, and asset allocation e.g. determined by demographic factors, but the measurement of financial performance itself is much more straightforward. This paper concentrates mostly on financial performance but offers some provisional assessments on efficiency relative obvious benchmarks.

The main data quantities used to assess superannuation system performance are financial year end APRA records of

- **Total assets** of the superannuation system,
- **Total contributions** to the superannuation system,
- **Net rollovers** to and from insurance funds in the case of the system, an also between sectors in the case of individual sectors.
- **Benefit payments** in lump sums and pensions,
- **Net contributions**, *Total contributions* minus benefit withdrawal and net rollover,
- **Operating expenses**, including administration and costs of operation,
- **Net investment income**, all investment earnings net of all fees, commission and other direct or indirect costs associated with investing,

These are abbreviated names given to equivalent names in APRA data tables, which have explanations in a "Glossary" table. From these data quantities, the calculated quantities are defined as follows. The *Net growth* in superannuation assets is the sum of *Net contributions* flow and *Net earnings*, which is earnings of the superannuation system after all costs and taxes. *Net earnings (after all costs and taxes)* are defined (from accounting identities) by *Net growth* minus *Net contributions* flows:

$$\textit{Net earnings (after all costs and taxes) = End of period total asset} \\ \textit{– Start of period total asset – Net contributions} \qquad \text{(A1)}$$

Because *Total assets* and *Net contributions* flows are most accurately measured, this formula for calculating *Net earnings* is the most accurate. Moreover, any inaccuracies in measuring *Total assets* at various points will cancel out over the long term.

Net contributions flows is *Total contributions* minus *Net payout* flows which come from net benefit payments and rollovers:

$$\textit{Net contributions = Total contributions + Net rollovers} \\ \textit{– Benefit payments} \qquad \text{(A2)}$$

For convenience, it may be convenient to define a new quantity which can be calculated but has no direct APRA equivalent called *Net payout* by

$$\textit{Net payout = Benefit payments – Net rollovers} \qquad \text{(A3)}$$

Net payout denotes all payments which leave the superannuation system (or sector), so that *Total contributions* is now simply a sum of a quantity which leaves the system – *Net payout*, and a quantity which remains in the system – *Net contributions*.

$$\textit{Total contributions = Net payout + Net contributions} \qquad \text{(A4)}$$

Due to the uncertain timings of tax payments, tax data are generally inaccurate from year to year. *Total tax*, defined as contributions tax, tax on earnings and other charges can be analysed as an accounting residual from the given data on *Net investment income* by the following equation:

$$\textit{Net earnings = Net investment income}$$
$$\textit{– Operating expenses – Total tax} \qquad \text{(A5)}$$

For simplicity, *Net investment income* includes *Operating income* from such investment related activities as scrip lending when they sometimes occur, as well as the *Investment income* from investing *Total assets*, after all investment costs and taxes have been paid. The above equations are accounting identities. It is assumed that all data in the equation are more accurate than *Total tax*, even when it is sometimes available as estimates in some data.

In calculating the *Net returns* of the superannuation system, it should be remembered that the figures cannot be fully accurate on an annual basis, because of the complexity of the tax system. For example, capital gains tax incurred on holding securities can only be calculated accurately on disposal of the securities, implying inherently inaccurate estimates of tax liabilities from year to year. However, over the long-term, it is expected that these inaccuracies, being presumably random, will cancel out, yielding a reasonably accurate average long-term net return.

The GIPS or *Global investment performance standards* (CFA, 2005; Sy, 2009) provides a formula for calculating a rate of return (ROR) to assess investment performance which is used to calculate the net return of the superannuation system:

$$\textit{Net Return = Net earnings / Weighted total assets} \qquad \text{(A6)}$$

Weighted total assets are defined as the average *Total assets* weighted by the impacts of cash flows. From the available data, it is estimated by:

$$\textit{Weighted total assets = Current period starting total assets} + \tfrac{1}{2}\textit{ Net contributions} \quad \text{(A7)}$$

Note that *Current period starting total assets* must equal previous period final *Total assets.* Typically *Total assets* in the data refer final *Total assets* of the current period. To use equation (A7), instead of starting *Total assets*, for example, the following accounting equations (A8) and (A9) for the current period:

$$\textit{Net growth = Final total assets – Starting total assets} \qquad \text{(A8)}$$

In this equation, in agreement with (A1), *Net growth* is also given by:

$$\textit{Net growth = Net contributions + Net earnings} \qquad \text{(A9)}$$

It is important to note that a common error in calculating annual returns from APRA data is to use the figures for *Net assets at the beginning of the financial year*, which may not equal the *Net assets at the end of the previous financial year* (due to unpaid liabilities) to calculate *Net earnings after tax* independently and then to calculate *Net returns* from net earnings on *Cash flow adjusted net assets*.

Those calculations may imply the *Net assets* at the end of the previous period are *not* equal to the *Net assets* at the beginning of the next period, introducing an account error. *Net assets* at the end of one period must equal *Net assets* at the beginning of the next period.

For example, Table 12 of Annual Superannuation Bulletin June 2013 provides a calculation of *Rate of return* for each year over 1999-2013. Using Equation (A5) above, it can be shown that, aggregated over the period, *Net earnings after tax* has been over-estimated by about $47 billion for large APRA regulated funds between 1999 and 2012. The aggregated *Net earnings* for large funds should have been $237 billion instead of $284 billion (as shown by the data).

As a result of mistakenly inflated *Net earnings*, over various periods, *Net returns* may have been over-estimated across the superannuation industry. We have observed that data and results have often been presented by academics and consultants without any form of independent validation or cross-checking using accounting techniques.

Investment management expenses are not accurately captured by APRA data, because the many expenses are incurred indirectly and therefore cannot be reported. It is likely that reported investment expenses are only about half of their true values, which are likely to be around one to 1.2 percent of weighted total assets per annum. That is, actual investment fees should be substantially higher than reported.

Financial conglomerates collect substantially more revenue from their front office services than from their back office services, as front office investment managers earns considerably more than back office accountants. That is, stock broking, investment management, financial advice, etc. would earn much more than custody, accounting and administration. Therefore, investment fees should be substantially higher than administration fees.

Net return after all investment costs refers to net returns provided by fund managers after all costs, including manager fees, direct transaction costs such as brokerage and commissions, indirect transaction costs such as soft dollar deals, slippages, portfolio transitions costs and taxes such as stamp duties, taxes on disposal of assets. Many investment costs are difficult to identify or to calculate accurately.

APRA data provides accurate accounting numbers on *Net investment income* even though the numbers provide no information on actual investment costs or gross returns. The formula for calculating *Net investment return* for each year is:

$$\textit{Net investment return (after all investment costs) =}$$
$$\textit{Net investment income / Weighted total assets} \qquad \text{(A10)}$$

When an investment manager declares investment income or a *Net investment return* for a superannuation fund, only investment expenses such as management fees, its own operating expenses, known brokerages and trading taxes are subtracted from gross return. Financial advice expenses may be subtracted from the *Net return* of investment products. The declared *Net investment return* is not the actual *Net return* in the hands of the individual members, as there are *Operating expenses* at the fund level and superannuation taxes to be paid.

The *Operating expenses* are incurred at a rate given by:

$$\textit{Operating expenses rate = Operating expenses / Weighted total assets} \qquad \text{(A11)}$$

Subtracting *Operating expenses* from the *Net investment return* gives a *Pre-tax return (after all costs)*, but before superannuation taxes:

$$\textit{Pre-tax return (after all costs)} =$$
$$\textit{(Net investment income – Operating expenses) / Weighted total assets} \quad \text{(A12)}$$

Complexity of Tax

It is important to note that the tax system on Australian superannuation causes a great deal of uncertainty in the comparison of *Net returns* from different sources. Tax could be paid at various stages of the investment process by intermediaries and not just by the superannuation funds which pay substantial contribution taxes. Because of tax considerations, benchmark returns (gross of tax) may not be accurate estimates of actual returns from investing in the superannuation system.

Capital gains are taxed at 15 percent or less, which is lowered with increasing holding period of the asset and is paid to the tax office on disposal of the asset. So, at any point in time, a superannuation fund has potential tax liabilities affecting the valuation of its total assets. Accounting for tax liabilities appears to have the potential to cause the *Total assets* of a fund to be shifted from year to year, creating volatility and inaccuracies in *Net return* in any given year.

Also, tax on assets in the pension phase is substantially lower than tax in the accumulation phase. Hence, tax liabilities depend on the individual circumstances of the members. It is unclear how a superannuation fund optimizes tax liabilities for different individual members, particularly those in transition to retirement. Perhaps one of the attractions of a self-managed superannuation fund (SMSF) is better cost control and more effective tax arrangements.

The *Net earnings* numbers provided directly by APRA data, determine the growth in *Net assets* for a fund, a sector, a segment or the system. Net earnings give rise to a *Net return after all costs and taxes* calculated by the formula,

$$\textit{Net return (after all costs and taxes) = Net earnings / Weighted total assets} \quad \text{(A13)}$$

This definition of *Net return* includes taxes paid by superannuation funds, such as contribution tax, taxes associated with fund flows and other tax adjustments relating to investments. These taxes may be reported as "other charges" and are not explicitly reported as taxes in the data due uncertain timing of payments.

It should be cautioned that before 2004, the tax data inferred from accounting identities from APRA data show substantial volatility and therefore are potentially unreliable from year to year. However, it is assumed that accumulated over nearly twenty years, the noise in the data "washes out" to give reasonable estimates of long-term averages.

Impact of Asset Allocation and Operational Structure on the Investment Performance of Australian Superannuation[1]

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19 March 2018

Report for
Industry Super Australia

Abstract

In the first paper, the lacklustre investment performance of Australian superannuation was attributed to the *Retail* sector. This second paper investigates potential explanations for this fact through an empirical attribution analysis of the impact of asset allocation, operational structure and scale on sectoral investment performance. Since 2004, relatively lower investment returns of the *Retail* sector have not been compensated by lower risk, due to unexpectedly higher return volatility. This fact can be explained by significant costs neglected in most academic theories.

Using official asset allocation data available from the Australian Prudential Regulation Authority (APRA), for the three years to September 2016, the 2.7 percent per annum difference in measured investment performance between the *Industry* and *Retail* sector has been attributed 1.1 percent to asset allocation and 1.6 percent to operational structure and costs. The high cost of *Retail* funds (incurred but not reported) is consistent with the high incomes and profits reported annually by vertically integrated conglomerates from providing superannuation and related financial services.

At March 2017 *Retail* assets of $577 billion, the 2.7 percent return deficit relative to *Industry* funds represents about $15.5 billion per annum in additional costs to *Retail* members. Empirically, but contrary to the theory of economic rationalism, the market approach to superannuation, based on competition and profit maximization of the *Retail* sector, has been detrimental to members.

Executive summary

The first paper in this series established the importance of investment performance as the system approaches rapidly toward the withdrawal phase when *Net contributions* will be negative. The observed inefficiency in investment performance of the system needs to be addressed as future payouts will have to be financed increasingly from investment earnings. The inefficiency of the system has been shown to come significantly from the consistent and persistent under-performance of the *Retail* sector.

This second paper investigates explanations for the inefficiency through a performance attribution analysis of sectors, funds and entities, based on official audited accounting data published by the Australian Prudential Regulation Authority (APRA). In addition to the annual data reported previously, quarterly data since 2004 and asset allocation data since 2014 are used here to assess the relative impact of factors including asset allocation, operational structure and scale on long-term trends in investment performance.

The major findings are summarised as follows. The terms in italics have their suggestive and intuitive meanings, but are defined more precisely in the text and in the Appendix of the first paper. References to tables and figures are for those contained in the main text.

- Twelve years of quarterly data have confirmed that, on any timespan of five years or more, *Retail* funds have consistently and persistently under-performed *Non-profit* funds (see Figure 2). The 12-year average under-performance was about two percent per annum, measured on an asset-weighted basis since 2004 (see Table 1). At $577 billion of *Retail* assets (March 2017), the additional cost to *Retail* members relative to *Non-profit* fund members is $11.5 billion per annum[2].

- The quarterly data from 2004 to 2016 show risk aversion of *Retail* funds, as evident from more conservative asset allocation data, had failed to achieve benefits, because lower returns and higher cost of *Retail* funds did not benefit members with lower risk (see Figure 4). Instead of lower volatility, the lower *Retail* returns came with higher volatility, contrary to academic theories which ignore costs. The Sharpe ratio, whenever positive, valid and understandable, shows poor risk-return trade-offs for *Retail* funds.

- In aggregates, asset allocations are not substantially different between sectors (see Figure 6) and therefore cannot explain the large performance differences in sector returns. Asset allocation accounts for 1.1 percent of the performance difference between *Industry* and *Retail* funds, while indirect costs (see Appendix) and operational structure account for another 1.6 percent (see Table 14). At March 2017 *Retail* assets ($577 billion), the three-year performance analysis to September 2016

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[2] It is important to warn that comparative dollar amounts are merely guides to their significance for the superannuation system. Their estimation varies depending on what sector or segment is being compared, on the data period, on the frequency of the data and on what costs (asset allocation, investment, operating or tax) are included in particular contexts. The figures should not be quoted out of context as though they are fixed or universal.

suggests that *Retail* members are paying an additional $15.5 billion[3] per annum, relative to *Industry* members, from asset allocation ($6.3b), indirect investment ($7.5b) and operating costs ($1.7b).

- The benefits of scale for members apply only to *Industry* funds and other *Non-profit* funds, and not to *Retail* funds (see Table 15), because *Industry* and other *Non-profit* funds have substantial direct investments in long-term illiquid assets leading to higher fixed cost and lower variable cost in their operational structures. Economies of scale depend on higher fixed cost relative to variable cost. Also, the benefits of any cost savings, such as those of scale, may not be passed onto *Retail* fund members, but retained as revenue by *For-profit* funds.

- To confirm sector findings, a group of the largest *Industry* funds is compared with a group of the largest *Public-offer* conglomerate funds (AMP, ANZ, CBA, MQG, NAB and WBC) which have similar numbers of members, *Total assets*, and scale. It is evident (see Table 16) that only some types of operational structures would create scale benefits for their members and those of *Retail* funds generally do not.

- In some selected short-term periods, *Retail* funds may have lower volatilities from their more risk-averse asset allocation, but they may have higher volatilities over the longer-term (see Figure 4). At levels of sector, conglomerate group or individual funds, their risk/return trade-offs, as measured by the RAVA metric, are inefficient (see Table 20), as *Retail* funds give up typically about twice as much return performance in exchange for any reduction in volatility.

- A case study of CBA shows how a vertically integrated conglomerate may increase indirect cost for its superannuation members. The magnitudes of the numbers in the financial statements from its 2017 annual report are consistent with the general conclusion that the average cost of funds under management of *Retail* funds may be between two to three percent per annum greater than those of *Industry* funds, representing by comparison, a 40 to 50 percent reduction in retirement nest eggs for *Retail* members over their typical working lives.

The paper concludes that the dominant factor which explains most of the persistent performance differences observed are the costs associated with the operational structures of two distinctly different types of trustees:

- *For-profit* shareholder-oriented *Retail* trustees, and

- *Non-profit* member-oriented mutual trustees.

Comparisons of sectors are most statistically significant, reliable and useful for individuals because they reflect the persistent impact of fixed operational structures on investment performance of funds for members. Product comparisons are volatile, unreliable and statistically insignificant because the factors underlying their performances are idiosyncratic and in constant flux.

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[3] This relative cost is higher, compared with the *Industry* sector over three years rather than with the *Non-profit* sector as a whole over 12 years, as in the first point. See the previous footnote.

Introduction

An assessment of Australian superannuation shows (Sy, 2017) that the strong growth of the system from 1997 to 2016 was primarily due to $1.7 trillion of cumulative contributions, mostly from the Superannuation Guarantee levy.   The cumulative investment income of $833 billion was mostly paid out, as it was earned, as benefits to recipients. The system's average investment return (after all costs but before taxes) was 5.5 percent per annum, resulting in a *Net return* (after all costs and taxes) of 4.1 percent per annum since 1997.

Historically, the lacklustre investment performance of the system has been masked by relatively strong contribution flows, which have been attenuating over time. Due to contributions capping and demographic factors, the Australian system appears to be moving rapidly towards the withdrawal phase, when *Net contributions* may be negative in several more years, as payouts exceed contributions. The sustainability of the system will then depend critically on *Net returns* from investments to fund future payouts for retirement.

A major influence on investment performance of the superannuation system (Sy, 2017) has been due to the *Retail* sector, because it has had historically the highest share of *Total assets* and the highest share of *Total contributions*. Only recently has *Retail* sector size dominance among *Large APRA* funds begun to wane relatively to the *Industry* sector. Evidently, the competitive forces among *Public-offer* funds have worked relatively slowly, as the *Retail* sector has had the largest share of institutional funds, while having the lowest long-term investment returns (before taxes), averaging 4.6 percent per annum since 1997.

As investment performance of the system will soon become more critical, the apparent drag of the *Retail* sector on the viability of Australian superannuation needs to be investigated more fully, as done in this report. Over the 19-year period, the under-performance of the *Retail* sector versus the rest of the system was consistent and persistent (Sy, 2017), suggesting that the drag will continue predictably into the future due to enduring structural factors in the operation of *Retail* funds.

It is the purpose of this report to identify those enduring structural factors and quantify them relative to other sector performances to understand the impact of those factors on the efficiency of the system. A priori, identified factors which affect net investment performance include asset allocation, stock selection and costs. Costs include direct and indirect transaction costs, portfolio construction costs, investment manager fees and administrative costs[4], which depend persistently on the operational structures of the funds.

As mentioned in the previous report, most of the differences in investment performance between sectors are already evident in *Net investment returns*, because differences in *Operating Expenses* are relatively small and stable by comparison. Analysis of most investment costs are limited by the data collected by APRA, because only *Net investment income* (after most investment costs) delivered by investment managers to superannuation funds is reported in the audited accounts.

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[4] Operating cost includes administrative cost and all other costs associated with operating a fund, but in this paper which is focussed on investment performance.

In keeping with strict scientific standards, the data, the methods and the conclusions are fully replicable by the reader, with all assumptions articulated and without making heavy reliance on unproven academic theories. Many of the technical details about the data, benchmark indices and method are explained in the Appendix.

Quarterly Investment Performance

The first report in this series was based on annual data for the 19-year period 1997-2016, which shows that the under-performance of the *Retail* sector versus the rest of the system was consistent and persistent (Sy, 2017), suggesting that the result is due to enduring structural factors in the operation of *Retail* funds.

Starting from September 2004, APRA has collected and published quarterly data on investment performance for sectors of *Large APRA* funds. With more frequent data sampling, but for about half the time period, this collection provides an opportunity to use 49 quarters of data to December 2016 to verify the consistency and persistency in relative sector performance suggested by the annual data, as reported previously.

The most recent quarterly APRA data used in this paper, published on 21 February 2017, include only entities with at least $50 million in *Total assets* which are called here *Larger APRA* funds to distinguish from *Large APRA* funds of all sizes with more than 4 members. Since only annual accounting data are audited, the impact of tax on quarterly *Net returns* is less accurate as estimated by APRA.

The compound annual geometric returns (CAGR), averaged over the full data period from September 2004 to December 2016, are shown in Table 1.

Table 1: Sector Returns (Sep 2004 to Dec 2016)

	Net investment return (% pa)	Pre-tax return (% pa)	Net return (% pa)
Larger APRA	6.7	6.2	6.1
Corporate	7.2	6.9	6.7
Industry	7.7	7.2	7.0
Public sector	7.3	7.0	6.9
Retail	5.8	5.0	5.1
Non profit	7.5	7.1	7.0

In this table, the *Non-profit* sector refers to all *Larger APRA* funds outside the *Retail* sector.

- Over this period, *Retail* funds under-performed against average *Non-profit* funds by between 1.7 to 2.1 percent per annum, across the various rates of return.

- Among *Non-profit* funds, *Industry* funds have marginally out-performed *Public sector* and *Corporate* funds, due largely to their better investment performance overcoming higher costs of *Public offer* operations (e.g. advertising).

Over time, the cumulative sector performances leading to the long-term averages in Table 1 can be shown through sector return indices. An example for *Net investment return* indices is shown in Figure 1.

Figure 1: Sector Return Indices
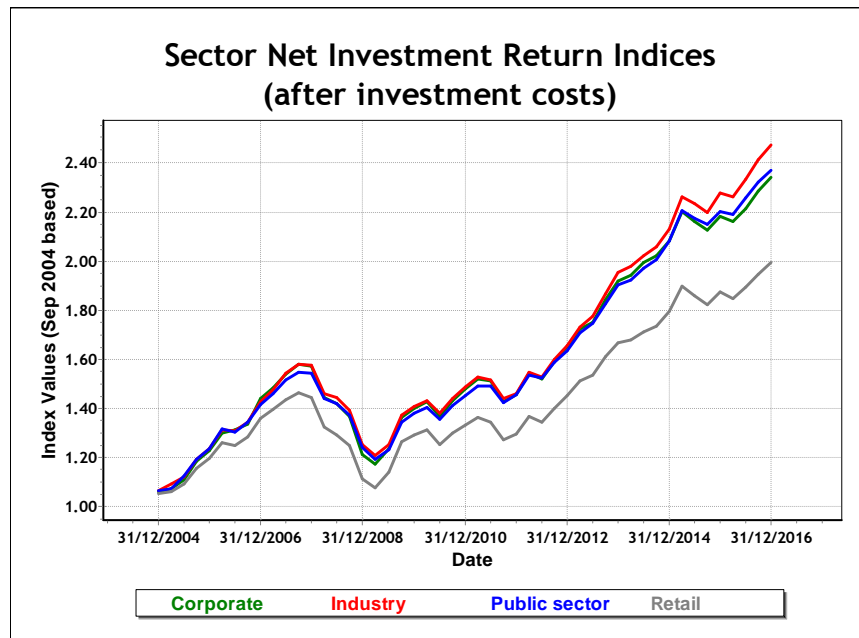
Figure 1 shows that the long-term performances of *Non-profit* funds are very similar, whereas *Retail* funds are clearly an outlier. The fluctuations in the curves of the indices are due to market volatility which makes short-term comparisons of returns noisy and inconclusive. The consistency and persistency of the performance differentials can be made clear and self-evident by calculating relative return indices as shown in Figure 2.

Figure 2: Sector Relative Return Differentials
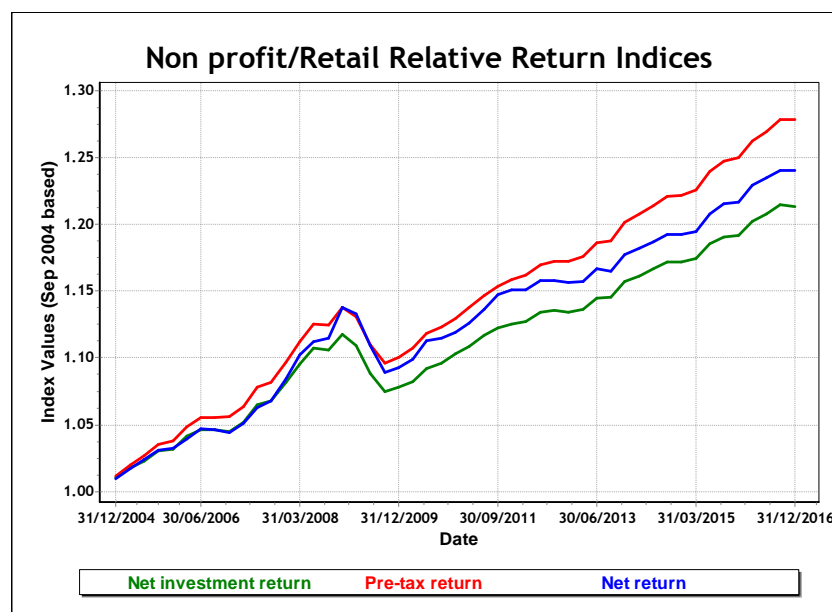
A relative return index shows the cumulative relative performance over time between two investments. Apart from the first few quarters of 2009, Figure 2 shows that the long-term performance of *Non-profit* funds relative to *Retail* funds is very consistent and persistent. The dramatic bear markets of the Global Financial Crisis (GFC) have had a noticeable short-term impact, but not sufficient to change the long-term trend due to structural factors which will be quantified below.

The fluctuations in the curves of the relative return indices have been reduced (compared to Figure 1) by removing the fluctuations which are correlated to market volatility. On any of the return performance measures, the curves show the cumulative additional returns obtained by *Non-profit* funds relative to *Retail* funds. One dollar invested in September 2004 with the average *Non-profit* funds has earned by December 2016, 21 cents to 28 cents more than the final average balances of *Retail* funds of $1.84 to $1.99 (for *Net returns* to *Net investment returns*). That is, over the period, the terminal *Non-profit* balances improved over *Retail balances* by 11 to 14 percent or $2.05 to $2.27, respectively.

As Table 1 shows, the out-performance trend of *Non-profit* funds was not caused by particularly strong performances of *Non-public-offer* funds (in the *Public* or *Corporate* sector) – rather, it was due to *Public offer* funds in the *Non-profit* sector. This is made clear by a direct comparison of *Public-offer* funds in the *Industry* and *Retail* sectors in Figure 3.

Figure 3: *Public-Offer* Funds Relative Return Differentials
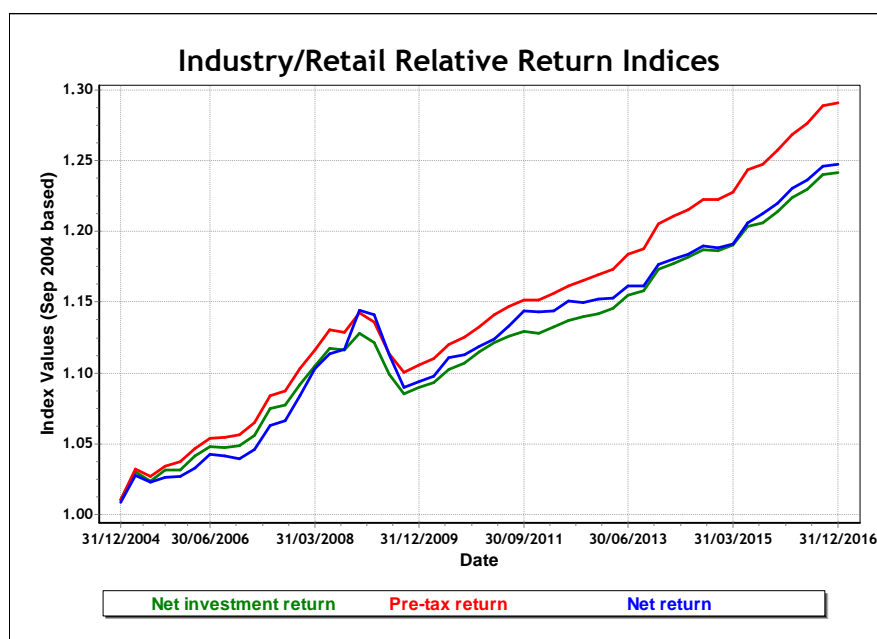
Over the data period, *Retail* funds have reduced their under-performance in *Net returns* relative to other institutional funds by about 0.3 percent per annum from incurring a relatively lower effective tax rate. However, these comparisons confirm that the relative performance of *Net returns* is mainly determined by the relative performance of *Net investment returns*. For simplicity of discussion, this paper is focussed on the analysis of *Net investment returns* (after investment costs) and *Pre-tax returns* (after all costs).

Twelve years of quarterly data have confirmed that, on any timespan of five years or more, *Retail* funds have consistently and persistently under-performed *Non-profit* funds. The 12-year average under-performance was about two percent per annum, measured on an asset-weighted basis since 2004. At $577 billion of *Retail* assets (March 2017), the additional cost to *Retail* members is $11.5 billion per annum.

What are the benefits to *Retail* members from paying the additional cost?

Risk-adjusted Performance

A common explanation from modern finance theory (MFT) taught at universities is that lower returns come from taking less risk, which MFT measures with the volatility of returns. The volatilities, calculated from sample standard deviations, corresponding to return data of Table 1 is shown in Table 2.

<div align="center">

Table 2: Sector Return Volatility (Sep 2004 to Dec 2016)

	Net investment Volatility (% pa)	Pre-tax Volatility (% pa)	Net return Volatility (% pa)
Larger APRA	7.5	7.5	7.2
Corporate	8.0	8.0	7.4
Industry	7.5	7.5	6.7
Public sector	7.1	7.1	6.8
Retail	7.8	7.8	7.6
Non profit	7.3	7.3	6.8

</div>

While measured volatilities of the sectors are not very different over 12 years, *Retail* funds have higher volatilities for any return measure compared to *Non-profit* funds and *Industry* funds, but they have also lower returns (see Table 1). This contradicts MFT. Of course, many who cite MFT do not understand or have forgotten that MFT ignores costs with its assumption of frictionless, efficient market equilibrium; cases citing empirical evidence of the significant impact of costs are treated as "anomalies" in the academic literature. Since markets are not costless or frictionless, the simple relationship of lower volatility with lower returns is empirically false. That is, the factual evidence demonstrates the importance of costs in understanding the real world.

Therefore the real world existence of significant costs may invalidate many conclusions from published academic research on investment and superannuation based on MFT. Importantly, cognitive dissonance between theory and facts alone should not imply that *a priori* theory is right and that observed facts are wrong or that the data are inaccurate. Indeed, this report shows that the reliability of audited accounting data is very critical for understanding the Australian superannuation system provided it is understood that those facts have falsified previously unproven, preconceived theories.

Even over a relatively long period of more than 12 years, Figure 4 shows that there may be no efficient trade-off between textbook risk and return. One possible reason why the market for superannuation products is inefficient, in both an economic sense and in the sense of informational inefficiency of the MFT textbook, is that investment costs are largely unknown to investors because they require considerable effort and cost to estimate.

Figure 4: Sector Risk/Return Trade-offs
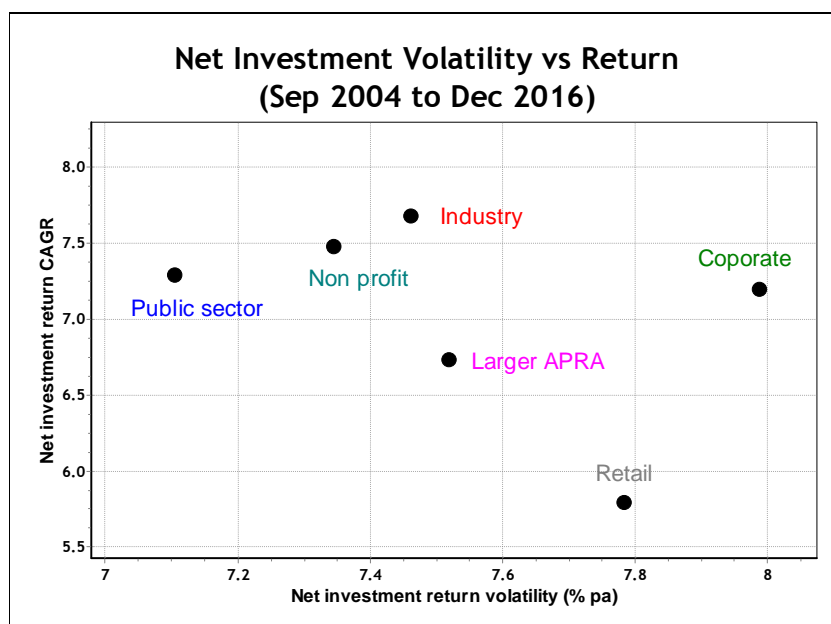
Note that the sector range in volatilities is less than half the sector range in returns, indicating sector returns have greater variance than sector volatilities due significantly to investment costs, as will be shown below.   Based on sectors, the superannuation market is risk-return inefficient because important information on investment costs has been difficult and costly to obtain, so that investors have remained uninformed about their significance in their risk-return decisions. It is a purpose of this report to remedy this information lacuna by providing important estimates on investment costs for investors.

> The quarterly data from 2004 to 2016 show risk aversion of *Retail* funds had failed to reduce risk, because lower returns and higher cost of *Retail* funds did not benefit members with lower risk. Instead of lower volatility, lower *Retail* returns came with higher volatility, contrary to academic theories.

The first paper (Sy, 2017), covering 19 years of annual data, showed that *Retail* funds had about 0.5 percent lower *realized* volatility than *Non-profit* funds – in contrast to the last 12 years of quarterly data which show 0.4 percent higher *realized* volatility. Empirically, return volatility is unstable being apparently variable or heteroscedastic, invalidating the constant assumption of MFT. While this apparent contradiction is relatively small, it demonstrates that realized volatility is less predictable than realized returns which have much larger consistent and persistent differences.

As a matter of academic interest, a risk-adjusted performance measure widely used is the Sharpe ratio defined by

$$Sharpe\,Ratio = \frac{Portfolio\,Return - Cash\,Return}{Portfolio\,Volatility} \qquad (1)$$

Taking the riskless cash return to be given by the Australian bank-bill index, with a compound annualized geometric return (CAGR) of about 4.4 percent, the data in Tables 1 and 2 can be used to calculate the sector *Sharpe ratios* shown in Table 3.

Table 3: Sector Sharpe Ratios (Sep 2004 to Dec 2016)

	Net investment return	Pre-tax return	Net return
Larger APRA	0.31	0.24	0.24
Corporate	0.35	0.31	0.31
Industry	0.44	0.37	0.39
Public sector	0.41	0.37	0.37
Retail	0.18	0.08	0.09
Non profit	0.42	0.37	0.38

The best performing sectors are highlighted in green and worst performing sectors are highlighted in red. Whilst the results may appear to make sense in Table 3, there are a number of significant defects with the Sharpe ratio in real-world applications. Three defects, in relation to the current context, which are worth mentioning here:

- MFT assumes all investors are alike, which is not the case;
- MFT assumes that cash is the appropriate benchmark, which may not be the case for superannuation applications;
- MFT assumes efficient market equilibrium where portfolio returns from taking risk are always rewarded with statistically higher returns than the riskless cash returns.

It will be discussed below that there are different types of investors and, therefore that different types of benchmark are required. When portfolio risk-taking is not rewarded with returns exceeding cash returns, portfolio excess returns are negative and negative Sharpe ratios can produce nonsensical results (Sy and Liu, 2009) – which can be illustrated with sub-periods of the current dataset.

By taking four distinct three-year sub-periods between September 2004 and September 2016, the following sector *Net investment returns* are obtained in Table 4.

Table 4: Sector Net investment Returns
(% pa, 3 Year Averages)

Period	Corporate	Industry	Public sector	Retail	Large APRA
2004-2007	16.4	16.4	15.7	13.6	14.9
2007-2010	-3.2	-3.0	-3.0	-3.9	-3.4
2010-2013	8.7	9.0	8.9	7.4	8.3
2013-2016	7.5	8.9	8.3	6.5	7.7

The highest sector returns are highlighted in green, while the lowest are highlighted in red. Not only are the results consistent with those found in the first report and with Figures 2 and 3, they are confirmed here even for short sub-periods of three years. For the most recent sub-period, *Industry* funds out-performed *Retail* funds. The corresponding volatilities calculated from 12 quarters of sector returns are shown in Table 5.

Table 5: Sector Volatility (% pa, 3 Years to Sep 2016)

Period	Corporate	Industry	Public sector	Retail	Large APRA
2004-2007	4.5	4.1	4.5	4.1	4.1
2007-2010	12.1	10.7	10.3	12.0	11.3
2010-2013	6.6	6.4	5.6	6.4	6.2
2013-2016	4.7	4.8	4.4	4.9	4.7

The highest sector volatilities are highlighted in red, while the lowest are highlighted in green. The ranges between highest and lowest sector volatilities are much narrower and less predictable than the ranges for sector returns, suggesting that the volatilities of the underlying asset classes are also less predictable than their returns. The *Sharpe Ratios* corresponding to Tables 4 and 5 are shown in Table 6.

Table 6: Sector Sharpe Ratios
Net investment Returns (3 Year Averages)

Period	Corporate	Industry	Public sector	Retail	Large APRA
2004-2007	2.31	2.54	2.15	1.86	2.16
2007-2010	-0.71	-0.78	-0.81	-0.77	-0.78
2010-2013	0.69	0.76	0.85	0.51	0.67
2013-2016	1.09	1.35	1.34	0.83	1.12

In three of the four sub-periods, the *Sharpe ratios* appear to make sense (at least for ranking) when excess returns are positive, which is an assumption of equilibrium MFT. However, in the period 2007-2010, excess returns are negative, leading to nonsensical *Sharpe ratios*. The *Corporate* sector had the highest volatility with the second worst return, but has the best *Sharpe ratio* (highlighted), while the *Retail* sector, with nearly as high volatility and the lowest return, had the second best *Sharpe ratio* (highlighted).

In this report, different types of investors are recognized and the different sectors, which cater to the needs of different types of investors, are acknowledged as operating differently. Therefore, different benchmarks are needed to measure the efficiency of their operations. A risk-adjusted performance measure called a risk-adjusted value-added (RAVA) metric, which does not assume market equilibrium of MFT, is discussed below.

In sub-periods of three years when the *Sharpe ratios* were positive and valid, the *Retail* sector achieved consistently lower risk-adjusted performances than other sectors.

Asset Allocation and Benchmark Return

The rational trade-off between risk and return expected from equilibrium MFT has been contradicted by the empirical data (see Figure 4), because the textbook assumption of negligible investment cost is incorrect. Different investment philosophy and different operational structures result in different investment costs which are not negligible in the real world. Yet the available data reported to the regulator are unreliable for measuring true investment costs which are a key to understanding the empirical observations.

The reason that investment costs cannot be reported accurately to the superannuation regulator is due to the highly intermediated arrangement of the Australian investment industry, where indirect costs (see Appendix) are incurred at many points of the investment process. What happens during the complex investment process before the *Net investment returns* are obtained and reported to superannuation funds, has to be estimated through empirical research, as done in this report. The main analytical steps in estimating investment costs are as follows:

- Estimate *Gross investment returns* from asset allocation data using the investment performance of relevant benchmark indices; and

- Calculate effective investment costs from the difference between *Gross investment returns* and *Net investment returns* (see equation (2) below) which are given or calculated accurately from audited accounting data.

This analysis provides a decomposition of *Net investment returns* into two factors: asset allocation impacting on *Gross investment returns* and operational structure impacting on effective investment costs. Because *Gross investment return* is estimated from benchmark indices, it is used synonymously with *Benchmark return* of a portfolio, while e*ffective* investment cost (or simply *Investment cost*) is defined as actual investment cost minus investment out-performance (or under-performance) net of investment costs over the *Benchmark return*.

It is widely accepted from empirical observations and analysis that asset allocation is a key determinant of investment performance (Brinson et al., 1986; Ibbotson and Kaplan, 2000). While active stock selection can perform differently from the capital-weighted benchmark of an asset class, the average result of active stock selection by investors is zero, due to cancellation of winners and losers, before costs (Sharpe, 1991; Bogle, 2014). This fact has also been proved mathematically in the *Cost Matters Theorem* (Sy, 2008a).

For a superannuation sector with large *Total assets*, its portfolio is an aggregation of many individual portfolios. The sector investment performance is the asset-weighted average performance of all its member portfolios. Since the active stock selection of many individuals largely cancel each other out in each asset class, the residual aggregate impact of stock selection for a sector is small or near zero, *before costs*.

Hence the *Gross investment return* of a sector is well approximated by its *Benchmark return*, which is defined by the returns of benchmark indices weighted by the asset allocation of the sector. The *Net investment return* of the sector is then determined by the following equation:

$$Net\,investment\,return = Benchmark\,return - Investment\,cost \qquad (2)$$

Since *Net investment return* is calculated from accounting data in the previous paper (Sy, 2017), once *Benchmark return* is calculated from asset allocation data (see below), *Investment cost* can be estimated from equation (2).

Equation (2) would be exact, rather than approximate, if the definition of *Investment cost* is broadened to be *Effective investment cost*, which includes any value added in excess of benchmark performance (as mentioned above). In this case, *Investment cost* (abbreviated from *Effective investment cost* for convenience) could be negative if *Value added*, net of investment expenses, is positive (i.e. when out-performance overcomes costs). In this report, unless otherwise stated, *Investment cost* is *Effective investment cost* and it is the negative of *Value added* and vice versa. The terms are used interchangeably depending on which term is clearer in any given context.

The asset allocation data needed to calculate *Benchmark returns* for sectors are only available from APRA following the Super System Review (SSR, 2010; Cooper, 2010) which recommended improved reporting on investments, particularly for *MySuper* products. Implementation of new reporting requirements came into effect from 1 July 2013. This report uses the published quarterly asset allocation data for sectors (see details in the Appendix), covering the three-year period from September 2013 to September 2016.

Sector Asset Allocation

Asset allocation data reflect the investment philosophy, implementation and operational structure of different types of superannuation funds seeking to attract, retain and serve different types of members.

> Trustees of *Non-profit* funds mostly accept the tasks of asset allocation and portfolio construction as their fiduciary duty and they offer and encourage members to select optimized portfolio options. In contrast, trustees of *Retail* funds, for the most part, eschew those important tasks encouraging their members to construct their own portfolios, thus making them bear the additional cost of portfolio construction often involving the expensive services of financial advisors.

There are other important consequences following from these contrasting trustee philosophies. *Retail* funds emphasize choice for members who are encouraged to be *engaged* in active switching between investment options, in dynamic asset allocation or short-term market timing. Such operational structures require liquid assets with high turnovers, favouring listed, rather than unlisted, asset classes. The short-term philosophy of *Retail* funds has trustees leaving asset allocation and portfolio construction in the hands of individual members.

On the other hand, *Public sector* and *Industry* funds recognize superannuation investing is for the long-term. They take greater fiduciary responsibility in asset allocation for their members by constructing limited numbers of optimized portfolios as investment options for their members with most in default options. Because switching and trading are substantially reduced at the level of asset classes, the demand for liquid asset classes is significantly reduced. This operational structure allows *Non-profit* funds to make more direct, long-term and illiquid investments such as in infrastructure projects.

Reflecting the differences in investing and operational structure, the different uses of asset classes lead to non-homogenous reporting in the asset allocation data. Furthermore, it is relatively early days for APRA (since 2014) in collecting and publishing asset allocation data, which often have inconsistent levels of granularity, with or without data on asset sub-classes. Broad comparisons of sector asset allocation in this report use only major asset classes, while their sub-classes or component asset classes are shown in Table A1 in the Appendix.

The data for September 2016 provide a recent snapshot of how money is invested in the various asset classes by the superannuation funds regulated by APRA. Table 7 shows the dollar sizes of the investment by the various sectors in the major asset classes.

**Table 7: Asset Allocation ($ billion) to
Major Asset Classes, September 2016**

Sector	Corporate	Industry	Public sector	Retail	Large APRA
Cash	5	49	41	84	179
Fixed income	15	81	77	126	299
Equity	27	233	164	277	701
Property	5	50	32	37	125
Infrastructure	2	42	16	9	69
Other	1	14	18	24	58
Total	56	469	348	557	1,429

In September 2016, institutional funds managed about $1.4 trillion, with the greatest allocation of about $700 billion (or about half), to the *Equity* asset class. In portfolio percentages, the sector asset allocations are shown in Table 8.

**Table 8: Asset Allocation (%) to
Major Asset Classes, September 2016**

Sector	Corporate	Industry	Public sector	Retail	Large APRA
Cash	9	10	12	15	13
Fixed income	27	17	22	23	21
Equity	48	50	47	50	49
Property	9	11	9	7	9
Infrastructure	4	9	5	2	5
Other	2	3	5	4	4

It is observed that:

- *Public sector* and *Corporate* sectors have similar overall defensive assets to the *Retail* sector but earlier findings demonstrate they have consistently better *Net investment returns* than *Retail* funds (see Table 4).

- The *Industry* sector has the highest exposure to Property and Infrastructure, which are mostly unlisted and illiquid assets.

Time series snapshots (see Appendix) indicate that sector asset allocations evolve only slowly over time. The sectoral asset allocations in September 2016 (see Table 8) are shown correspondingly in Figure 5.

Figure 5: Sector Asset Allocation September 2016
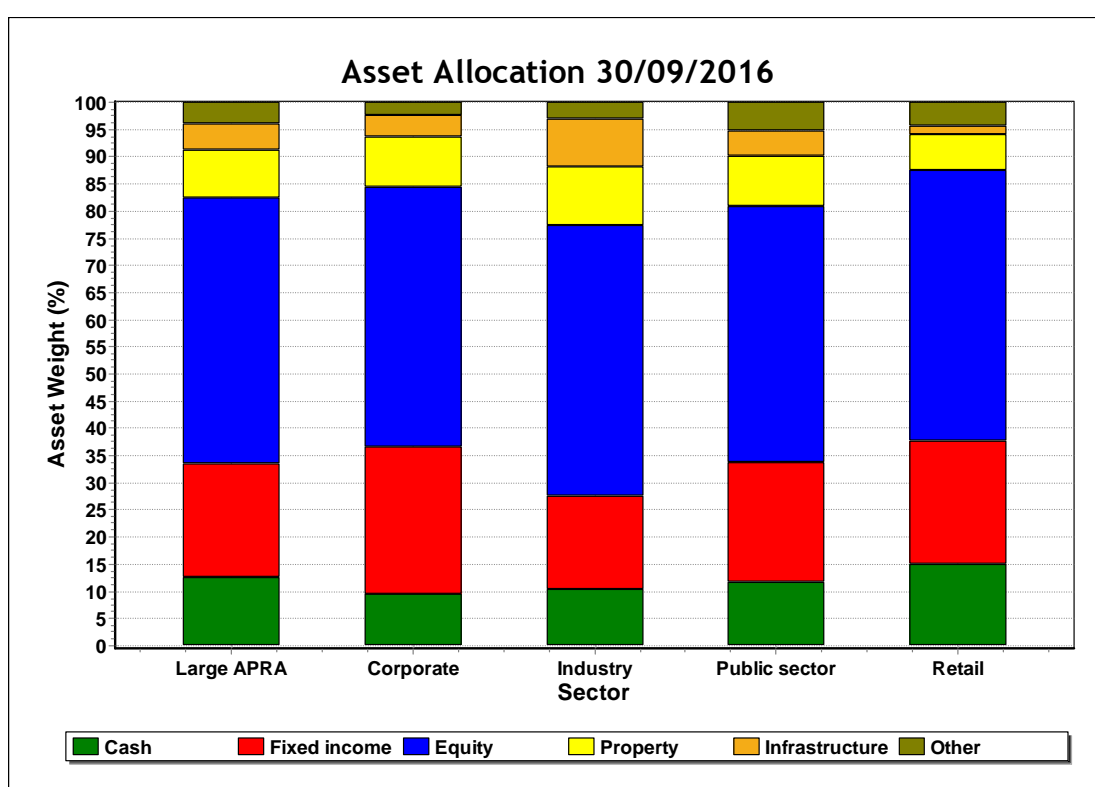
The interesting observation here is the similarity in asset allocations between the *Corporate* and *Retail* sectors (see Table 8 and Figure 5), particularly in the proportions of defensive assets. From Figure 4 above, these sectors have greater similarity in volatility than in return, suggesting that asset allocation has greater impact on volatility than on return. This observation is consistent with the view that investment costs are higher for *Retail* than *Corporate* funds, and are a significant determinant for the differences in *Net investment returns*.

In other words, had it not been for higher investment costs in the *Retail* sector (to be shown below) *Retail* sector returns would be much closer to *Corporate* sector returns, shifting the data-point for the *Retail* sector upwards in Figure 4 to closer to seven percent, more than one percent greater than what was actually delivered. This is another indication of greater costs of *Retail* funds.

Operational Structures and Benchmarks

Since not all investors are alike, it is important to understand that there are potentially different benchmarks to serve different purposes. For example, an asset consultant may set a benchmark against which the performance of a hired investment manager is measured. In the context of a diversified portfolio, the benchmark may typically be a strategic asset allocation specified by the consultant with asset classes assumed to perform in line with market indices. Hence the benchmark measures the skills of the hired manager to add value through dynamic asset allocation and active stock selection.

In the superannuation fund context, the trustees of *Non-profit* funds typically hire asset consultants to set strategic asset allocations for a limited number of investment options offered to their members. In this case, the *Non-profit* funds are providing an asset allocation service for their members through portfolio optimization, by hired asset consultants, of their investment options. That is, *Non-profit* trustees under the Superannuation Industry (Supervision) Act (SIS Act) perform their fiduciary duty by providing their members with professional services of asset allocation, which is widely accepted as an important determinant of investment performance. Hence *Non-profit* trustees are responsible for, and add value through, asset allocation.

As mentioned above and in contrast, *Retail* trustees do not see asset allocation as their fiduciary duty; they operate on a commercial model where individuals are encouraged to have total freedom of choice to select their own assets and optimize their own portfolios. Default options with embedded asset allocations remain a small part of *Retail* funds. For asset allocation flexibility, *Retail* members need to have the requisite financial skills, knowledge and resources to optimize their own portfolios, or they may pay for the services of financial advisers who are assumed to be expert portfolio optimizers acting in their best interest. Hence *Retail* trustees have substantially divested responsibility for, and consequently do not add value through, asset allocation. Effectively, the cost of asset allocation is passed onto *Retail* members.

In either case, whether *Retail* or *Non-profit*, trustees are responsible for implementation of asset allocations and for actual construction of portfolios using internal or external investment managers. Of course they are responsible for administration, reporting, compliance and member service in operating their funds. However, for *Retail* funds, the operational structures are more complex in every respect because of the large number of choices in their offerings – more investment managers, more financial advisors, more documentation, more complex compliance, more requirements for member service, more complex computer systems, and so on. The increased investment and operating expenses have to be passed ultimately onto *Retail* members. Many of these costs are not declared as fees, which can lead to inaccurate reporting, and can potentially mislead members.

By design*, Retail* members are encouraged, through their own asset allocations, to quickly change asset classes, investment managers and their compositions. With the availability of hundreds if not thousands of investment options, it is claimed that they can control their

portfolio risk at a much finer granular level than *Non-profit* members who may only be able to control their portfolio risks through a finite number of discrete composite investment options.

However, such flexibility in dynamic asset allocation by *Retail* members may lead to frequent switching among numerous choices racking up high transaction costs. Moreover, to cater for short-term member switching, *Retail* funds are limited to liquid assets and they have greater difficulty investing in long-term illiquid assets, such as infrastructure, which may provide better returns than liquid assets. Empirical evidence shows that more choices and options generally work against members' best interest (Sy, 2011; ISA, 2017).

The different operational structures of superannuation funds are reflected in different asset allocation data collected by APRA, particularly at sub-class levels beneath major asset classes. The performance benchmarks which can be constructed from the available asset allocation data are necessarily quite different, reflecting the different operational structures. The benchmarks are used to estimate *Gross investment returns* largely determined by aggregate asset allocation (see equation 2) and the selection of market indices.

The selection of market indices, which determines *Gross investment returns* or benchmark returns, depends on the purpose and the type of investor. For example, an investor who understands and wants to analyse different *Industry* funds would use market indices including direct property and infrastructure because they reflect performance expectations of the investor more accurately. On the other hand, a self-managed fund (SMSF) member who wants to measure the potential value added by *Industry* funds as a sector would use simple market indices of the major asset classes, because that would be how a naïve investor would otherwise implement their own asset allocations.

In general, *Non-profit* funds would use typical benchmarks of asset consultants who include more sophisticated market indices, because those benchmarks would measure more accurately the implementation performance of the trustees. On the other hand, more appropriate for sophisticated investors of *Retail* funds would be financial adviser benchmarks which employ, for reasons of liquidity and convenience, a wider range of listed market indices including international assets and currency hedging, but without lumpy and illiquid assets such as direct property. A sensitivity analysis of how different types of benchmarks affect *Gross investment return* estimates is provided in the Appendix.

There are limitations in the asset allocation data available for comparison, particularly at the fund-level, where only allocations to major asset classes are published annually by APRA. On average, most funds have around half of their *Total assets* in equity, but the split between domestic and international equity has not been reported. Over the past few years, sector data show that most funds have significant exposures to *International equity,* at around 20 percent of *Total assets*, and their investment performance has been significantly different from domestic equity. Hence the benchmark for *Equity* should reflect the impact of allocations to *International equity*.

To reflect more accurately the reality, a composite index for the *Equity* asset class needs to be constructed to include both *domestic* and *International* equity. For most funds asset allocations have remained relatively steady over the past few years. A detailed analysis, not reported here, shows a suitable *composite equity index* consists of 60 percent domestic equity, 30 percent International equity unhedged (to currency) and 10 percent hedged. In this report, the construction of a composite equity index is based on 60 percent S&P/ASX Accumulation 200 Index (AUD), 30 percent MSCI Total Return Net World Ex-Australia USD Index (converted to AUD), and 10 percent MSCI Total Return Net World Ex-Australia Local (Currency).

The *Gross investment returns* are estimated from benchmarks which include the impact of asset allocation implemented through simple major market indices and a *composite equity index*. Therefore, *Benchmark returns* minus *Net investment returns* (given by data) are the estimated actual investment costs (direct and indirect), which are reduced by any positive value added through implementing asset allocations.

Table 9 shows the *Majors-Plus* market indices used in benchmarks, where the *Equity* index is the composite *Equity* index defined above. This approach, limited by available data, may set low performance benchmarks in some cases, against which actual performances of more sophisticated implementations may show up as greater value added.

Table 9: Majors-Plus (with Composite Equity) Indices of Benchmarks

Asset Class	Index
Cash	Bloomberg AusBond Bank Bill Index (Formerly UBS Bank Bill Index)
Fixed interest	Bloomberg AusBond Composite 0+ Year Index (Formerly UBS Composite Bond Index All Maturities)
Equity	Composite Index (60% domestic; 30% international unhedged; 10% hedged); defined above
Property	S&P/ASX 200 Accumulation A-REIT Index
Infrastructure	MSCI Australia Infrastructure Net Return Local (AUD)
Other	Australian Stock Exchange Accumulation Small Cap Ordinaries Index

The consequences of using alternative benchmarks for different sectors are briefly discussed in the Appendix, which shows that more sophisticated benchmarks have little material impact on relative performances between sectors over the last three years, but would affect how sector or fund performances are attributed to different factors.

Benchmark Performance

In this report, *Benchmark returns* are *Gross investment returns* when asset allocations are implemented through the *Majors-Plus* market indices shown in Table 9. Investment performances of the *Majors-Plus* market indices, over three years to September 2016, are shown in Table 10.

Table 10: Performance of Majors-Plus Indices
(Sep 2013 to Sep 2016)

Asset Class	Volatility (% pa)	Return (% pa)
Cash	0.1	2.4
Fixed interest	3.3	6.2
Equity	8.8	8.5
Property	10.0	17.7
Infrastructure	9.3	16.5
Other	10.5	7.1

Given quarterly performances of *Majors-Plus* market indices above, and the type of asset allocation data shown in Table 8 and Figure 5 (for September quarter 2016), sector benchmark performances calculated for three years to September 2016 are shown in Table 11.

Table 11: Sector Benchmark Performance
(Sep 2013 to Sep 2016)

	Volatility (% pa)	Return (% pa)
Larger APRA	5.6	8.3
Corporate	5.4	8.2
Industry	6.0	8.9
Public sector	5.5	8.4
Retail	5.4	7.8

It is important to note that the actual return and volatility of a sector are obviously different from those of its theoretical benchmarks. For example, the sector benchmark volatilities (above five percent per annum) in Table 11 are clearly higher than actual sector volatilities (below five percent per annum) as shown in the last row of Table 5. The main reason is: with only six major asset classes (even with a composite *Equity* index) in the construction of benchmark portfolios, there is more limited diversification compared with actual portfolios, which therefore results in higher benchmark portfolio volatility.

In reality, most superannuation fund portfolios have allocations to more asset classes and therefore have greater portfolio diversification and, thus, lower actual volatility. In the absence of actual portfolio volatilities, the relative differences in benchmark volatilities between sectors are useful theoretical indicators of relative risks, which are worth measuring, but should be used and interpreted with care.

As mentioned above, *Corporate* and *Retail* sectors have greater allocation to defensive assets which yield lower investment returns from major market indices, as seen in Table 10. Of *Public offer* funds, *Industry* funds have better benchmark performance with 1.1 percent per annum greater return than *Retail* funds, while conceding theoretically 0.7 percent per annum in greater volatility. Over the period, professional asset consultants have added

value through higher benchmark returns from asset allocation for *Non-profit* funds, compared to lower returns and less efficient risk-adjusted performance of *Retail* funds.

Over the three-year period to September 2016, the risk-return characteristics for both market indices and sector benchmarks, corresponding to Tables 10 and 11, are shown in Figure 6.

Figure 6: Market Indices and Sector Benchmarks
Risk/Return Trade-offs
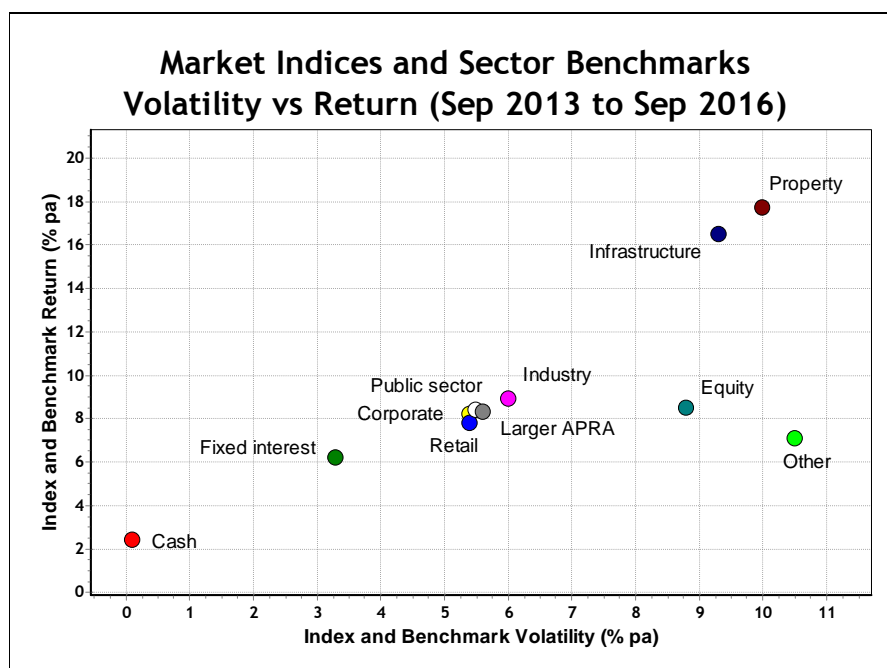
In the grand scheme of things, sector asset allocations (see Figure 5) are not so dramatically different (being bunched together in the middle of the chart). The relatively minor differences result in similar benchmark characteristics when compared to the wide dispersion in characteristics of market indices. The *Retail* and *Corporate* benchmarks have the theoretically equal lowest volatilities of 5.4 Percent per annum compared to the highest of 6.0 percent (see Table 11), whereas actually the *Retail* sector had the highest volatility of 4.9 percent compared to the lowest of 4.4 percent (see Table 5). This confirms our earlier suggestion that relative volatilities are less predictable than relative returns.

The range in sector benchmark volatilities was less than one percent per annum and it is much less than the range in sector benchmark returns of more than two percent per annum. The similarity in benchmark performances suggests that asset allocation is unlikely to be the whole, or even the dominant, explanation for the consistent and persistent performance differences between the sectors (see Figures 2 and 3).

> In aggregates, compared to outcomes of market indices, the consequences of asset allocations on performance are not substantially different between sectors. Therefore, large performance differences in sector returns are unlikely to be explained predominantly by asset allocation.

Performance Attribution

Hence the above data analysis of benchmarks casts some doubt on a common assertion in the superannuation industry (based on theory, but without empirical proof) that the superior investment performance (Sy, 2016a) of *Industry* funds over *Retail* funds is due largely to differences in asset allocation. The reason to be sceptical of this assertion is that the differences in asset allocation or benchmark volatilities appear not to be great enough to explain wholly the persistent differences in sector returns.

Therefore, according to the accounting logic stated in equation (2), the other explanation for persistent differences in sector returns is investment cost offset by value added from investing skills. To quantify the contributions from asset allocation and operational efficiency, a performance attribution of sector returns is shown in Table 12.

Table 12: Sector Value Added and *RAVA*
(% pa, 3 Years to Sept 2016)

	Corporate	Industry	Public sector	Retail	Large APRA
Net investment return	7.5	8.9	8.3	6.5	7.7
Benchmark return	8.2	8.9	8.4	7.8	8.3
Value added	-0.7	0	-0.1	-1.3	-0.6
***RAVA* (%)**	-13	0	-2	-24	-11

When reasonably chosen, gross benchmarks (before costs) normally exceed *Net investment* returns (after costs), because it is virtually impossible for large portfolios after investment costs to beat gross benchmarks (Sy, 2008a). Value added is normally negative and is a measure of indirect investment costs. *Industry* funds have minimized costs, while *Retail* funds have incurred the highest costs. Return volatility considerations can be taken into account by a risk-adjusted value added (RAVA) metric defined (Sy and Liu, 2009) by

$$RAVA(\%) = 100 \times \frac{Value\,added}{Benchmark\,volatility} \tag{3}$$

The *RAVA* metric shown in the last row of Table 12 can be used to provide a ranking criterion for risk adjusted performance. If markets were efficient and benchmarks were properly specified, then it is likely that, due to costs – typically *Value added* and hence *RAVA* – would be negative. From Table 12, the *Industry* sector evidently ranked marginally ahead of the *Public sector* at the top, while the *Retail* sector ranks at the bottom for the three year period to September 2016.

In a comparison of *Public offer* funds, the performance differences between the *Industry* sector and the *Retail* sector are attributed to the two factors of asset allocation and investment cost in Table 13.

Table 13: Public Offer Net Investment Return Attribution (% pa, 3 Years to Sept 2016)

	Industry	Retail	Difference
Benchmark return	8.9	7.8	1.1
Value added	0	-1.3	1.3
Net investment return	8.9	6.5	2.4

Much of this report has concentrated on decomposing *Net investment returns* before they come into superannuation funds as *Investment income* delivered by investment managers. Operating expenses have then to be deducted to obtain earnings after all costs but before taxes. *Operating expenses*, being largely dependent on operational structures, are quite consistent and persistent, as seen in Table 1. For *Industry* funds, *Operating expenses* subtract 0.5 percent per annum, while for *Retail* funds, they subtract 0.8 percent.

To summarize the factors which explain the performance difference between the *Industry* funds and *Retail* funds, Table 4 provides a decomposition of the *Pre-tax* returns (after all costs but before taxes).

Table 14: Public Offer Pre-tax Return Attribution (% pa, 3 Years to Sept 2016)

	Industry	Retail	Difference
Gross investment return	8.9	7.8	1.1
Value added	0	-1.3	1.3
Operational cost	0.5	0.8	0.3
Pre-tax return	8.4	5.7	2.7

Asset allocation, due to differences between asset consultant portfolios and financial planner portfolios (or other self-allocated portfolios) accounts for 1.1 percent per annum. The use of other types of long-term assets, and avoiding indirect costs, enabled *Industry* funds to off-set some costs relative to their benchmark and achieved zero effective cost. Lower investment costs account for 1.3 percent per annum improved return to *Industry* members. Simpler operational structures with fewer choices cut down operational cost accounting for another 0.3 percent of the difference of *Pre-tax* returns.

At the end of the March quarter 2017, *Retail* funds had *Total assets* of about $577 billion. If these assets were managed in the same way as *Industry* funds, then *Retail* superannuation members would be better off by about $15.5 billion per annum due to improvements in returns of 2.7 percent per annum after all cost but before taxes. This assumes the members take advantage of the asset allocation services provided inclusively through optimized diversified options of *Industry* funds. Otherwise if they do their own asset allocation, these hypothetical members would still be better off collectively by $9.2 billion per annum simply from the lower cost structures of *Industry* funds.

Based on this comparison between *Industry* and *Retail* sectors, the performance attribution shows *additional* costs (on 2017 assets) for *Retail* members come from the following sources:

- Choice of asset allocation and portfolio construction costs amount to 1.1 percent per annum or $6.3 billion;

- Indirect investment costs from trading, financial advice and other activities amount to 1.3 percent per annum or $7.5 billion;

- Increase in complexity of administration and operation costs amount to 0.3 percent per annum or $1.7 billion.

As shown in Figures 2 and 3, such savings for *Retail* members are not random or transient, applying only to the last few years, but long-term, consistent and persistent as potential savings into the future.

> In summary, asset allocation accounts for 1.1 percent of the performance difference between *Industry* and *Retail* funds, while costs and operational structure account for 1.6 percent. At March 2017 *Retail* assets, the three-year performance analysis to September 2016 suggests that *Retail* members will pay in future an additional $9.2 to $15.5 billion per annum, relative to *Industry* members, in indirect investment costs, operational costs and possibly asset allocation costs.

Summary of Attribution Analysis

To illustrate the "dollar" implications of the above performance attribution, consider a hypothetical but realistic example of what might be obtained from the annual statements of typical members in the *Industry* sector versus the *Retail* sector. In the following comparison, the performance numbers are approximate because they depend on what period is used for averaging, though the relative magnitudes are more accurate than the absolute magnitudes due to market volatility.

Assume a typical member with an opening account balance of $100K and total contributions (before tax) of $10K during one year, ignoring details in the calculation, the results before superannuation costs and taxes shown in Table 15 provide an illustrative example.

Table 15: Comparative Member Account Balances ($'000)
(Before costs and taxes)

	Industry	Retail	Difference	Comment
Opening account balance	100	100		
Total contributions	10	10		
Gross investment return	8.9	7.8	1.1	Asset allocation
Gross account balance	119.3	118.2		

Gross investment earnings are cash flow adjusted and are estimated to tally with the *Net investment earnings* known accurately from data. Given the different asset allocations, the benchmark return, or gross investment return, of the *Industry* sector exceeds that of the *Retail* sector by 1.1 percent, or $1,100 in gross account balance. *Net investment returns* for the sectors are given by APRA accounting data, which are used (with Equation 2) to deduce the Gross investment earnings from relative benchmark returns in Table 15.

Table 16: Comparative Member Account Balances ($'000)
(After costs and taxes)

	Industry	Retail	Difference	Comment
Gross account balance	119.3	118.2		
Total investment cost	0	1.3	1.3	Indirect cost
Net investment balance	119.3	116.9		Data given
Operating cost	0.5	0.8	0.3	Data given
Superannuation tax	1.4	1.4	0	Contribution tax
All costs and taxes	1.9	3.5	1.6	Cost differences
Closing account balance	117.4	114.7	2.7	After AA + cost

For any probable situation in reality (see Appendix), the total investment cost for the *Industry* sector would not be zero. With more accurate benchmarks, its actual cost would probably be similar to those for *Public sector* funds from direct costs. See the Appendix for a more accurate attribution of performance difference.

The *Retail* sector has additional indirect costs of 1.3 percent per annum, from portfolio construction, financial advice, and so on.   The overall impact of asset allocation and investment costs, on *Net investment return* as reported in APRA accounting data, is an advantage of $2,400 (on average over one year) in the account balance of an Industry fund member over that of a *Retail* fund member, before operating costs and taxes are paid at the fund level.

As reported to the regulator, *Retail* funds have higher operating costs than *Industry* funds, by 0.3 percent per annum, due to more complex operation, with many investment options and more switching by members. The superannuation taxes paid by funds are mostly the 15 percent contribution tax, as other taxes appear to cancel themselves out at the sector level. Some of the indirect costs of *Retail* funds may be attributable to transaction taxes paid by investment managers external to the funds.

Comparing closing account balances of $117,400 and $114,700 of *Industry* and *Retail* fund results does not seem so alarming, but comparing 7.4 percent to 4.7 percent *Net return* or comparing $7,400 net investment earnings to $4,700, seems more dramatic. As has been observed by others, significant contribution flows to the system or to individual accounts have masked the underlying poor investment performance of many *Retail* funds.

In summary, a typical *Industry* member with an opening account balance of $100K and total contributions (before tax) of $10K in one year would have a closing account balance $2,700 higher than an equivalent *Retail* member, due to factors of asset allocation, indirect costs and operating expenses, decomposed respectively as follows:

$$\$1,100 + \$1,300 + \$300 = \$2,700. \tag{4}$$

Are there other qualitative explanations for these numbers?

Scale and Structural Comparison

A common, but unsubstantiated, perception is that the relatively poor performance of the *Retail* sector is due to the lack of scale of some of the smaller *Retail* funds, as there are 131 *Retail* funds versus 41 *Industry* funds in March 2017. The assumption is that *Industry* funds have performed better simply because, on average, they have an advantage of scale. The further implication is that conglomerates with their large scales would be among the better performers among *Retail* funds. It is insinuated that the relatively poor performance of the *Retail* sector is caused by the lack of scale of many smaller *Retail* funds.

The superannuation regulator has even suggested (APRA, 2017) that scale should be a criterion for evaluating the fitness of responsible superannuation entities (RSE) to be licensed to operate, and has urged smaller *Retail* funds to merge. Quite apart from the fact that this policy creates a barrier to entry for new competitors and encourages monopolies, there is little convincing empirical evidence to suggest that scale is either necessary or sufficient to benefit members (Sy, 2012; PC, 2016, pp.102-106). One simple reason given from the research (Sy, 2012) is that the Australian superannuation system operates largely on variable costs through asset-based fees – with greater assets leading mostly to greater fees to service providers. Therefore, the benefits of economies of scale are captured largely by financial service providers and not by superannuation members, though the situation may be changing in recent years in the *Industry* sector, where large funds have been increasing their levels of direct investing.

As *Industry* funds adopt direct investing and internalize more of their investment functions, variable costs fall relative to rising fixed costs. With increasing assets, their operational structures benefit from economies of scale, which ultimately lowers cost for their members. Note it is the operational structure which matters, not scale per se. Australian financial conglomerates, particularly the four major banks, have substantial scale, but their superannuation operations have high variable costs and are not structured for any cost savings from scale to benefit members.

The most recent year in our dataset, 2016, was one of low market returns. Such conditions are best for revealing the impact of costs on scale and net returns. There are 167 funds which supplied relatively complete fund level data to APRA in 2016. Categorizing funds with *Total assets* greater than $10 billion as large, funds with less than $1 billion as small and those in between as medium – and taking simple and asset weighted averages for each group – the impact of scale on 2016 *Pre-tax* returns for the *Industry* sector and *Retail* sector can be seen in Table 17.

Table 17: Impact of scale on 2016 Pre-tax Returns

Sector	Average	Large	Medium	Small
Industry	Asset weighted	4.3	3.6	2.8
	Simple	4.1	3.4	2.4
Retail	Asset weighted	1.5	1.8	2.3
	Simple	1.6	1.9	2.1

If scale is an important determinant, then asset-weighted averages would be greater than simple arithmetic averages. For the *Industry* sector, the impact of scale is evident across all size categories (see top two rows). For the *Retail* sector, the impact of scale is only evident in the small size category (see bottom two rows). For *Industry* funds, across all averages, larger sizes have greater returns, whereas for *Retail* funds it is the reverse.

> The benefits of scale for members apply only to *Industry* funds and other *Non-profit* funds, and not to *Retail* funds, because *Industry* funds have substantial direct investments in long-term illiquid assets, leading to lower components of variable cost in their operational structures.

The latter result of larger *Retail* funds having higher costs may appear counter-intuitive, but financial conglomerates have greater ability to take advantage of vertical integration to extract corporate revenues and shareholder profits, at the expense of their members (as discussed below). Also, a possible explanation may be that smaller *Retail* funds may have greater institutional flexibility to lower fees and to charge performance-based fees. Due to bureaucracy, larger funds tend to be more rigid and less discretionary in their operations. As noted previously (Sy, 2012), *Industry* funds are more likely to benefit their members through economies of scale because their operational structures have relatively higher fixed costs and lower variable costs compared to *Retail* funds, which have mostly variable costs in their operation.

Large Fund Comparison

Industry funds and *Public sector* funds have relatively large sizes, but is size the dominant factor in their better performance? Is scale the main explanation? This is unlikely to be the case, as suggested in the previous section, because many *Retail* funds have large sizes also. In this and previous reports, results have been asset-weighted and therefore have been adjusted for scale. However, it is instructive to compare more directly the performances of selected large funds, which in the *Retail* sector are dominated by financial conglomerates.

A group of conglomerates can be defined by the six major financial institutions with Australian Stock Exchange (ASX) symbols: AMP, ANZ, CBA, MQG, NAB and WBC. Official data collected by APRA show that in June 2016, they managed collectively $378 billion in superannuation assets in 30 *Public offer Retail* funds (excluding ERFs) with an average of $63 billion per conglomerate. They also managed, for their staff and employees, three *Non-Public-offer Corporate* funds which generally perform well – much better than their other *Public offer* funds.

From available fund-level data, in June 2016 there were 33 *Industry* funds, all of which are *Public-offer*, which collectively managed $386 billion in *Total assets*. Not only did the two groups, *Industry* and *Conglomerate*, manage nearly the same *Total assets*, their average fund sizes are similar with *Conglomerate* at $12.6 billion edging out *Industry* at $11.7 billion per fund. A performance comparison of these two groups of funds over the most recent three years is shown in Table 18.

Table 18: Conglomerate Performance Comparison (2014-2016)

Year	Group	Funds	Total assets ($B)	Net investment return (% pa)	Pre-tax return (% pa)	Net return (% pa)
2014	Industry	33	311	13.7	13.2	12.4
	Conglomerate	28	329	11.2	10.5	10.5
2015	Industry	33	357	10.3	9.9	9.6
	Conglomerate	32	372	8.5	7.8	7.9
2016	Industry	33	386	3.9	3.5	3.6
	Conglomerate	30	378	1.8	1.1	1.4
2014-16	Industry	33	351	9.2	8.8	8.5
	Conglomerate	30	360	7.1	6.4	6.5

Despite same scale characteristics, like-for-like, it should not be surprising that performance differences between the two groups are consistent and persistent. Averaged over all returns and periods, *Industry* funds performed better than *Conglomerate* funds by 2.1 percent per annum over this dataset.

- Over the three-year period, *Retail* members of conglomerates would have paid in total about $45 billion more in fees and in under-performance than comparable *Industry* fund members.

- Operational structure rather than scale is the important factor in reducing cost to superannuation members.

Essentially, in the performance difference between *Industry* funds and *Retail Conglomerate* funds, the two groups of funds with similar numbers and scale are used for comparison.

Comparing the group of *Industry* funds against the group of *Public-offer Conglomerate* funds (AMP, ANZ, CBA, MQG, NAB and WBC), which have similar numbers, *Total assets*, and scale, it is evident that it is operational structure rather than scale that is more important in reducing cost and improving investment performance for superannuation fund members.

In the previous report, the demographics effect on fund flows has been eliminated as the main explanation for the observed performance differences, because *Public sector* funds have larger net fund out-flow due to withdrawals than *Retail* funds, and yet *Public sector* funds have performed better in a similar fashion to *Industry* funds.

In this report, the demographic effect on asset allocation has been shown to provide a partial, but minor, explanation for the observed performance differences because *Corporate* funds have similar asset allocations as *Retail* funds. *Corporate* funds also consistently out-performed *Retail* funds, though by a lesser amount than the other sectors. To quantify the effect of asset allocation on investment performance in the current comparison, estimates of value-added versus benchmarks need to be made and risk-adjusted metrics need to be calculated.

Sector asset allocation data used above are available quarterly for three years, enabling benchmark volatilities to be calculated directly from the fluctuations of benchmark returns. Asset allocation data for funds are available only annually for three years. Benchmark volatilities have to be estimated from the fluctuations of the underlying market indices using variance-covariance matrices, assuming the funds do not substantially alter their asset allocations over the period. Such estimates may be inaccurate at the level of individual funds if they are active in dynamic asset allocation or if they have relatively large fund flows, but the inaccuracy would diminish when aggregated over many funds.

Given the caveats about data limitations, particularly in the short-term, performance comparisons relative to benchmarks derived from asset allocation data are presented in Table 19.

Table 19: Performance Comparison vs Benchmarks (% pa)

Year	Group	Benchmark volatility	Benchmark return	Pre-tax return	Value added	RAVA (%)
2015	Industry	7.8	10.9	9.9	-1.0	-13
	Conglomerate	7.0	9.4	7.8	-1.6	-22
2016	Industry	9.1	5.7	3.5	-2.2	-24
	Conglomerate	8.2	4.5	1.1	-3.4	-41
2015-16	Industry	8.5	8.3	6.7	-1.6	-19
	Conglomerate	7.6	6.9	4.4	-2.5	-33

For 2015, asset allocation appears to have accounted for much of the performance difference between *Industry* and *Conglomerate* funds, 1.5 percent out of 2.1 percent, but asset allocation accounted for only half of the performance difference in 2016, 1.2 percent out of 2.4 percent. That is, indirect costs are even more evident in a low-return year. Note that *Value added* (negative) relative to *Pre-tax return* measures all costs. Even through short-term fluctuations, the relative performances are consistent and persistent.

On a risk-adjusted basis as measured by the RAVA metric, *Industry* funds have remained better performers than *Conglomerate* funds – less convincingly in 2015, but more convincingly in 2016. However, while the results with benchmarks are consistent with long-term results without benchmarks, one or two years of risk-adjusted results show some short-term variability.

Top 10 Comparison

To eliminate any possible "noise" from smaller funds even within large groups, the largest individual funds are checked in a large fund comparison. Among *Public offer* funds and among top ten largest funds, all with more than $30 billion in *Total assets*, five are *Industry* funds and five are *Retail* funds – one with each of the four major banks and AMP. In 2016, these top ten funds managed in combination $511 billion as shown in Table 20 below.

Table 20: Top 10 Public Offer Funds 2016

Fund name	Short name	Sector	Total assets ($B)	Directly invested (%)
AustralianSuper	AusSuper	Industry	104	73
Retail Employees Superannuation Trust	REST	Industry	42	70
Sunsuper Superannuation Fund	Sunsuper	Industry	39	64
Health Employees Superannuation Trust Australia	HESTA	Industry	36	65
Construction & Building Unions Superannuation	CBUS	Industry	34	59
Colonial First State FirstChoice Superannuation Trust	CBA	Retail	66	11
Retirement Wrap	WBC	Retail	57	17
AMP Superannuation Savings Trust	AMP	Retail	53	0
The Universal Super Scheme	NAB	Retail	46	0
OnePath Masterfund	ANZ	Retail	34	0

The *Total assets* of the top ten *Public offer* funds are split equally between *Industry* and *Retail* sectors, with about $255 billion each. However, substantially more than 50 percent of the assets of large *Industry* funds are invested directly, providing opportunities to benefit from economies of scale, while large *Retail* funds have little direct investments and thus afford themselves fewer opportunities to reap the benefits of scale.

Individual fund equivalent of Table 19 for assessing performance against benchmarks over 2015-16 is shown in Table 21.

Table 21: 2015-16 Average Performance Comparison vs Benchmarks (% pa)

Short name	Sector	Benchmark volatility	Benchmark return	Pre-tax return	Value added	RAVA (%)
AusSuper	Industry	8.6	8.6	7.4	-1.2	-14
REST	Industry	8.4	7.8	5.4	-2.4	-29
Sunsuper	Industry	8.4	7.9	5.8	-2.1	-24
HESTA	Industry	8.7	8.1	6.4	-1.7	-20
CBUS	Industry	8.8	9.2	7.8	-1.4	-16
CBA	Retail	6.7	7.0	4.3	-2.7	-39
WBC	Retail	7.6	6.9	3.8	-3.1	-41
AMP	Retail	8.7	7.9	5.1	-2.8	-33
NAB	Retail	7.7	6.4	4.9	-1.5	-20
ANZ	Retail	7.3	6.2	4.4	-1.8	-26

The range in benchmark volatilities from 6.7 percent to 8.8 percent (2.1 percent range) was narrower than the range in benchmark returns from 6.2 percent to 9.2 percent (3.0 percent range). Values added by the funds are all negative, indicating net effective total costs (from both investing and operating). The average effective cost for the five *Industry* funds was 1.8 percent, while for the five *Retail* funds it was 2.4 percent – a difference of 0.6 percent per annum for the two-year period.

The average benchmark volatility for the five *Industry* funds was 9.7 percent, while for the five *Retail* funds, it was 8.7 percent, giving them 1.0 percent lower average volatility. On the other hand, the average benchmark and *Pre-tax return* for the five *Industry* funds were 5.8 and 3.3 percent, while for the five *Retail* funds they were 4.6 and 1.1 percent respectively, giving a Pre-tax return difference of 2.2 percent in favour of *Industry* funds. Therefore, the average RAVA score for the *Industry* funds was -26 percent, while for the *Retail* funds it was -40 percent. In 2016, as measured by the RAVA metric, the lower volatilities of *Retail* funds compared to *Industry* funds, were not efficient trade-offs for their lower returns.

The risk/return trade-offs for both 2015 and 2016 can be seen in Figure 7, where *Industry* funds are shown as red data points, while *Retail* funds are shown in blue.

Figure 7: Top 10 Risk/Return Comparison
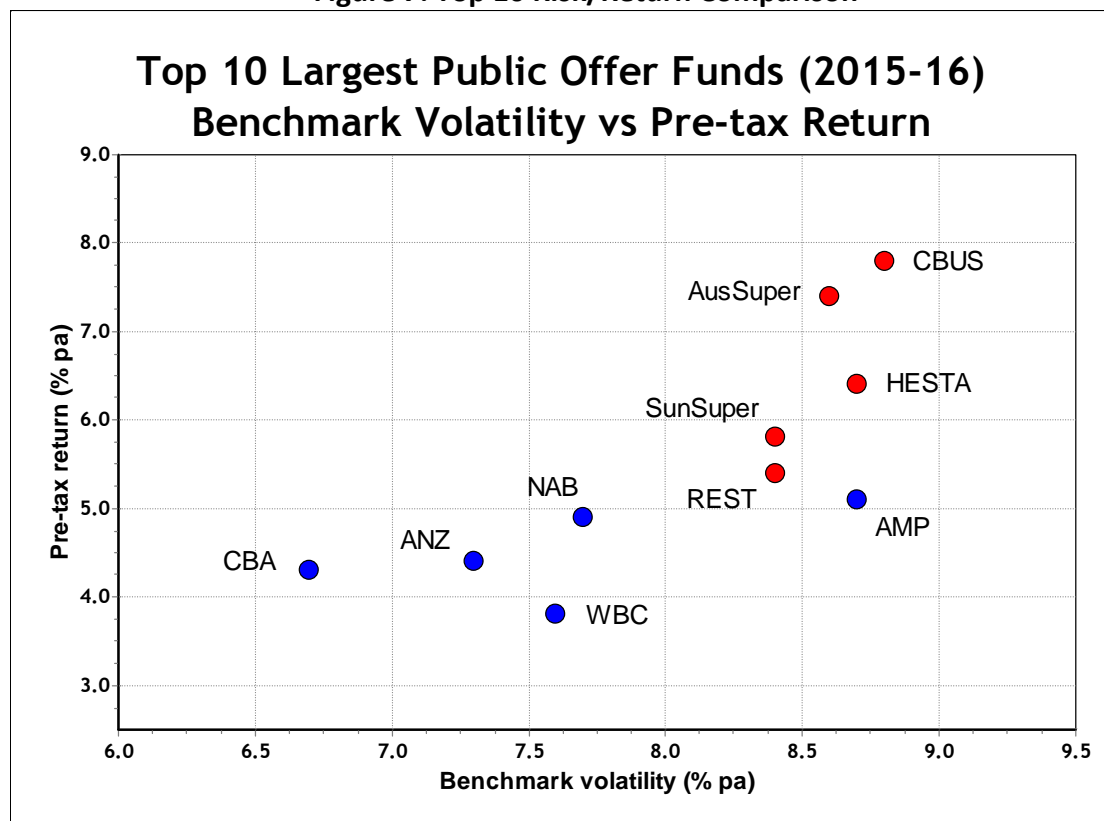
The range in returns at four percent per annum is larger than the range in volatilities at 2.1 percent per annum. Noticeably, the range in volatilities among *Industry* funds is narrow and apparently predictable, whereas the range in volatilities in *Retail* funds is much wider and less predictable. On the other hand, the range of returns among large *Retail* funds appears to be narrow and predictable relative to each other.

A risk adjusted assessment of the top ten *Public offer* funds which Includes both 2015 and 2016 RAVA scores is shown in Table 22.

**Table 22: Risk Adjusted Value Added (RAVA) Scores (%)
for Pre-tax Returns**

Short name	Sector	2015	2016	2015-16
AusSuper	Industry	-14	-14	-14
REST	Industry	-5	-49	-29
Sunsuper	Industry	-13	-34	-24
HESTA	Industry	-13	-25	-20
CBUS	Industry	-26	-8	-16
CBA	Retail	-28	-48	-39
WBC	Retail	-29	-51	-41
AMP	Retail	-20	-44	-33
NAB	Retail	-1	-33	-20
ANZ	Retail	-22	-29	-26

Over the two-year period, total RAVA scores were all negative, indicating that effective costs (from investing and operating) were positive, as expected. The average total RAVA score for the five *Industry* funds was -21 percent, while for the five *Retail* funds was -32 percent. Note that this difference in RAVA scores is even greater in the 2016 bear market where for the five *Industry* funds was -26 percent and for the five *Retail* funds was -41 percent. This contradicts the common claim that *Retail* funds perform better in bear markets when adjusted for risk.

The limited sampling here is consistent with the broader sampling in Table 17, where the corresponding RAVA scores are -4 percent for all *Public offer Industry* funds and -20 percent for all *Public offer* conglomerate funds.

Conglomerate Case Study

The importance of audited accounting data, at sector level or fund level, should be emphasized. It is the accuracy, certainty and integrity of data which compel serious consideration, rather than summary dismissal, of any surprising results which may contradict common prejudice and misconception. The results presented here (with substantial cross-checking) are not due to data errors, as often dismissed by those funds shown in poor light, but are, in fact, a much closer approximation to the truth. To further validate our results and their interpretation, a brief case study[5] is presented here of the largest financial conglomerate in Australia.

In its 2017 annual report, CBA announced a record net profit after tax (NPAT) of $9.9 billion, but only a small portion ($554 million) of NPAT was due to wealth management. It would be very wrong to associate (as some have done) this wealth management profit simply with investment cost to CBA funds under management (FUM) of $206 billion (including superannuation funds). Wealth management NPAT would only be 0.27 percent of FUM. More relevant is the income or revenue generated from wealth management by CBA from investment fees and costs paid by superannuation members.

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[5] Disclosure: The author is a client of CommBank and CommSec, as well as a direct shareholder of CBA.

The wealth management income was about $2 billion, which was about one percent of FUM. This is a more reasonable indication of direct cost, but is still a significant under-estimate of the cost to CBA superannuation members because indirect costs are not declared in superannuation. Indirect costs of superannuation, not declared as investment fees, come from the division of institutional banking and market dealing.

Indirect costs, generating substantial bank income for CBA, include commission paid to stockbroking, margin lending, losses to principal trading revenue of the bank, financial advice and other services (see Appendix). This part of the banking business is very profitable with the ratio of operating expenses to income sitting at less than 38 percent, compared with a higher ratio of nearly 71 percent for wealth management. These sources of "other banking income" totalled $5.5 billion or about 2.7 percent of FUM. Naturally not all of this income, as costs to all investors, could be attributed entirely to CBA superannuation, but it represents the potential size of indirect costs to its superannuation members.

The information in the annual report is consistent with our research estimates, indicating that indirect cost for investing could be greater than direct cost which has been disclosed at about one percent per annum. Assuming that *Industry* funds operate at low effective cost of about 0.85 percent per annum, from the performance differentials *Retail* funds could be operating at about three percent per annum total cost (see below). If this is the case, at June 2016 *Total assets* of $255 billion, *Public-offer Retail* funds of conglomerates alone would pay $7.7 billion in costs. This would be consistent with CBA taking in about $3 billion in fees and indirect costs from superannuation. How, in what ways, are such costs extracted from investors?

Indirect costs are extracted in many ways (see Appendix). With principal trading, legal and accepted as a way to provide transactional liquidity, the stockbroking arm of a financial conglomerate can simply front-run the trades of its fund management arm. For example, with an order to buy ten million BHP shares when the price was $25, the stockbroker as principal trader could accumulate ahead the shares at an average price of $25.50 (say), but the buying pressure moved the BHP share price to well over $26 (say). The stockbroker then fills the buy order at an average price of $26, earning 50 cents per share or five million dollars in trading revenue. Such indirect cost for its fund management operation, at the expense of investors of the fund, is not easily measured and certainly not recorded anywhere as a cost to members.

Another example of indirect cost at the superannuation fund level is netting of switching within investment products or options. Suppose one member buys $100,000 worth of units in an equity fund and another sells the same amount on the same day. If the switching cost is one percent, for either purchase or sale, then the fund collects $2,000 in switching fees, but these offsetting trades have absolutely no impact, either in cost or investment performance, on the fund because the fund portfolio remains unchanged. Such transaction costs affect member balances but have no impact on the cost or performance of the fund. The unit prices of the fund give no indication of the cost to members when they are induced to trade.

There are many other ways indirect costs are borne by superannuation members which are difficult or impossible to quantify individually, and their overall impact can only be seen in audited accounting data in aggregate. This is one of many reasons why product performance data are unreliable, while fund level data are vital for assessing the true impact of costs on the overall performance of the superannuation system. Yet there has been a move by the regulator to ignore research on this important audited data, but instead collect unaudited data reported on such quantities as unit prices, fees and costs. Regulators should not publish data which they cannot check independently and take responsibility for.

Of the $9.9 billion profit made by CBA in 2017, probably $3 billion to $4 billion of the profit on revenues of $6 to $7.5 billion (as fees and trading profits) came from profits of wealth management and related activities, of which a substantial part is associated with superannuation from revenues through direct fees and indirect costs.

> In this case study of CBA, the magnitudes of the numbers in the financial statements from its 2017 annual report are consistent with the general conclusions from official data sources that the average cost of funds under management of *Retail* funds may be between two to three percent per annum greater than those of *Industry* funds.

The operational structure of *Retail* funds, particularly conglomerates such as CBA, is dictated by the imperative to generate income and make profit for their trustee companies, related-party corporations and their shareholders. The governance issues and conflicts of interest exhibited by trustee director associations and remunerations have been observed (Sy, 2008b). The general strategy of a conglomerate is to unbundle a product or service into many steps in different business units and then charge fees separately at each step through cross selling among units. This practice makes indirect costs of superannuation investing difficult to identify and quantify. The amount of revenues extracted through greater margins and greater varieties of fees can be glimpsed from sections of the annual reports of financial conglomerates, as indicated above.

Under the *For-profit* operational model of *Retail* funds, fund members are seen as clients or customers who exercise *free-choice* in investment products, much like depositors who exercise *free-choice* in purchasing saving products. The *free-market* or *neoclassical* assumption is that market competition determines the appropriate levels of fees which *fully informed* fund members are willing to pay. If fund members dislike what they are getting, they are free to take their investments elsewhere – but fund members are generally poorly informed about the costs they are paying. The *free-market* idea of competition is the competition for profits, as customer satisfaction is assumed to follow, but this is the case only in a fully informed market.

> This report has repudiated the textbook assumption that more than 90 percent of investment performance differences are explained by asset allocation. In the real-world of inefficient markets of Australian superannuation with information asymmetry and substantial friction costs, asset allocation explains less than 45 percent, while cost explains more than 55 percent of the performance differences between fund portfolios.

Attribution to asset allocation is volatile and unpredictable like the underlying markets, whereas attribution to cost is consistent and persistent like the underlying operational structures of the funds. Market volatility often masks the significant impact of cost in explaining investment performance differences.

Review of Fees and Costs

This report has shown the important impact of operational structure on net investment returns after costs, which are critical in understanding the efficiency of the Australian superannuation system. Modern finance theory (MFT) and academic research on superannuation are generally silent on cost (in the sense of this report), because they assume frictionless markets reflected in such theories as capital asset pricing models (CAPM) and efficient markets in equilibrium. The cost in MFT refers to the cost of capital, which is related to leverage or the use of debt, and not to market friction and "leakages" in the real world.

Essentially, most academic research, if it is to be accepted easily for journal publication, is precluded generally from studying friction cost. Any findings on costs are considered "anomalies" in academic literature. Many research grants, journal publications and professorships in economics, banking and finance are endowed by financial conglomerates, which are anxious to avoid public exposure that their business models have high friction costs – a focus of this report.

There has been consultant research on superannuation fees (e.g. Bonarius and Rice, 2014), but fees are not the only costs, because fees are merely direct costs declared to, and paid by, superannuation funds. The simple collation of fees data provides little clue on methodology or validation or understanding of the data. The average total fee for all funds of 1.12 percent per annum (Bonarius and Rice, 2014), does not reflect the full cost to Australian superannuation. Beauty parades on fees are not useful, but rather may actually be misleading.

Fees alone could significantly under-estimate the total cost of superannuation, because undeclared indirect costs have been shown to be substantial, as this report has estimated from a top-down approach. The method of adding up known costs can only produce lower bounds on the total cost, because the method is *limited by one's knowledge* of what are *all* the costs to be researched and reported. Recently, in a typical bottom-up approach, Rainmaker (2017) assessed some indirect costs such as insurance and financial advice. If such costs are included by Rainmaker (2017), then the 2016 overall cost (excluding tax) for superannuation increased significantly from the commonly perceived cost of the industry to $31 billion (or about 1.5 percent[6] of *Total assets*), in closer agreement with our estimates here and in the previous paper.

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[6] This is based only on 2016 estimates; longer-term averages are higher at about two percent (see Table 1) and hence the system may cost members as much as $40 billion per annum at current assets.

Rainmaker (2017) estimated that financial advice alone may account for nearly $6 billion of the total cost through advice fees and transfer payments or commissions. Insurance premium may be significant, but are offset by benefit payments received from claims, so that the net impact of insurance on the overall cost of superannuation has been substantially reduced. Assuming Rainmaker's $31 billion total system cost, and assuming *Industry* funds have on average 0.85 percent investment cost and 0.5 percent operating cost with an all-in cost of 1.35 percent, then provisional estimates of system all-in cost collated from various sources attributed to various sectors are compared in Table 23.

Table 23: Sector All-in Cost Analysis (Jun 2016)

	Total assets ($B)	Total cost (% pa)	Total cost ($B)
Corporate	55	1.26	0.7
Industry	466	1.35	6.3
Public sector	356	1.26	4.5
Retail	545	2.95	16.1
SMSF	622	0.60	3.7
System	2044	1.53	31.3

Annual performance differences of over two percent of which the cost difference constitutes over 1.5 percent, between *Industry* and *Retail* funds, are consistent with similar experiences in other countries (Ambachtsheer, 2017). In estimated costs, *Retail* funds are responsible for about half of the cost of the whole system (Rainmaker, 2017), while managing only about a quarter of its *Total assets*. At 2.7 percent per annum excess cost, when all factors are taken into account, the consequence for Australian superannuation and for *Retail* members, in particular, may be quite serious.

> After 40 years of same retirement contributions, depending on reasonable assumptions, a *Retail* member may accumulate less than 60 percent of the total saving of an equivalent *Industry* fund member.

Rainmaker (2017) estimated that of the $31 billion cost to Australian superannuation in 2016, $28 billion or about 90 percent was captured by the financial services industry, of which $12.3 billion or 40 percent of all superannuation costs was captured by the *Conglomerate* group (as defined above). The case study above showed that, from the provision of superannuation operation and related services, CBA could well have captured $6 billion, or nearly half of its income, to generate the 2016 profit of about $3 billion from superannuation and related market dealings for its executives and shareholders.

Naturally, most of the $31 billion in superannuation system cost (Rainmaker, 2017) has provided jobs for propriety traders, market dealers, stock brokers, financial advisers, accountants, computer programmers, and so on, creating a class of well-paid workers. Moreover, they have also provided high bonuses for executives and dividends for shareholders. These activities cost *Retail* members (through higher indirect cost), and thus the superannuation system about $10 billion per annum more than appears necessary. The key question for the Productivity Commission (PC, 2016) and other superannuation reformers is:

Is this structure of Australian superannuation most efficient for providing retirement income for millions of Australians?

The pension systems of Denmark and the Netherlands, which ranked higher than Australia's in the 2016 Melbourne Mercer Global Pension Index (MMPGI, 2016), have adopted models of *Non-profit* mutual trustees which avoid multiple conflicts of interest. The defined contribution system of Australian superannuation was partly an imitation of the 401(k) plan in the US, invented by Ted Benna in 1979 (Benna, 2017). By 2011, Ted Benna thought he had created a "monster"; his reported explanation (Olshan, 2016) was:

> *The plans had grown so overcomplicated and so fraught with hidden fees and opportunities for bad decisions that they were better at enriching the financial industry than the actual savers.*

In the Australian case, at current assets, hidden fees cost about $9.2 billion per year and bad decisions, in asset allocation and associated switching, cost another $6.3 billion, totalling $15.5 billion loss for *Retail* fund members. By comparison, government income support for seniors (i.e. the Age Pension) currently costs $45 billion per annum.   With the ringing of this alarm bell on *Retail* cost here and overseas, do we need to wait for the United States to reform its system first before the Australian Government has the courage to act on the evidence presented here and elsewhere?

Conclusion

This report has investigated the factors which might explain the performance differences between sectors in long-term trends observed in the previous report. The factors considered for their relative impact include asset allocation, operational structure and scale.

As more financial details beyond annual audited accounting data are used in this study, the datasets become more limited in various ways. For example, quarterly sector and fund level data go back only to 2004. Asset allocation data for sectors are quarterly, and for funds only annually, starting from June 2014. Despite limitations, the available granular data confirm in detail the general findings of the first paper.

The major findings are summarized as follows. References to tables and figures are for those contained in the main text.

- Twelve years of quarterly data have confirmed that, over any timespan of five years or more, *Retail* funds have consistently and persistently under-performed *Non-profit* funds (see Figure 2). The 12-year average under-performance was about two percent per annum, measured on an asset-weighted basis since 2004. At $577 billion of *Retail* assets (March 2107), the additional cost to *Retail* members relative to *Non-profit* fund members is $11.5 billion per annum.

- The quarterly data from 2004 to 2016 show risk aversion of *Retail* funds had failed to achieve benefits, because lower returns and higher cost of *Retail* funds did not benefit members with lower risk (see Figure 4). Instead of lower volatility, the lower *Retail* returns came with higher volatility, contrary to academic theories which ignore costs.

- In sub-periods of three-year duration when the *Sharpe ratios* were positive and valid, the *Retail* sector achieved consistently lower risk-adjusted returns than other sectors (see Table 6).

- Trustees of *Non-profit* funds mostly accept the tasks of asset allocation and portfolio construction as their fiduciary duty and they offer and encourage members to select optimized portfolio options. In contrast, trustees of *Retail* funds eschew those important tasks and encourage their members to construct their own portfolios, thus making them bear additional costs which often involve the services of financial advisers.

- In aggregates, compared to outcomes of market indices, the consequences of asset allocations are not substantially different between sectors (see Figure 6). Therefore, large performance differences in sector returns are unlikely to be explained predominately by asset allocation.

- Asset allocation accounts for 1.1 percent of the performance difference between *Industry* and *Retail* funds, while indirect costs and operational structure account for another 1.6 percent (see Table 14). At current *Retail* assets, the three-year performance analysis to September 2016 suggests that *Retail* members are paying an additional $15.5 billion[7] per annum, relative to *Industry* members, from asset allocation ($6.3b), indirect investment ($7.5b) and operating costs ($1.7b).

- The benefits of scale for members apply only to *Industry* funds and other *Non-profit* funds, and not to *Retail* funds (see Table 15), because *Non-profit* funds have substantial direct investments in long-term illiquid assets leading to more fixed cost in their operational structures, as economies of scale depend on less variable cost.

- Comparing the group of *Industry* funds against the group of *Public-offer* conglomerate funds (AMP, ANZ, CBA, MQG, NAB and WBC), which have similar numbers, *Total assets*, and scale, it is evident (see Table 16) that operational structure rather than scale is important in reducing cost and improving investment performance for superannuation fund members.

- In some selected short-term periods, *Retail* funds may have lower volatilities, owing to their more risk-averse asset allocation, but at sector level or conglomerate group level or individual fund level, their risk/return trade-offs, as measured by the RAVA metric, are inefficient (see Table 20) – as they give up typically about twice return performance in exchange for any reduction in volatility.

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[7] This relative cost is higher, compared with the *Industry* sector over three years rather than with the *Non-profit* sector as a whole over 12 years, as in the first point.

- A case study of CBA shows that the magnitudes of the numbers in the financial statements from its 2017 annual report are consistent with the general conclusions that the average cost of funds under management of *Retail* funds may be between two to three percent per annum greater than those of *Industry* funds.

The over-riding assumption of *economic rationalism* which underpinned the 1996 Wallis reforms is that the *free-market* produces the best long-term outcomes for members. The empirical facts observed here and in the previous report appear to contradict this assumption, probably due to flawed theories of markets. Most of the empirical observations may be explained by recognition that there are two distinct types of trustees:

- *For-profit* shareholder-oriented *Retail* trustees; and

- *Non-profit* member-oriented mutual trustees.

This leads to the fundamental question of which type of trustees is more consistent with the original intentions of the *SIS Act 1993*, even before the Wallis reforms in 1996 assumed *economic rationalism* is efficient for superannuation – which should be seriously questioned following the global financial crisis (GFC).

For-profit Retail trustees have an inherent conflict of interests, as the evidence suggests (Sy, 2008b). *For-profit Retail* trustee directors have a fiduciary duty under the *Corporations Act 2001* (Section 181) to act in the best interest of principals and shareholders. However, the same *For-profit Retail* trustee directors have also a fiduciary duty under the *SIS Act 1993* (Section 52) to act in the best interest of beneficiaries. Since the directors are rewarded by shareholders, the conflict of interests has been resolved evidently in favour of shareholders, but against the interests of beneficiaries, as the empirical evidence presented in this report has made clear.

If there were no *For-profit Retail* trustees then that part of the financial services industry related to superannuation would shrink from over $30 billion to about $20 billion per annum. In June 2016, according to the Australian Bureau of Statistics, the size of the financial services industry was $146 billion per annum. Hence without *For-profit Retail* trustees, the financial services industry would contract by less than seven percent from its current size. On the other hand, an additional $10 billion income from reduced costs for the superannuation system would increase *Net returns*, on average, by 0.5 percent per annum, which represents a significant boost in benefit for members.

The Productivity Commission has concluded (PC, 2016) that a key measure of the efficiency of the superannuation system is *Net returns* to its members. This report has indicated a way of increasing *Net returns* substantially, by simplifying a large and unnecessarily complex part of the superannuation system.

Currently, in an inherently conflicted situation, without meaningful reform on too many confusing choices, one possible palliative for the malady of unnecessary cost and low *Net returns* is to improve the information available to beneficiaries, who may then make better decisions in their own interests. The *MySuper* initiative, following a recommendation of the

Super System Review (2010), is an attempt to improve competition for default options by reducing the information asymmetry (Sy, 2011) which has caused inefficiency and dysfunction of the *free-market* in Australian superannuation.

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Appendix

Data Sources

In this report, the main sources of accounting data for financial performance and asset allocation for sectors come from the following Australian Prudential Regulation Authority (APRA) file:

- Quarterly Superannuation Performance December 2016 (released 21 February 2017): Tables 1a, 1d, 2a, 2d, 3a, 3d, 4a, 4d, 5a and 5d.

The data have to be merged together manually into a single database, not being downloadable from a single source file. Some simple calculations are required to put the data into values of recognizable names of the various asset classes.

Tables 1a, 2a, 3a, 4a and 5a contain end of quarter data from December 2004 to December 2016, representing 49 quarters of accounting financial positions. These data can be used to calculate quarterly *Net investment returns* and Pre-tax returns after operating expenses of the aggregate *large APRA* funds and their sectors (*Corporate, Industry, Public sector and Retail*).   The calculated returns for sectors can be used to estimate the risks from investing in the sectors by computing their return volatilities for 49 quarters or four three-year sub-periods.

Tables 1d, 2d, 2d, 4d and 5d provide 14 quarterly asset allocations from September 2013 to December 2016, for the aggregate *large APRA* funds and their sectors (*Corporate, Industry, Public sector and Retail*). These asset allocation data will be used to calculate 13 quarterly benchmark returns by multiplying each asset allocation with its benchmark index returns and then adding up all component benchmark returns to create a benchmark return for a given asset allocation. Due to calculation done earlier, the data for the three-year period to September 2016 are used to present sector benchmark performances.

For Fund-level data, the main sources of annual accounting data for financial performance and asset allocation for individual funds come from the following Australian Prudential Regulation Authority (APRA) file:

- Annual Fund-level Superannuation Statistics back series (released 1 February 2017): Tables 3 and 9.

Table 3 and Table 9 provide respectively annual financial performance data and annual asset allocation data from June 2014 to June 2016. Retaining funds with 12-month duration in data, not winding-up and having non-zero *Total assets*, we obtained data for 193 funds in 2014, 192 in 2015 and 177 in 2016, the initial pass.

It should be noted that, from APRA data, the dollar sum of asset allocation to all asset classes adds up close to, but not exactly the same as, *Total investment*. So for consistency reasons, instead of accepting the published numbers for *Total investment*, we have assumed that the dollar sum of all asset classes *is* the *Total Investment*, so that all investments sum up to 100 percent of *Total Investment.*

The *Conglomerate* group is defined by all *Public-offer Retail* superannuation funds (excluding *Retail–ERF*) which belong to the six major conglomerates, with Australian Stock Exchange (ASX) symbols: AMP, ANZ, CBA, MQG, NAB and WBC. In the APRA dataset, the *Conglomerate* group had 28 funds in 2014, 32 funds in 2015 and 30 funds in 2016. Group statistics are aggregated on a dollar basis. Therefore calculated *Net investment returns*, *Pre-tax returns* and *Net returns* are all asset-weighted.

The data for *Majors-Plus* market indices (in Table 9) used to calculate benchmark returns come from Bloomberg with ticker symbols: BAUBIL, BACM0, ASA51, NDDUWXA (converted to AUD), NDDLWXA, ASA5PROP, M4AU0INF and ASA38.

Instead of APRA descriptors, for clarity and consistency for our research, we classify asset classes using familiar field names for our reports. This classification is shown in Table A1.

Table A1: Field Names of Asset Classes

Major asset class	Component asset classes
Cash	Cash
Fixed income	
	Australian fixed income
	International fixed income hedged
	International fixed income unhedged
Equity	
	Australian listed equity
	International listed equity hedged
	International listed equity unhedged
	Unlisted equity
Property	
	Listed property
	Unlisted property
Infrastructure	
	Listed infrastructure
	Australian unlisted infrastructure
	International unlisted infrastructure hedged
	International unlisted infrastructure unhedged
Other	
	Commodities
	Hedge funds
	Other alternatives

In this report, sub-classes or component asset classes are aggregated into their major asset classes, whenever necessary. The more granular asset allocation data using sub-classes and their corresponding market indices to calculate benchmarks are useful for other applications, such as constructing financial planner or asset consultant benchmarks.

Asset Allocation Stability

The stability of sector asset allocations can be seen in the following two charts for the Industry sector and the Retail sectors.

Figure A1: Sector Asset Allocations Sep 2013 to Sep 2016
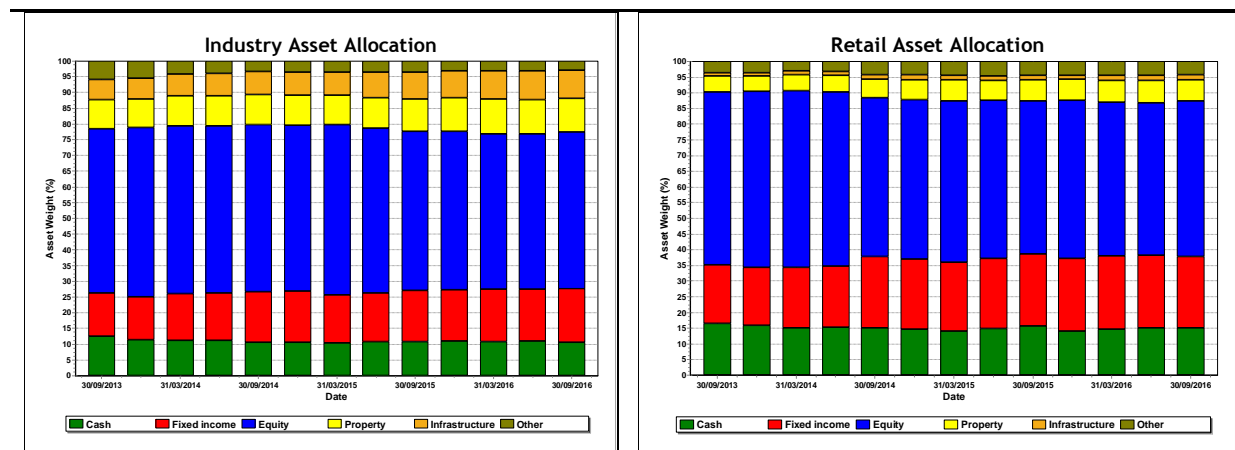
Alternative Benchmarks

For clarity, this report has used consistently the naïve benchmark which implements asset allocation using only major market indices (see Table 9). This decision has been dictated by asset allocation data availability since 2013 or 2014 at the time of this study. Detailed asset allocation data including sub-classes are available only for sectors quarterly to September 2016, while fund-level asset allocation data are available for major asset classes only annually, for three years to June 2016. Over this period, our study shows that the use of different benchmarks has only minor effects on most conclusions in this report. The differences in the analysis are briefly summarized here.

Consultant benchmarks are constructed from using the most accurate market indices available for sub-classes. For example, allocations to direct property are benchmarked against direct property indices and similarly with benchmarks for currency hedging. *Planner* benchmarks are constructed using only listed market indices. For example, even allocations to direct investments are benchmarked against listed indices and currency hedged indices are used whenever appropriate. Majors-Plus benchmarks are constructed using only the major market indices mentioned above to simulate naïve investors, for example, such as those in the SMSF sector.

The results for the different benchmarks are shown in Table A2.

Table A2: Sector Benchmark Returns (% pa, 3 years to Sep 2016)

Benchmark	Corporate	Industry	Public sector	Retail	Large APRA
Consultant	7.7	8.4	8.0	7.5	7.9
Planner	8.7	9.4	8.7	7.6	8.5
Majors-Plus	8.2	8.9	8.4	7.8	8.3

The three-year period to September 2016 has seen the *Planner* benchmarks consistently out-performing across all sectors. The aftermath of the global financial crisis (GFC) has seen unprecedented intervention by central banks buying indiscriminately listed fixed income and equity securities to create bubbles in listed markets for the "wealth effect".

Consequently, all sectors under-performed the *Planner* benchmarks but they performed better against the *Consultant* and *Majors-Plus* benchmarks, as Table A3 shows.

Table A3: Sector Value Added (% pa, 3 Years to Sep 2016)

Benchmark	Corporate	Industry	Public sector	Retail	Large APRA
Consultant	-0.2	0.6	0.3	-1.0	-0.2
Planner	-1.2	-0.4	-0.4	-1.2	-0.8
Majors-Plus	-0.7	0	-0.1	-1.3	-0.6

Here, value added is relative to *Net investment return* and therefore measures effective indirect costs. Despite varying performances against different benchmarks, the relativities in performance between sectors are maintained. Since most *Industry* funds use asset consultants for asset allocation and portfolio construction, *Consultant* benchmarks are appropriate for them.

On the other hand, *Retail* funds mostly do not use services of asset consultants, but leave asset allocation as "free choice" in the hands of their members. The analysis shows that *Retail* funds lost value though indirect costs against all benchmarks.

With the *Majors-Plus* benchmark for *Retail* sector, a performance comparison with the *Industry* sector using the *Consultant* benchmark is shown in Table A4.

Table A4: Performance Attribution (% pa, 3 Years to Sep 2016)

Sector	Value Added	Benchmark	Actual Return
Industry	0.6	8.3	8.9
Retail	-1.3	7.8	6.5
Difference	1.9	0.5	2.4

A decomposition of performance difference in *Net investment return* of 2.4 percent between sectors is now split between the factors of asset allocation of 0.5 percent and valued added or relative indirect cost of 1.9 percent. In this comparison, relative indirect costs (1.9/2.4) provide 80 percent of the explanation, while asset allocation provides only 20 percent, for explaining the performance difference in returns between the *Industry* and *Retail* sectors.

Indirect Costs in Investing

When a superannuation fund hires an external investment manager to manage a portion of the fund's assets, the manager delivers to the fund a net investment return after deducting directly an agreed and disclosed manager fee. The manager fee is a direct cost paid by the fund and reported to the regulator, but there are also undeclared indirect costs in the investment process which subtracts from the net investment performance of the fund which are difficult or impossible to measure or report.

Indirect costs are invented all the time in the financial services industry, designed to scalp money or other benefits from intermediating transactions, particularly by vertically integrated financial conglomerates without the costs appearing as fees or commissions for the buyers or sellers. These are what Ted Benna (2017) calls "hidden fees".

Australian regulators such as ASIC or APRA do not understand indirect costs, because when told about them, they attempt to collect the data by compulsion. Indirect costs are largely designed to be unreportable and therefore the regulators' attempts, to make service providers disclose the unreportable, can only be inaccurate, misleading and likely to be counter-productive.

Only some of the indirect costs such as operating costs of the investment manager, charged as expenses subtracting from net investment return delivered to the fund, potentially can be disclosed. However, there are far too many other indirect costs to describe or explain in any detail here. Even those working in the industry have to discover them by personal experience, because the industry avoids mentioning their existence. To provide an idea of the problem, a partial list, without explanation, is given as follows.

- Principal trading,
- Portfolio churning,
- Front-running trades,
- Triggering stop-loss orders,
- Soft-dollar commissions,
- Portfolio transitions cost,
- Buy/sell spreads and slippage in trading,
- Order allocation to selective portfolios.

These mechanisms or leakages could all add to indirect cost, but they are not supposed to exist and are not recorded. They generate substantial income revenue for the financial services industry – but the industry pretends they are not significant. As Upton Sinclair supposedly said:

> *It is difficult to get a man to understand something, when his salary depends on his not understanding it.*

RICEWARNER

Insight like no other

Member Switching

Industry Super Australia

12 September 2017

RICEWARNER

Insight like no other

Table of Contents

1. Executive summary

1.1 Overview

This report has been commissioned by Industry Super Australia (ISA) to assist it in responding to the Productivity Commission's (PC) three stage review into the efficiency of the Australian Superannuation system. The purpose of this report is to examine switching trends of superannuation members. We examine whether switching activity is consistent with members making informed decisions which will improve their retirement outcomes.

In this report, we examine trends in member rollover and switching behaviour both in relation to the number of members and the size of benefits (assets) transferred. Specifically, we address:

- Demographic trends in member rollover and switching behaviour.

- Whether member switches provide improved outcomes, namely:

    - lower fees following the change

    - improving the likelihood of improved investment returns based on historical investment performance (net returns).

- Switching rates from employer sub-plans to personal superannuation.

- Cumulative probability of member exit over three years.

1.2 The Data

In this report, we utilise data published by APRA supplemented by Rice Warner's own *Superannuation Insights* study, which involves the collection of annual statement data pertaining to over 10 million members per annum. Further information on the dataset can be found in Section 2.2 (The dataset).

1.3 Summary of findings

From this research, we have been able to make several observations for the sample based on data from 2013 to 2015.

1.3.1 Aggregate rollovers and switches

Based on both the Superannuation Insights sample and APRA statistics, retail funds have been the largest beneficiary of rollover activity, relative to switches to industry, corporate and public sector funds. APRA statistics show 72% of rollovers have a destination in the retail sector (at June 2015):

- Retail: $44.7b   72.1%

- Industry: $12.5b   20.2%

- Public Sector: $3.8b   6.1%

- Corporate: $1.0b   1.6%

- **Total:**   **$62.0b**   **100.0%**

1.3.2   General findings about switching behaviour

We have observed the following demographic trends in member switching behaviour:

- A majority of this switching activity is concentrated around age 30, then tails off before peaking again just prior to retirement age. Retail funds are more likely to be the switching destination for members at all ages, in particular for members with balances in excess of $50,000.

- Members with balances over $100,000 are twice as likely to switch to a retail fund relative to an industry fund, though smaller balance accounts are more likely to be subject to a rollover to another fund, regardless of sector.

- Gender differences in rollover activity are generally small. However, it appears that women are less likely to switch funds between ages 30 and 50, which may be the result of taking time out of the workforce and being less engaged with super throughout this period.

- Members with longer tenure in the same fund remain loyal and are less likely to rollover.

1.3.3   Are decisions based on outcomes?

We have observed both fees and historical performance for incumbent and successor funds from member switches.

1.3.3.1 Fee outcomes and switching

When comparing the level of fees before and after a member switch, we observe that:

- Members are unlikely to have used fee levels as a primary reason for switching between funds, as many members are charged a higher fee after switching.

- 20% of members pay lower fees after switching funds, while 49% of members pay higher fees. 31% of members did not have a notable increase or decrease in fees paid (with a margin of $10 either way).

- The aggregate fee outcomes from switching activity reveals a net increase of $137 million in fees. The major component of this is a $170 million increase in fees as a result of switching into funds with higher fees. Retail funds account for 92% of this increase in fees. This is modestly offset by a $33 million saving in fees. For not for profit funds, the impact is not as stark, with an aggregate increase in fees of $13 million, against a decrease of $9 million.

- These outcomes for retail funds are driven by 59% of switching members paying increased fees, at an average increase of $263 per person annually. Compared to industry funds, a similar proportion of members switching pay higher fees (50%), though the average increase for these members is only $83.

- Members rolling into industry funds are generally going to be twice as likely to pay lower fees than those rolling into retail funds (21% against 9%). The average decrease on fees for those paying lower fees is also greater for those rolling into industry ($110 p.a.) rather than retail ($55 p.a.) funds.

- For members switching from industry to retail funds, only 7% paid lower fees at the new fund. Conversely, 78% of members switching from retail to industry funds paid lower fees.

1.3.3.2 Return outcomes and switching

When comparing performance of funds (using a 4 year period to 20 June 2015) before and after a member switch, we observe that:

- Members are unlikely to have used past performance as a proxy for their investment decision as the data shows on average that historical returns for the incumbent and successor fund tend to be similar.

- 36% of members would have received higher returns over the period, while 56% of members would have received lower returns. 8% of members did not see a notable increase or decrease in investment performance (with a margin of 0.05% either way).

- The aggregate estimated impact on investment returns reveals a net decrease of $284 million annually. This Is largely driven by a $373 million decrease in returns annually for members rolling into funds with lower returns. Retail funds accounted for 87% of this decrease in returns. This is offset by an $89 million increase in annual returns for those members switching into higher performing funds. 52% of this increase is accounted for by industry funds, while only 33% is by retail funds.

- These outcomes for retail funds are driven by 80% of members switching into retail funds achieving lower returns, at an average of 0.91%. Conversely, only 36% of members switching into industry funds achieved lower returns, at an average of 0.63%.

- For those rolling into higher performing funds, the average increase was 0.39% for retail funds vs. 0.72% for industry funds. For those rolling into lower performing funds, the average decrease in returns was 0.91% for retail funds vs. 0.63% for industry funds.

- Compared to industry funds, the outcomes for those rolling into retail funds are thus more likely to be negative. Further, the scale of this impact is also estimated to be larger for those rolling into retail funds.

1.3.4 Estimated impact of switching on member outcomes

At an aggregate level, and assuming that fees and performance remains constant, we have estimated that:

- The estimated aggregated net impact of switching funds is an **increase in $137 million p.a**. being paid in fees by members.

- The estimated aggregated net impact of switching funds on investment performance is a **decrease in returns of 0.46%, or $284 million p.a.**

This report was prepared and peer reviewed for Industry Super Australia by the following consultants.

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12 September 2017

2. Background

2.1 Introduction

The Productivity Commission (PC) is currently undertaking the third stage of its review into efficiency in the superannuation market. The second stage examined alternative models for the allocation of default business in the superannuation market. This report has been commissioned by Industry Super Australia (ISA) to assist it in responding to the PC review. In it, we examine trends in member rollover and switching behaviour based on activity reported to APRA and a sample of exits in Rice Warner's *Superannuation Insights* study.

The report focuses on member flows in the superannuation system between products (including both default and choice products) split by members and by asset flows. We provide detailed explanation of the most used channels and examine the changes in investment returns and fees that the members would have experienced resulting from their movement between products.

2.2 The dataset

2.2.1 APRA Data

In addition to the Superannuation Insights data we have also examined statistics published by APRA. The APRA data provides a market wide benchmark that complements the depth of the Superannuation Insights data. We have examined the following sources for this report:

- **Annual Fund Level Superannuation Statistics** - this contains detailed profile and structure, financial performance and financial position, conditions of release, fees and membership information for APRA-regulated superannuation funds.

- **Quarterly MySuper Statistics** – this contains data on MySuper products. The report contains information on the product profile, product dashboard measures, asset allocation targets and ranges, investment performance, fees disclosed for MySuper products, or where relevant, for the lifecycle stages underlying MySuper products with a lifecycle investment strategy, and MySuper URLs.

- **Annual Superannuation Bulletin** – this contains statistics that provide policymakers, regulators, trustees and the community with information to assess the overall performance of the superannuation system.

- **Annual MySuper Statistics** – this contains detailed data for all MySuper products, and allows users to analyse APRA-regulated MySuper products across a range of measures.

2.2.2 Superannuation Insights

Superannuation Insights is a yearly data analysis project undertaken by Rice Warner which involves the collection of anonymised details for more than 10 million member accounts per annum. The database is the only one of its kind for superannuation members and supplements our other research in forming the basis for many of our insights into the superannuation market.

The data used to carry out the study is de-identified member data at 30 June in 2015, 2014 and 2013, which includes relevant data for members who exited the fund during the financial year. The data requirements are substantially aligned with the data used for benefit statements at the end of each financial year.

The data used for Superannuation Insights covers the following aspects of the market:

- Demographics

- Investments

- Contributions

- Insurance

- Fees

- Employers

- Pensions

- Exits.

The sample is drawn from a variety of large and small funds that represent all market sectors (industry, retail and some public sector and corporate funds).

This data allows us to provide detailed analysis across several key areas:

- Analysis of membership profile by different segments and comparison with the peer group.

- Quantifying and comparing differences between members across gender, ages and geographic area.

- Understanding inflows of funds from contributions and roll-ins.

- Investment strategy – participation in default strategies versus choice investments, and how choice members differ from default members.

- Insurance analysis – take up of cover and average levels of cover along with analysis of insurance needs.

- Employer analysis – including average number of employers, average employer size, distribution of employers.

- Pensions – demographic and behavioural analysis of pension members including investment decisions, drawdown rates and balance analysis.

- Exits analysis – identification of key areas of member leakage from funds in absolute terms and the dynamics of the exiting membership.

2.2.3   Caveats and limitations

Although the Superannuation Insights data is extremely detailed and represents a significant sample of the superannuation industry, there are the following limitations. Overall, the quality of the sample is determined by the participant funds and despite the large overall participation in the study, there is still a bias in the data we have collected. For instance, the sample is skewed by the largest funds in the study – AustralianSuper has 2 million member accounts of the total 10 million in the sample. Also, members who may currently be in smaller, high cost funds are less likely to be a part of the sample. Lastly, not all funds have provided consistent exit data which can be mapped year on year; some funds have only participated in some of the given years.

Data on fees and investment performance have been drawn separately from Rice Warner's Superannuation Product database.

Limitations on certain data points

- Fees are not known for members exiting to an employer sub-plan superannuation product where they might have received a discount. We have identified these movements separately in the fees analysis and provided our own estimate based on MySuper statistics published by APRA.

- The data sample for corporate funds is relatively small.

- Members with missing investment information (in the incumbent fund) were assumed to be in the default option.

- Investment selection in the successor fund is unknown, we have assumed members select a similar option to the incumbent (based on default status or asset allocation) so that comparisons are on a like-for-like basis.

- When mapping fees on a product level, data limitations meant that a subset of members who rolled over had to be omitted from the analysis.

Not all data was provided by all funds

Although every effort is made to collect all the appropriate member data for Superannuation Insights, some funds were unable to provide complete data sets. Whilst the core areas of Superannuation Insights, such as demographics, insurance and investment, are substantially complete, some funds have not provided all details for exited members, and are omitted from demographic analysis.

Incomplete longitudinal results

Longitudinal analysis requires new participants to provide previous years' data. In some cases, this has been a large administrative burden and the funds have not complied. Funds which have participated in earlier years have had their data automatically analysed longitudinally.

Unable to examine SMSFs

We have not undertaken any analysis of differences in fees or investments for members moving to an SMSF as data is not available.

3. Member rollovers

3.1 Summary of APRA statistics

APRA statistics allow us to examine the overall composition of the market.

Graph 1 shows the percentage of member exits by type of exit. When examining the Superannuation Insights data, we focus on 'Outward rollovers' and other types of exit have been excluded.

Graph 1.   Percentage of member exits by type - year to June 2016
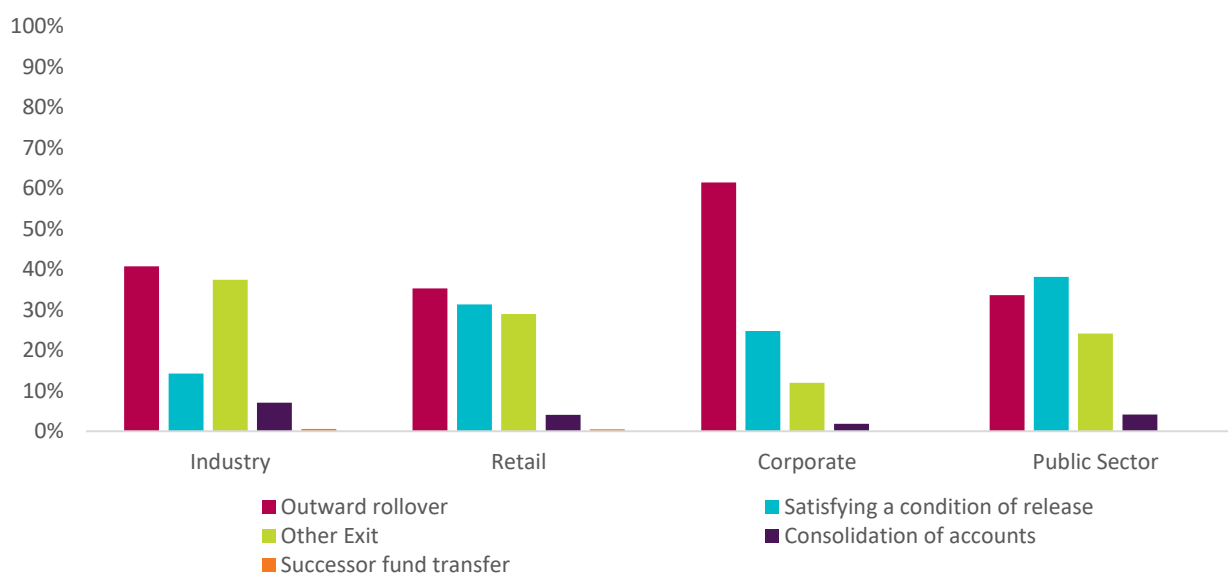
Source: APRA Fund Level Statistics.

Outward rollovers remain the biggest source of member exits across the industry, with the public sector as the exception, this is driven by demographics. Member growth in this segment is low and their population is aging, which explains why most member exits are as a result of satisfying a condition of release, which will primarily be retirement.

Other exits are not clearly defined by APRA in the reporting requirements, but likely include other forms of account closure such as zero balance closures and transfers to the ATO of lost superannuation.

Graph 2 shows the percentage of asset exits by type of exit.

Graph 2.   Percentage of asset exits by type - year to June 2016
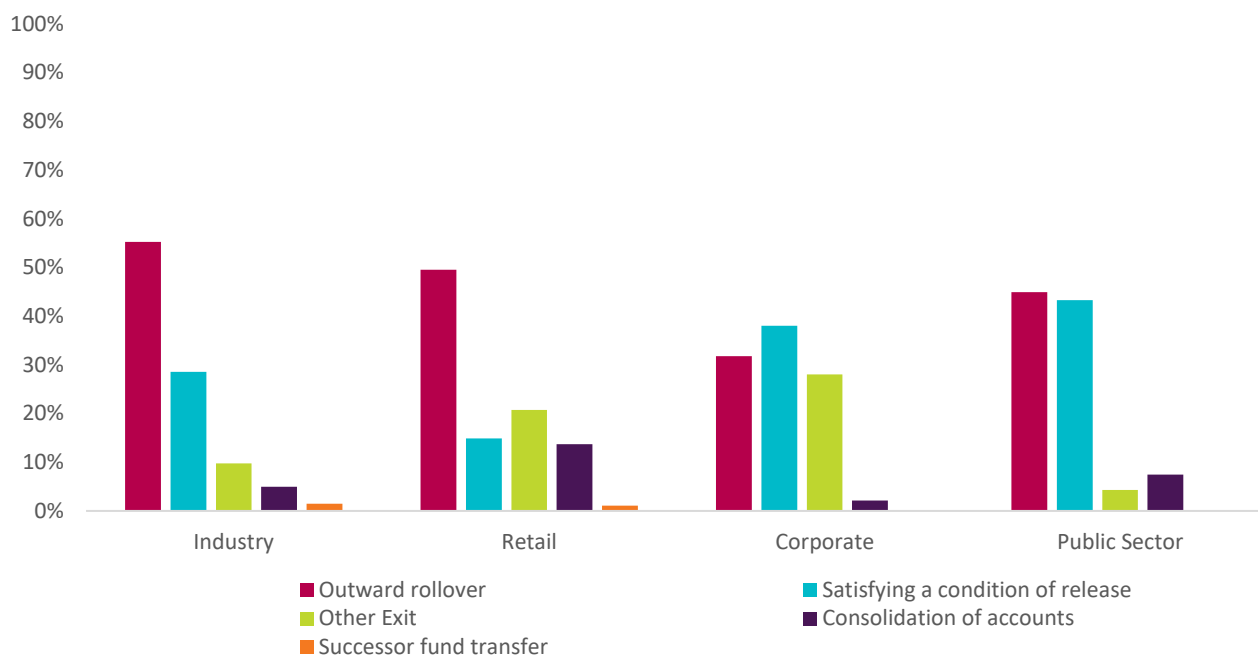
Source: APRA Fund Level Statistics.

Graph 3 shows the split of total industry assets between the four major APRA regulated sectors.

Graph 3.   Total Assets – APRA Regulated Funds ($,000)

Source: APRA Fund Level Statistics.

Industry and retail funds continue to dominate the landscape, albeit for different reasons. Corporate funds have continued to shrink and now represent less than 5% of assets. Market shares are useful to inform commentary on exits between sectors as larger sectors are likely to attract more rollovers simply due to the number of competitors and size of budgets for marketing and other activities.

Graph 4 shows the total number of member accounts for each sector between 30 June 2015 and 30 June 2016.

Graph 4.   Total member accounts (exluding ERFs) 2015 - 2016

Source: APRA Fund Level Statistics.

The number of superannuation accounts is falling for two reasons:

▪ Lost accounts with amounts below $6,000 are now swept into the ATO, which attempts to find members so they can transfer the amounts into their active account.

▪ All superannuation funds run campaigns to encourage members to consolidate their accounts. Usually, members consolidate all inactive accounts into their current active account.

Over the year, only public sector funds experienced growth in the number of member accounts, but it was only 0.2%. The other three sectors all declined with retail experiencing the greatest reduction of 4.0%.

Graph 5 shows the net rollovers for each sector as a percentage of FUM in FY2016.

Graph 5.   Net rollovers – APRA regulated Funds ($'000)

Source: APRA Fund Level Statistics.

Unsurprisingly, corporate funds suffered the largest net rollouts for the year. As unengaged employees change jobs, they will often shift to the fund used by their new employer. As members develop an interest in their superannuation, they are more likely to maintain the same fund even when they change employer. This is less likely to occur if they leave a corporate fund.

Public sector funds had the highest inward net rollovers, with retail close behind. Industry funds experienced a small net outflow overall, largely due to the transfer of inactive accounts to the ATO.

Graph 6 shows the total outward rollovers by sector.

Graph 6.   **Total outward rollovers**

Source: APRA Fund Level Statistics.

Although the retail sector has positive net rollovers, it still has the largest outward rollover flows of the system, and greater than the combined outward rollovers of industry, corporate and public sector funds.

We note that retail funds have a more transactional relationship with their customer base which is driven by higher levels of choice and advice distribution channels. Not for profit funds seek to promote trustee management of investment and distribute products to a greater degree through wholesale channels and therefore may have a larger default membership base that may be less likely to change funds.

Graph 7 shows the total outward rollovers by sector.

Graph 7.   Total inward rollovers by sector
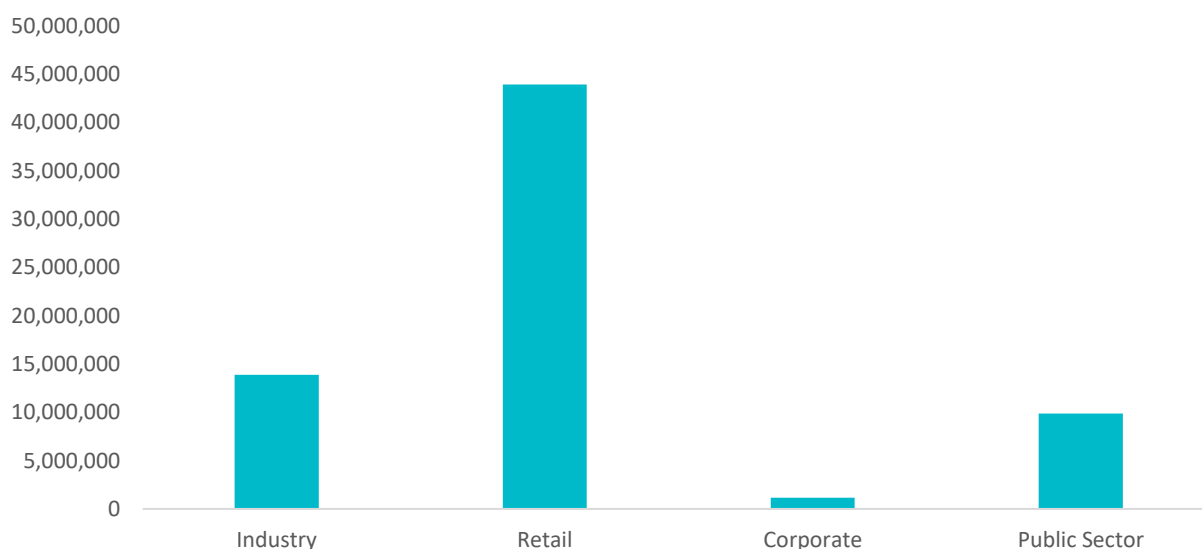
Source: APRA Fund Level Statistics.

The retail sector has the largest inward rollovers of all the sectors. These are greater than the outflows for the retail sector. There is likely a lot of movement between funds within the retail sector. Corporate funds remain a relatively small part of inward rollovers, unsurprising due to the small size of this sector and the declining number of corporate funds. Public sector funds have much larger inward rollovers than outward, and industry funds have slightly lower inward rollovers than outward.

3.2   Demographic trends in member flows

The APRA data presented above provides context for the remainder of this report which is based on Rice Warner's *Superannuation Insights* exit data.

Graph 8 shows the proportion of members in each age group rolling over by gender.

Graph 8.   Proportion of members rolling over by age and gender
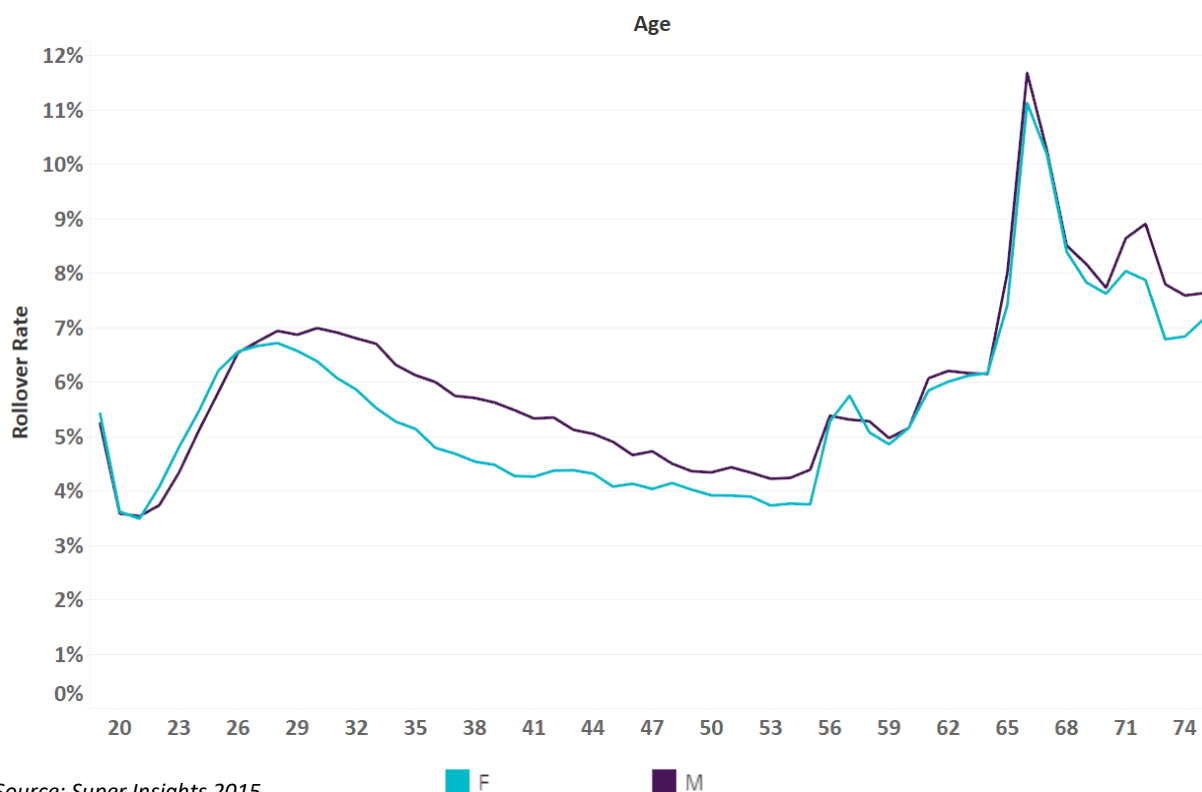
Source: Super Insights 2015.

Superannuation members change their superannuation fund more frequently than they would change bank accounts. More than 5% of accounts are changed annually.

We note that males are more likely to rollover than females and this is consistent across the life-cycle. This is possibly a result of gender differences in workforce participation, rather than a gendered attitude to superannuation. The difference is most pronounced during the 30s where women are more likely to take time out of the workforce to raise children with some mothers never returning to work or waiting until their last children have finished school.

Rollover activity quickly ramps up between the ages of 20 and 30 as members begin to start their careers and move on from earlier jobs. We expect that this is at least partially driven by the movement of members into more stable, long term employment and other factors such as cross selling of products for example, at the point of taking out a mortgage. Male rollover activity continues to increase, peaking around age 30 before trending downwards. Females begin to trend down after approximately age 28. We expect that this is driven largely by lifestyle factors, such as starting a family.

Greater engagement with superannuation from age fifty-five is likely a result of members preparing for retirement (and accumulating larger balances). There is a spike for both females and males at age sixty-five, almost certainly the result of the consolidation of accounts and transfer into retirement products.

Graph 9 shows the proportion of members rolling over segmented by the amount of time they have spent at a fund.

Graph 9.   Proportion of members rolling over by tenure at fund
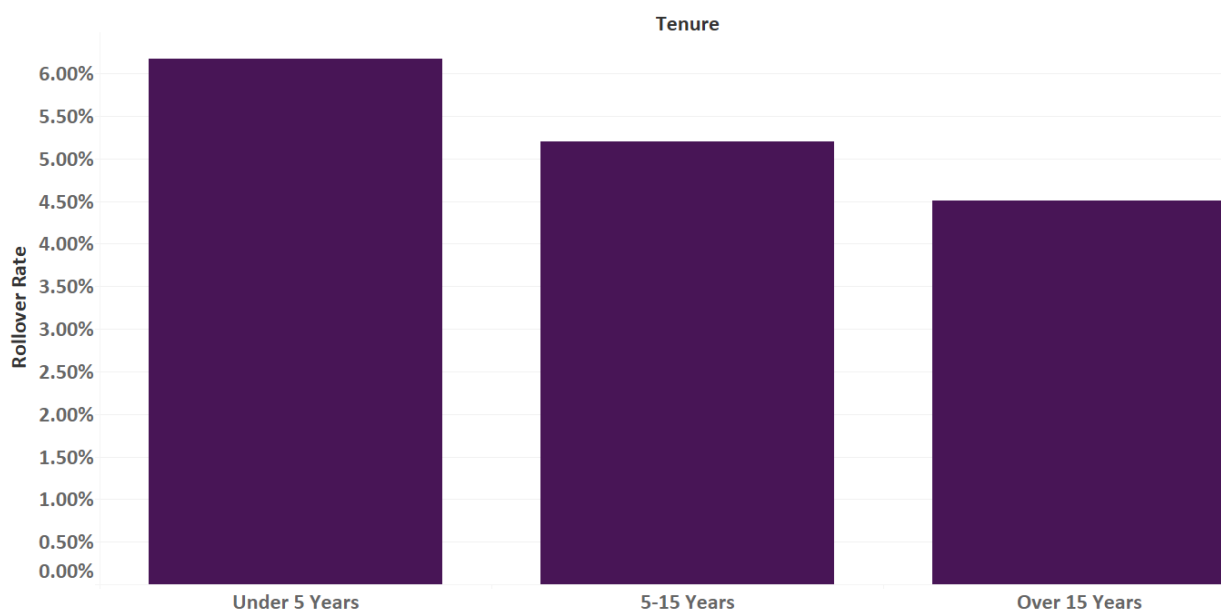
Source: Superannuation Insights 2015.

The rate of exit is negatively correlated with tenure, this is likely the result of survivorship bias. Many members who are comfortable with their fund will stay in it throughout their working life. Those who are unengaged are less likely to transition out of the fund.

Graph 10 shows the destination fund type for members by tenure.

Graph 10.   Destination fund of members rolling out and average balance rolled over by tenure
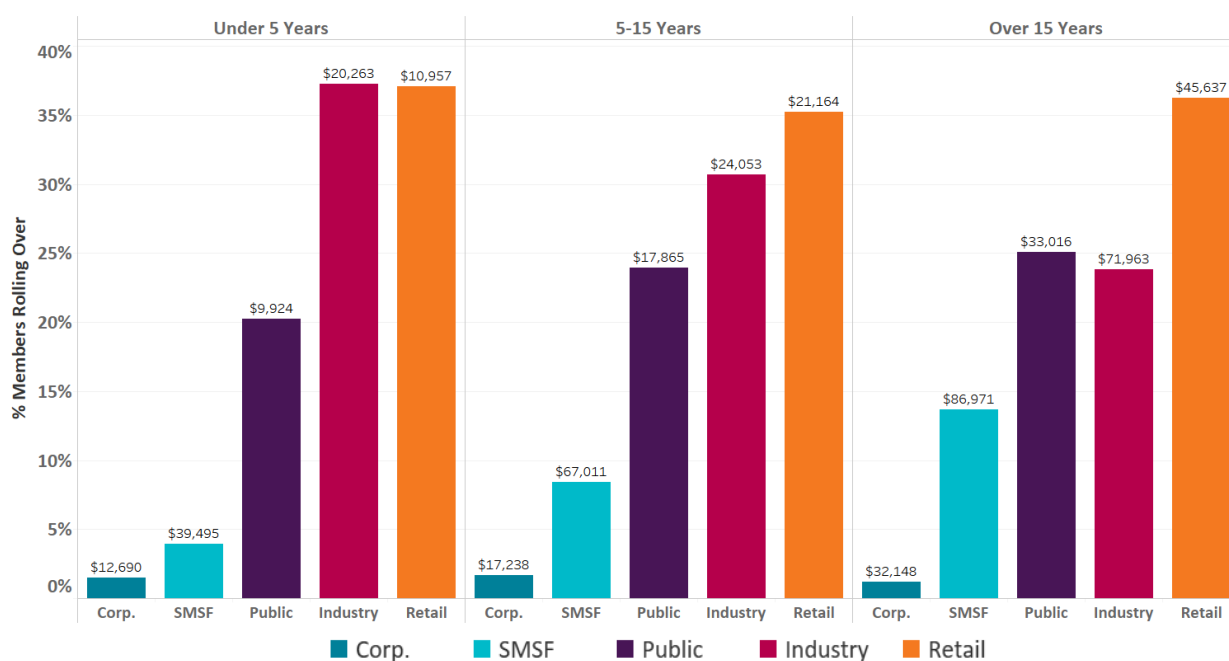
Value labels indicate average balanced rolled over, column height indicates the distribution of accounts by sector.

Source: Superannuation Insights 2015.

The largest balances at all durations go to SMSFs. However, more members go to retail funds. Retail funds maintain their share of member switches at higher tenures c. 35% of all exits, whereas industry funds have a lower share at higher tenures c. 25%. SMSFs and public sector funds have a greater share of rollovers at higher tenures.

Graph 11 shows the destination fund type for members by balance amount.

Graph 11.   Destination fund of members rolling out by balance
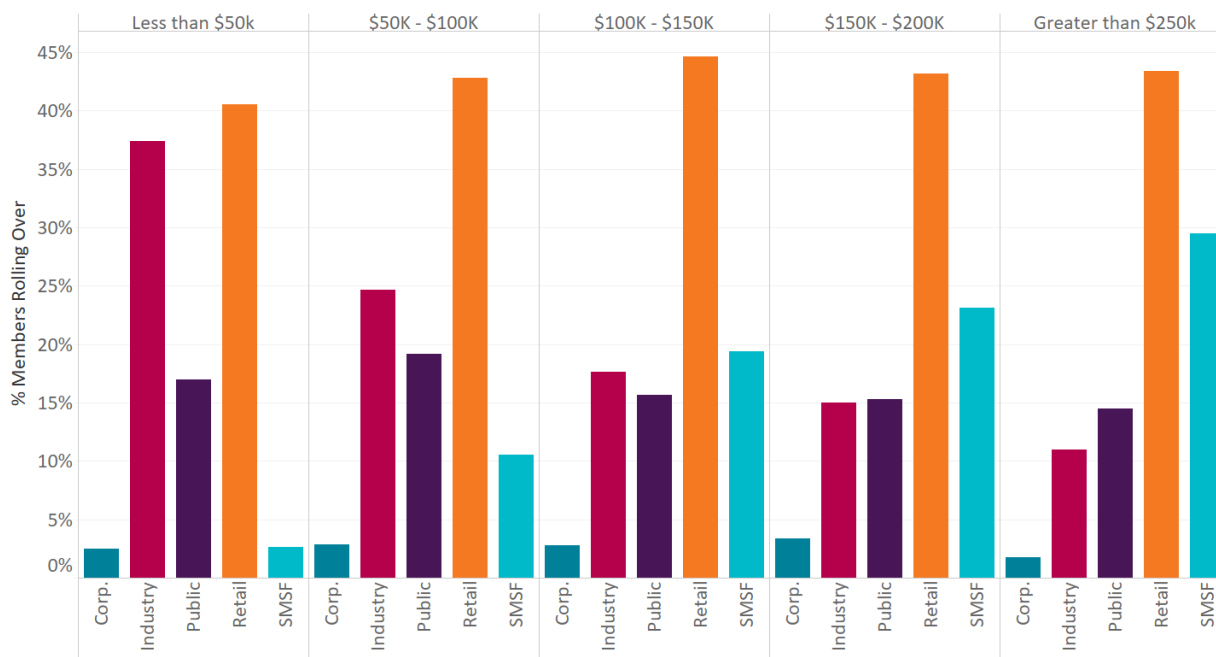
Source: Superannuation Insights 2015.

The retail sector has the greatest share of exits at all balances considered in Graph 11. As balance increases the retail sector's share of exits increases initially from 40% (at balances under $50,000) to 45% (for balances over $100,000). The proportion of members rolling into industry funds is highest for balances under $50,000 at around 37% and falls to about 10% for balances of $250,000. The probability of a switch being to a retail fund is roughly double that of industry funds for balances over $100,000.

SMSFs are much more likely to be the source of rollovers for balances over $250,000 where they represent 30% of exits. This makes sense given the large balance required to make an SMSF cost effective.

The rate of rollover to corporate and public sector funds remains relatively constant across balance bands.

Those members with tenure in a single fund above 15 years are also more likely to rollover to SMSFs or retail products (perhaps because of targeted financial advice programs) and are less likely to rollover to industry superannuation funds. Tenure has a clear positive correlation with age and balance, and the longest serving fund members are likely to be much older, partially explaining the bias towards SMSF arrangements.

Graph 12. Average rollover amount by age and gender
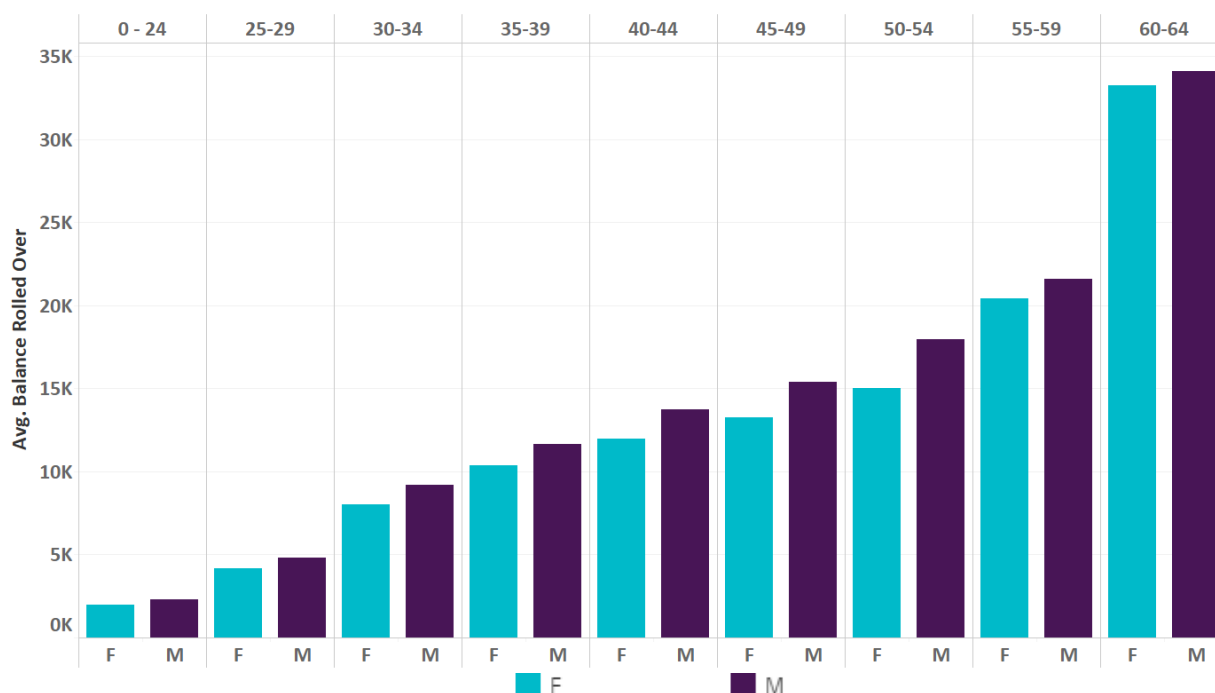
Source: Superannuation Insights 2015.

Overall the amount of money which is rolled out by members increases with age which is unsurprising. What is of interest is that the average rollover amounts are much lower than average account balances, implying that smaller accounts are being consolidated into larger accounts. Of further interest is that the gap between male and female rollover balances is smaller than the general gender gap in account balances. This is most likely a function of small lost inactive accounts being rolled over into the primary accounts and it is these that reflect the gender gap.

Graph 13 shows an estimate of total rollovers into each sector broken down by age, based on a combination of APRA and our own Superannuation Insights statistics. The totals by sector for Graph 13 are:

- Retail: $44.7b

- Industry: $12.5b

- Public Sector: $3.8b

- Corporate: $1.0b

- **Total:**   **$62.0b**

Graph 13.   Estimated aggregate rollovers to sector by age by sector (excluding SMSFs) – year to June 2015
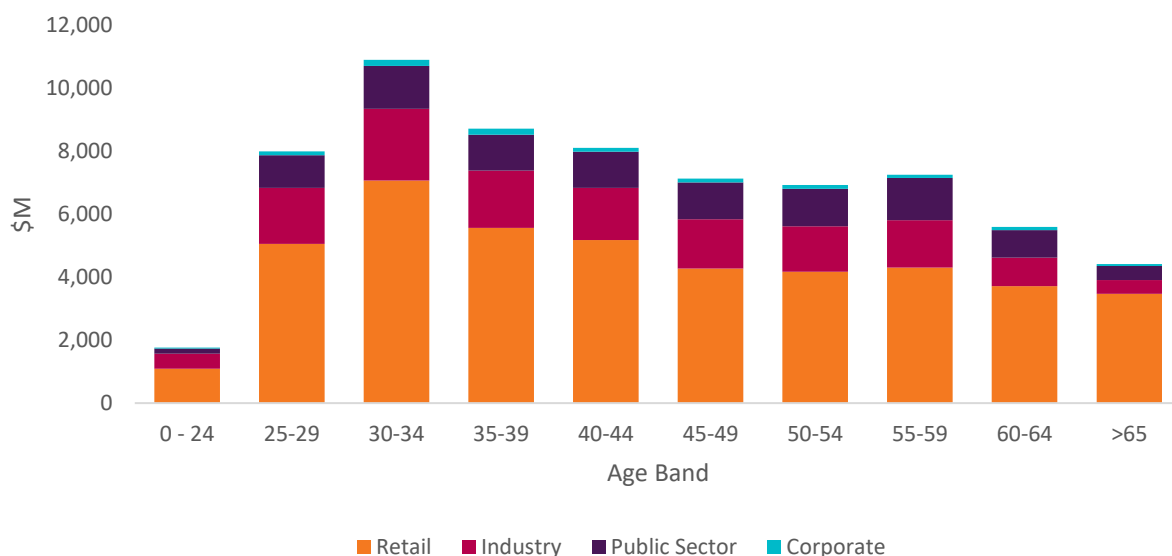
Source: Rice Warner estimate using APRA Fund Level Statistics and Superannuation Insights 2015.

The dollar value of rollovers to retail funds dominate at all ages. While the size of rollovers to industry funds remains relatively constant between ages 25 and 60, retail funds take a relatively larger proportion of rollovers above age 60.

Graph 14.   Proportion of exits by rollover destination
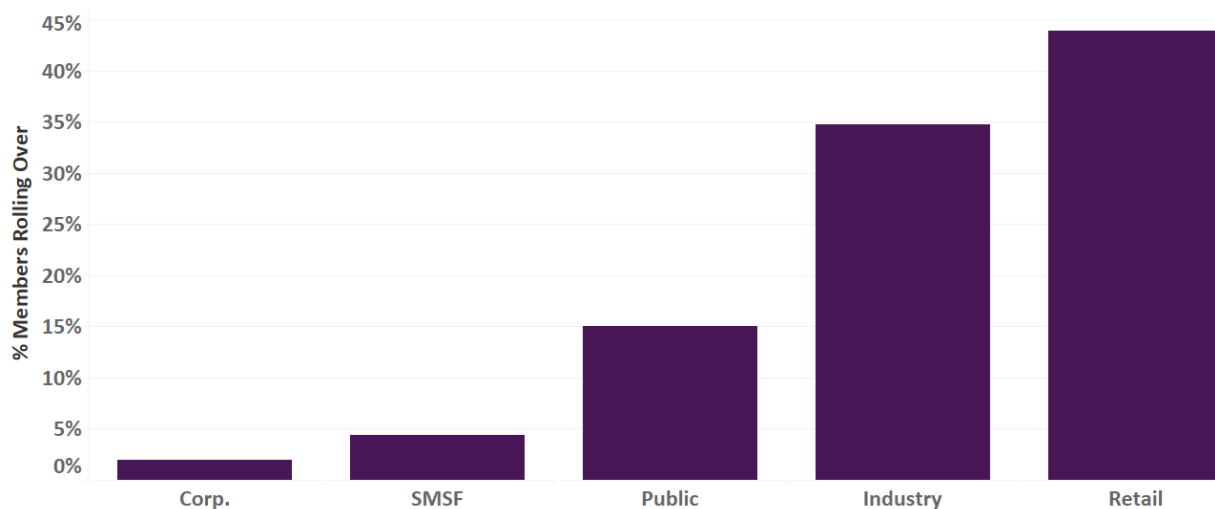
Source: Super Insights 2015.

Our destinations for exited members are consistent with APRA statistics. Retail funds are the primary destination for rollovers. The success of retail funds can be partially attributed to adviser distribution channels, the direct cross selling of superannuation products to customers of everyday banking and mortgage products under *share of wallet* initiatives and participation in the corporate outsourcing (wholesale) market.

Graph 15 shows the percentage of rollovers occurring in each balance band.

Graph 15.   Percentage of rollovers by balance band
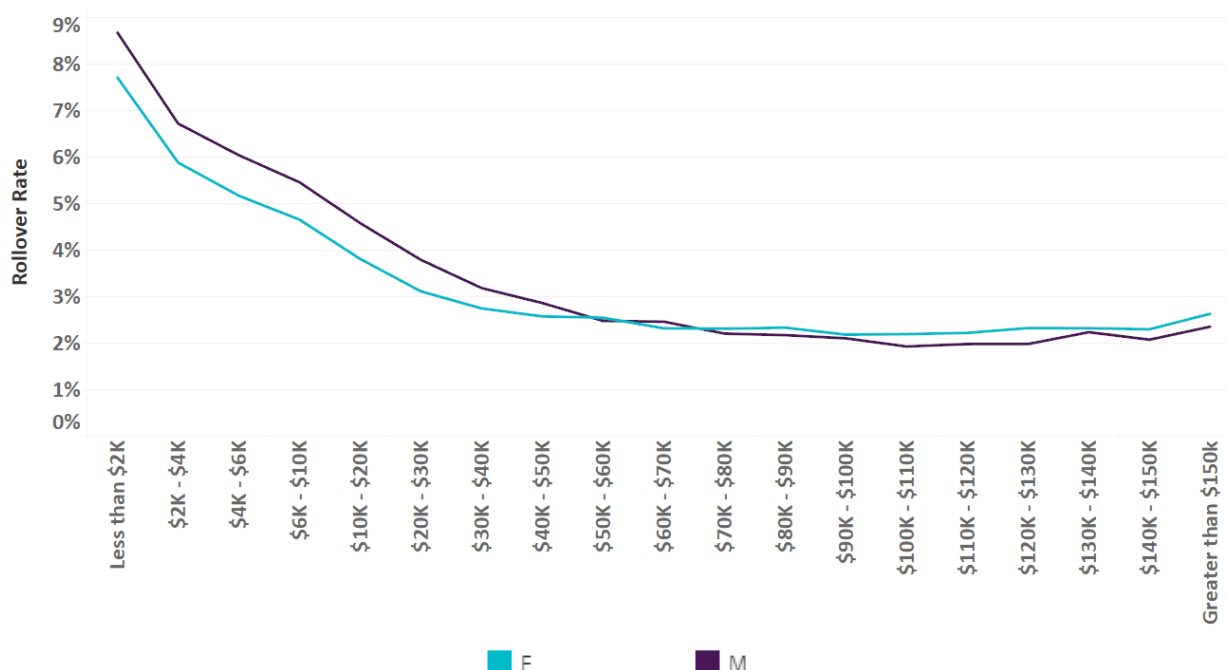
Source: *Superannuation Insights 2015.*

Smaller balance accounts generally form the bulk of rollovers. This is a function of consolidation activities of unneeded accounts or transfer of existing balances on a change of occupation.

3.3   Are members' switches based on fund outcomes?

The Productivity Commission is interested in whether members are being appropriately served by the superannuation industry in current default market structures. Member outcomes form the basis of the Commission's analysis into whether the superannuation market is efficient and competitive.

In an efficient market, it would be reasonable to expect that members would be motivated to seek out lower cost superannuation products or those that are likely to deliver higher returns based on their track record. In the context of member switches, we have compared fees and investment returns before and after member rollovers, to examine whether members make informed decisions to rollover to another fund based on these outcomes. We have not considered insurance, access to investment options or member services as part of this analysis, but given the primary purpose of the superannuation system to maximise people's retirement savings, this is a valid focus.

3.3.1   Fees

Fee levels across the industry have remained a focal point for consolidation and rollover campaigns for a long time. Members need to keep overall fee levels in mind and try to balance fees against the performance and services provided by a fund, due to their significant impact on retirement balances over time.

Graph 16 shows the average total fees paid by a member split by destination sector. The fees are shown both before and after the switch. Average total fees are comprised of a set dollar fee, an asset based administration fee and an asset based investment management fee.

Graph 16.   Average total fee paid by destination sector
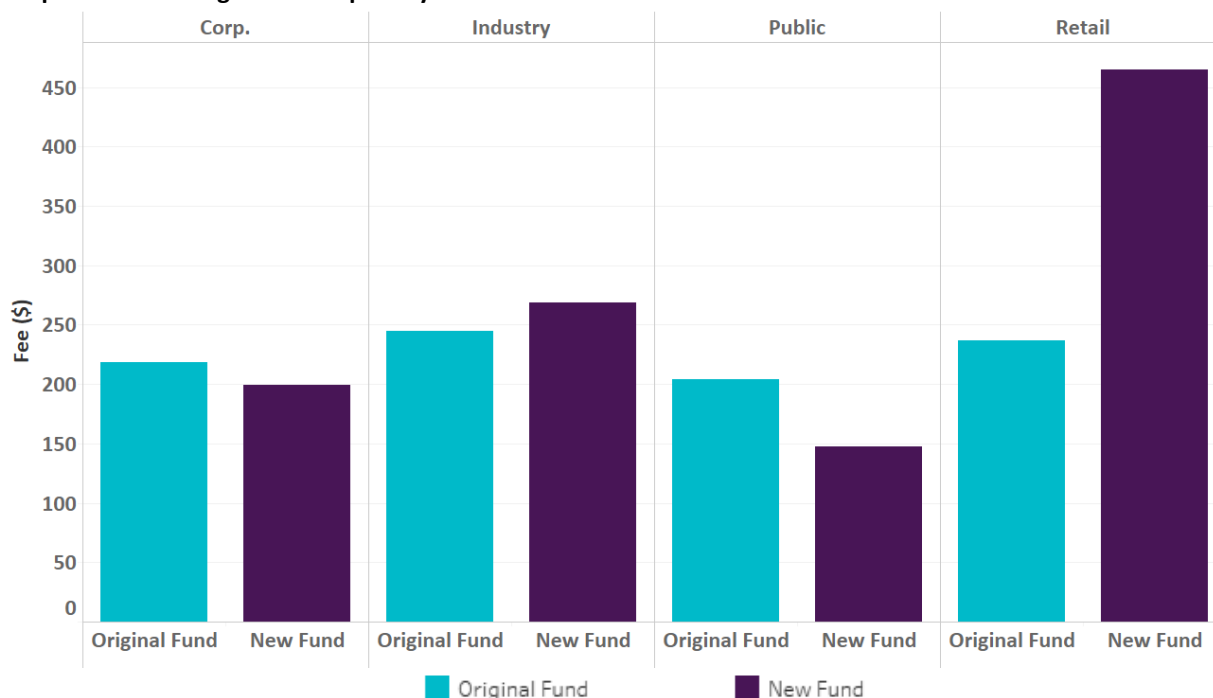
*Retail employer plans have been excluded from analysis as the level of discount provided is unknown. Hence the 'Retail' sector represents personal superannuation products only.

Source: Supeannuationr Insights 2015.

Based on the Insights data, the experience of members who rollover varies by destination sector. Overall new fund fees are lower in the public and corporate sectors driven mainly by their non-public offer status and employer fee subsidies. Fees are marginally higher in the industry fund sector, which are mostly public offer, and they are significantly higher in the retail.

Most notably, the increase in fees when switching to a retail fund is much higher than other destination sectors. On average, total annual fees double, increasing by approximately $200 when switching to a retail (personal superannuation) fund. This is primarily due to the switches to retail in our sample which come mainly from not-for-profit funds.

Graph 17 shows the estimated aggregate increase in total fees for members who rolled over to funds with higher fees, and the estimated decrease in total fees for members who rolled over to funds with lower fees, based on APRA statistics and the Superannuation Insights sample, for the year ending 30 June 2015.

Graph 17.   Aggregate increase and decrease in fees paid by sector $M – 30 June 2015

*Retail fee decreases do not include the decreases from rolling over into Retail Corporate Plans, due to the practice of providing discounts to PDS rates.

Source: Rice Warner estimate using APRA Fund Level Statistics and Superannuation Insights 2015.

Members rolling into industry funds paid an estimated $12 million more in fees with savings of approximately $7 million for those who moved into funds charging lower fees. The higher fees for those switching to industry funds may be explained by the Superannuation Insights sample being dominated by larger (lower cost) industry funds reporting their exits to smaller (slightly higher cost) industry funds. Members rolling into retail funds paid an estimated $154 million more in fees with savings of approximately $5 million for those who moved into funds charging lower fees, though this estimate excludes potential cost savings that members may have experienced when moving into a corporate superannuation plan with a retail provider.

Graph 18 shows the aggregate increases and decreases in fees including employer sub-plan discount estimates (methodology detailed on the next page). We can see a slight adjustment in the retail numbers, with an estimated $157 million more in fees, and savings of approximately $24 million for those moving into funds charging lower fees. This is a net increase in fees of $133 million for those members rolling over into retail funds.

Graph 18. **Aggregate increase and decrease in fees paid by sector $M (including employer sub-plan discount estimates) – 30 June 2015**
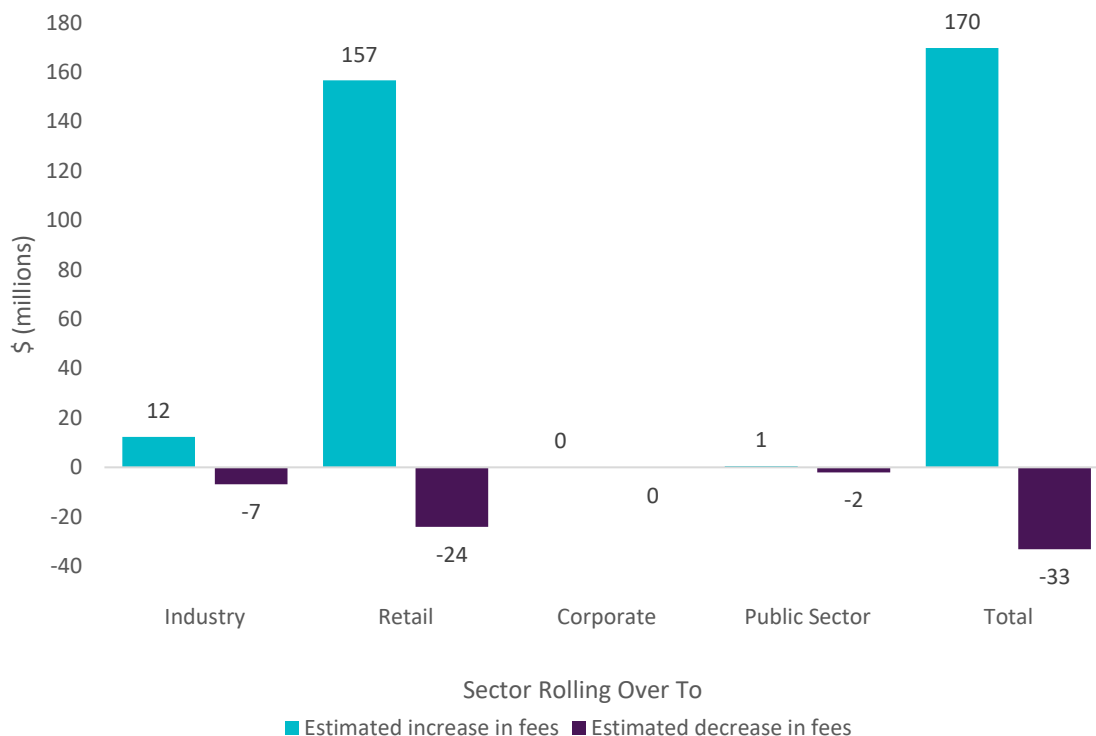
Source: Rice Warner estimate using APRA Fund Level Statistics and Superannuation Insights 2015.

Graph 19 shows the member outcomes of rolling over to different sectors in terms of the percentage of members who received an increase, decrease or no significant change in fees.

Graph 19. **Member outcome of rollover**
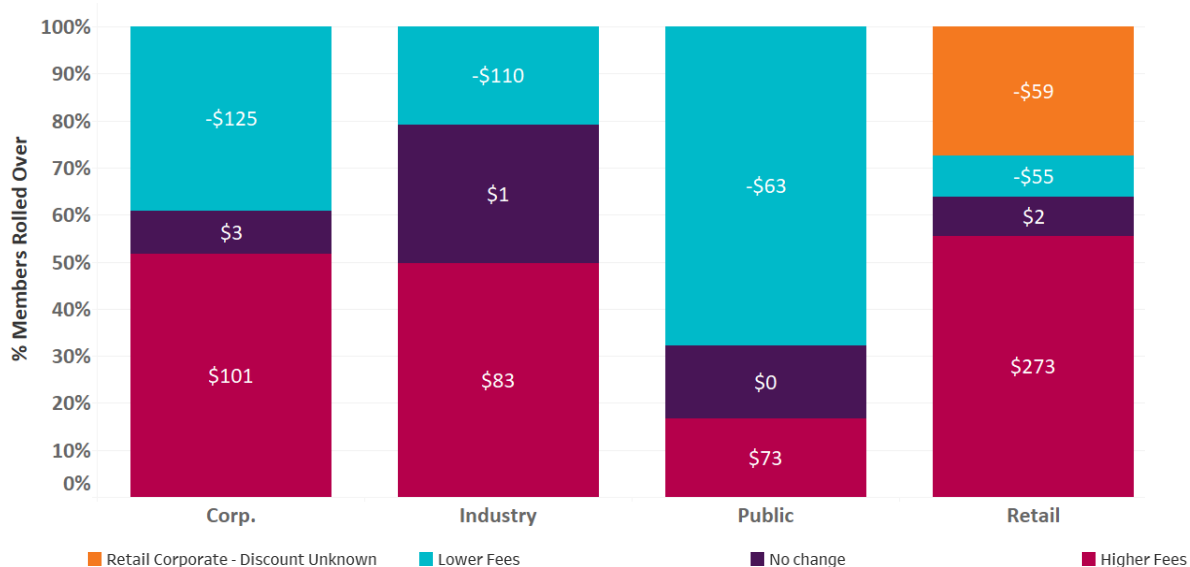
Note: the dollar labels indicate the average change in fees for each group of members.
Source: Superannuation Insights 2015.

When rolling over to an industry fund, approximately half of members either experienced a drop in fees or no effective change in fees ($10 either way). For those rolling over to industry funds and realising a saving in fees, the average saving was $110. In contrast, the average saving for those rolling over into retail funds (not including corporate plans) was $55. The equivalent figure for corporate sub plans is estimated as $59. Conversely, for those rolling over to industry funds with higher fees, the average increase was $83, compared to an average increase of $273 for those rolling into retail funds.

Of rollovers to retail funds 27% of the rollovers were to corporate plans where the fees are unknown due to the practice of providing discounts to PDS rates. For those rollovers where fees are known, members did not fare as well with just 9% of total members who rolled over to retail funds experiencing lower fees.

Table 1 shows the proportion of members who paid lower fees, split by the sector rolled over from and to, while Table 2 shows the proportion of members who paid higher fees.

Table 1.   % of members paying lower fees by sector

From	Industry	Retail	Grand Total
To		(%)	
Corporate	39	57	39
Industry	18	78	21
Public Sector	67	94	68
Retail	7	22	9
Grand Total	19	51	20

Source: Superannuation Insights 2015.

Table 2.   % of members paying higher fees by sector

From	Industry	Retail	Grand Total
To		(%)	
Corporate	53	26	52
Industry	52	6	50
Public Sector	17	3	17
Retail	57	23	54
Grand Total	51	14	49

Source: Superannuation Insights 2015.

From Tables 1 and 2, we can see that 19% of members rolling out of industry funds move into funds that charge lower fees, while 51% move into funds that charge higher fees. Conversely, 51% of members rolling out of retail funds move into funds that charge lower fees, while 14% move into funds that charge higher fees.

Further, 21% of members rolling into industry funds pay lower fees, against 50% of members paying higher fees. For members rolling into Retail funds, only 9% of members pay lower fees, while 54% of members rolling into retail funds pay higher fees.

By making use of APRA MySuper Statistics, an estimate for those in employer sub-plans can be obtained. We have compared these estimates against our own experience in running tenders for corporate superannuation business. The level of discount varies by provider, but our estimated discount on average was 33% of total fees.

We have applied the average level for sub-plans for which data was not included in the MySuper statistics. Using this methodology, we have estimated that approximately 80% of members rolling over into an employer sub-plan experience a reduction in fees.

Graph 20.   Member outcome of rollover (with estimated corporate plan fee discount)
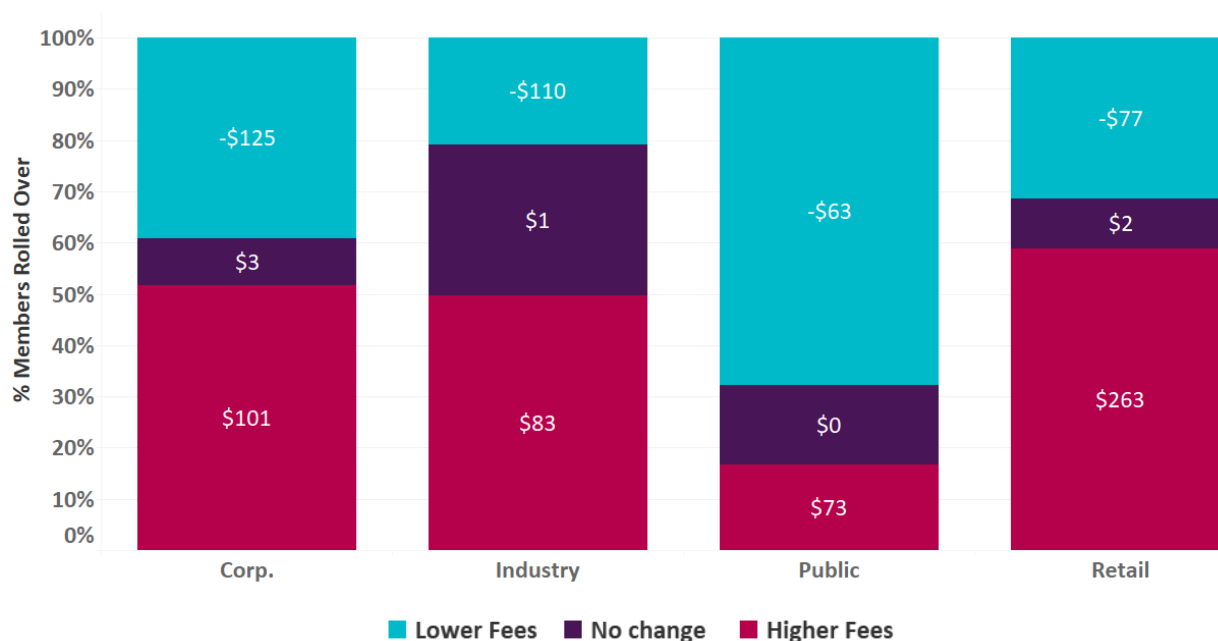
Source: Superannuation Insights 2015.

3.3.2   *Investment Returns*

Fund investment performance is another major factor which dictates member outcomes. There have been suggestions that members should switch to high performing funds to maximise their outcomes. While we note that past performance is not a guide to future performance, we do know that funds which perform consistently well over the long-term tend to have robust governance and strong asset allocation. In these cases, they are more likely to perform well in the future relative to their peers.

We expect that many members would use past performance as a proxy to guide their switching decisions.

Although we are unable to predict the investment returns of funds in the future, we can compare how members would have fared based on historical returns.

Graph 21 illustrates the average investment returns for both the incumbent and successor funds where the performance was lower for the successor fund, split by destination sector.

Graph 21. **Difference in historical returns for those members moving to a fund with lower 4y returns**
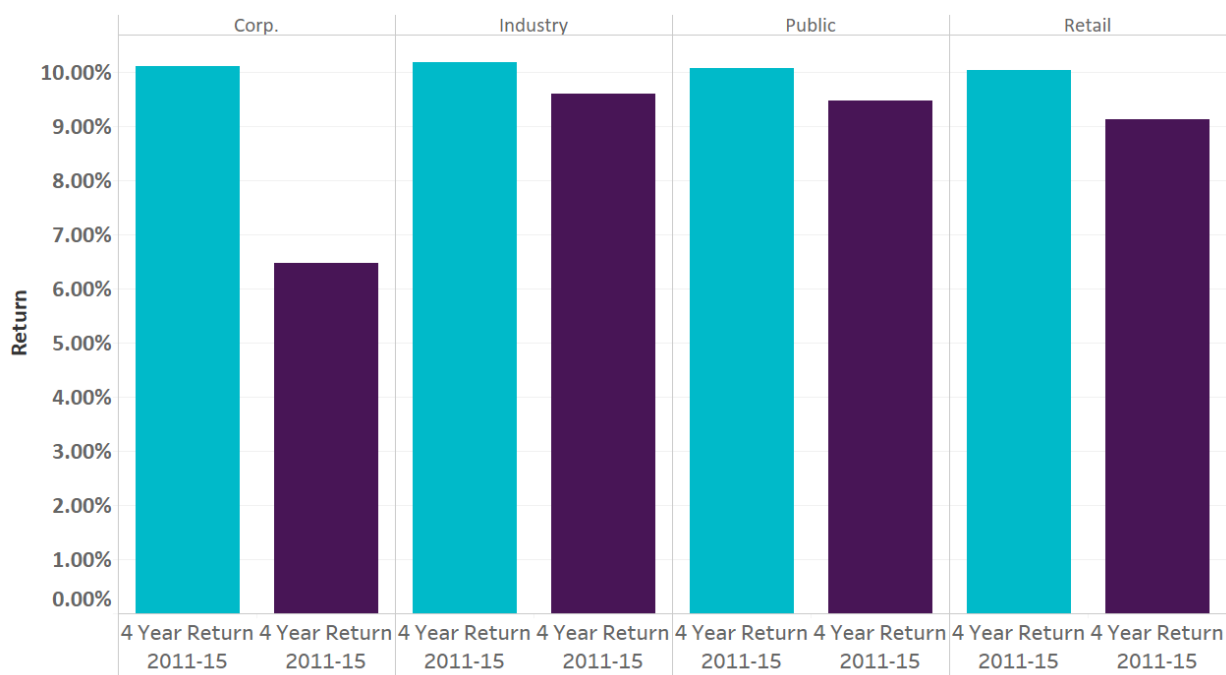
Light blue represents the members' original fund and dark blue represents the fund rolled over to.

Source: Superannuation Insights 2015.

This analysis is based on four-year annualised returns to 30 June 2015. The average historical performance for those rolling over to industry and public sector funds was approximately 0.5% p.a. lower than in the incumbent fund, whilst the equivalent figure for those rolling into retail funds was approximately 1% p.a. lower. Although this period is too short to conclude that these differences in results would continue, it does show that many members who switched have not done well in the period following the switch.

Graph 22 illustrates the average investment returns for both the incumbent and successor funds where the performance was higher with the successor fund, split by destination sector.

Graph 22.   Difference in historical returns for those members moving to a fund with higher 4y returns
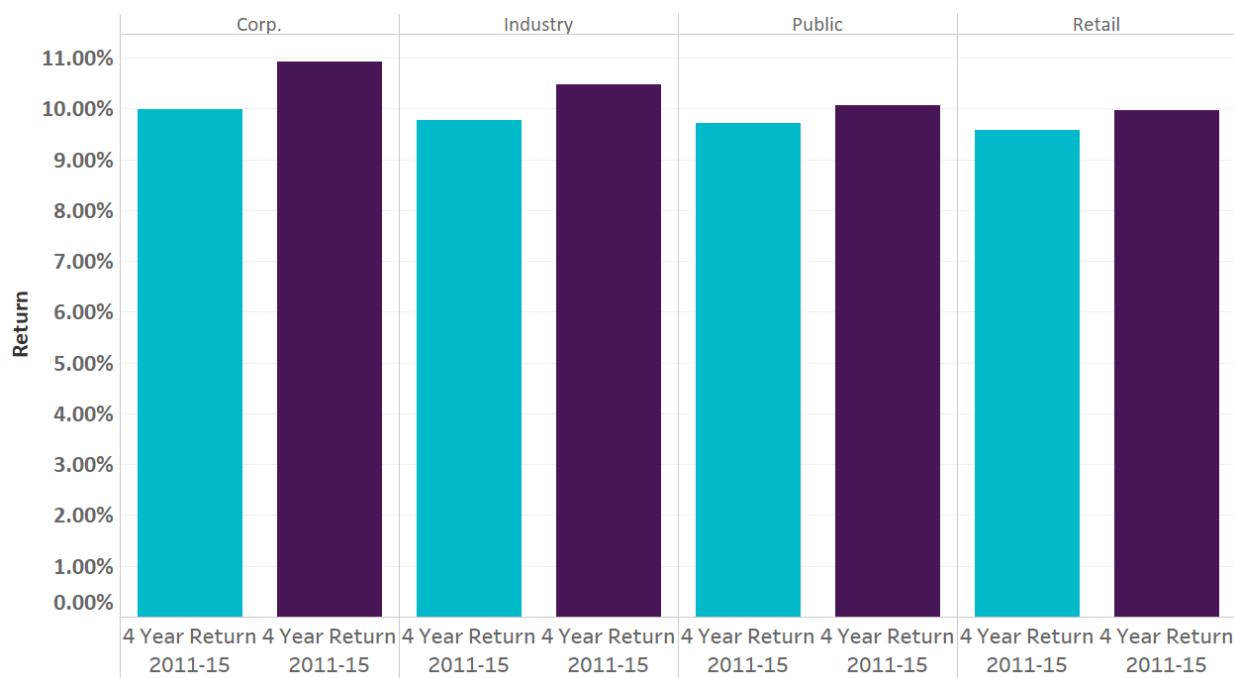
*Light blue represents the members' original fund and purple represents the fund rolled over to.
Source: Superannuation Insights 2015.

The average historical performance for those rolling over to industry funds was approximately 0.7% p.a. higher than in the incumbent fund, whilst the equivalent figure for those rolling into retail funds was approximately 0.4% p.a. higher.

Graph 23 shows the estimated aggregate increase in four year investment returns for members that rolled over to funds with higher returns, and the estimated decrease in four year investment returns for members that rolled over to funds with lower returns, based on APRA statistics and the Superannuation Insights sample, for the year ending 30 June 2015.

Graph 23. **Aggregate annualised impact on member balances of differential returns by sector ($M) June 2015**
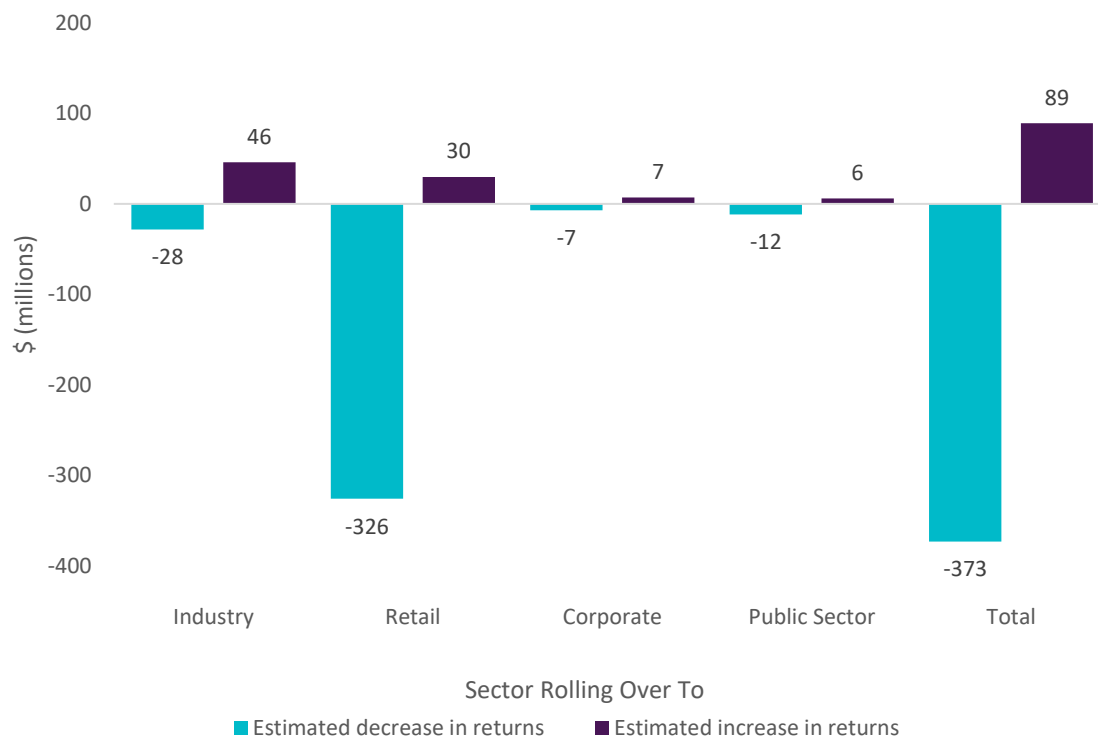
Source: Rice Warner estimate using APRA Fund Level Statistics and Superannuation Insights 2015.

Members rolling into industry funds would have received an estimated annualised increase in returns of $46 million, against an estimated decrease in returns of $28 million when moving into funds with weaker performance. Members rolling into retail funds would have received an estimated annualised increase in returns of $30 million, against an estimated decrease in returns of $326 million when moving into funds with weaker performance. This is a net decrease in annual investment returns of $296 million for those members rolling over into retail funds.

Note these estimates are based on historical performance applied to switching assets from APRA at 30 June 2015.

Graph 24 illustrates the proportion of member rollovers that are had better past performance split by sector. The comparisons are based on four- year investment performance to 30 June 2015.

Graph 24. **Historical investment returns for exited members by destination sector**
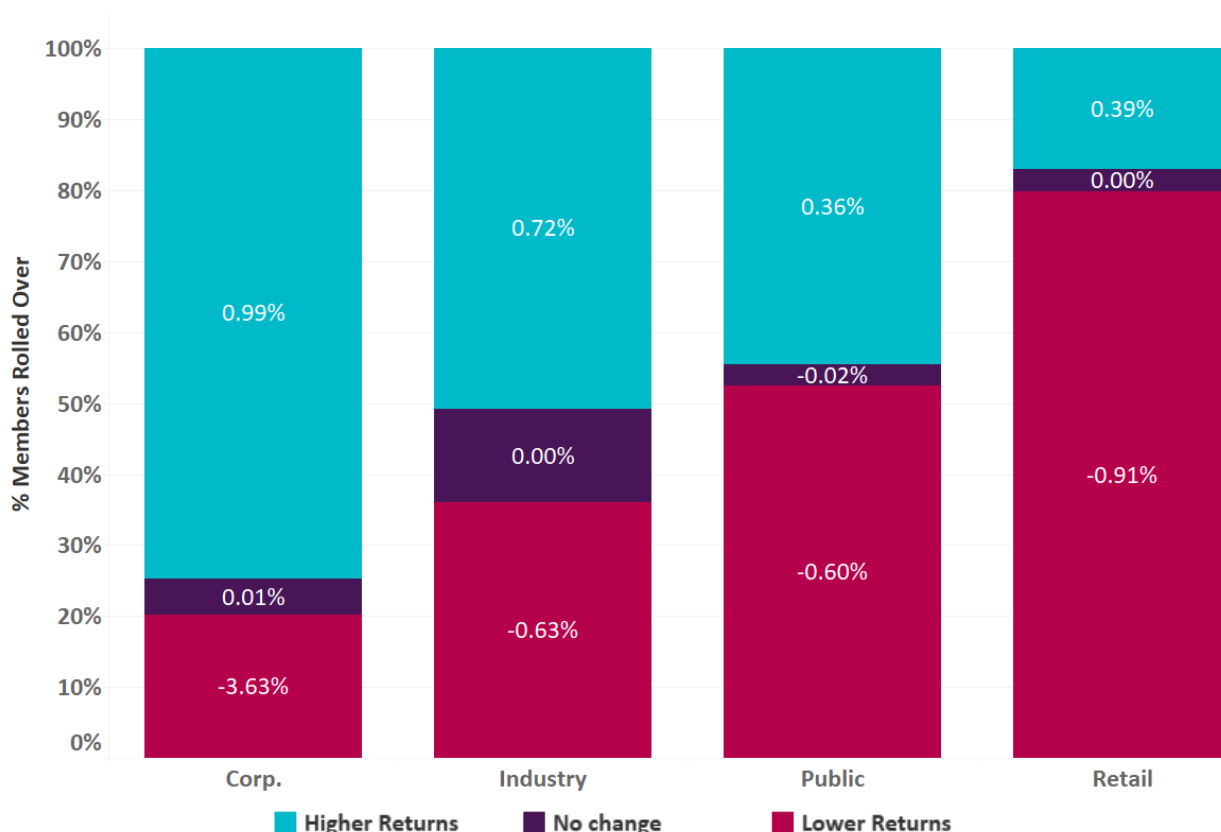
Source: Superannuation Insights 2015.

A change in investment performance of less than 5bps was included in the 'no change' category for this graph. Note that we have assumed the member invested in a similar option on switching to the new fund though it is likely that many members did choose a different investment strategy.

We note that 51% of members switching to an industry fund had a historically higher four-year investment return outcome, whilst 17% of members switching to a retail fund had historically higher investment returns.

Table 3 shows the proportion of members who moved to a fund with higher four year returns after rolling over, split by the sector rolled over from and to.

Table 3. **% of members achieving higher returns by sector**

From	Industry	Retail	Grand Total
To		(%)	
Corporate	74	80	75
Industry	52	23	51
Public Sector	46	*	45
Retail	17	13	17
Grand Total	37	17	36

*Data is unavailable.
Source: Superannuation Insights 2015.

3.3.3   Transfers from Corporate to Personal Superannuation

Of exits from retail funds, we observed a 22% rate of flips from retail employer plans to personal plans. This rate is an indicator of the level of default business that converts to Choice each year relative to total rollovers.

Graph 25.   Retail flipping rate – Superannuation Insights sample
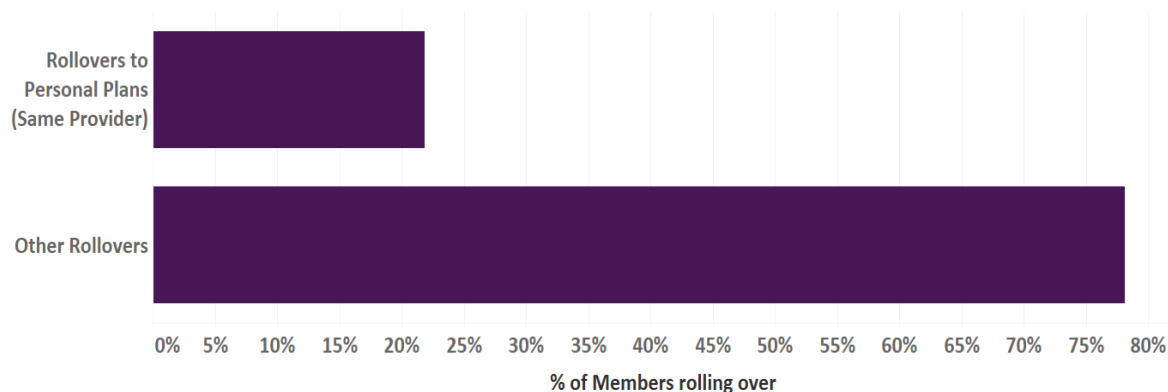
Source: Superannuation Insights 2015.

3.4   Cumulative rate of exit

We have further analysed what the cumulative rate of exit is for members over a period of three years by controlling the population at the start of 2013 and observing those members who left over a three year period (where data is available). From this analysis, we find that the probability of a member leaving a fund over a three year period is approximately 13%.

Graph 26.   Cumulative rate of exit – 3 years
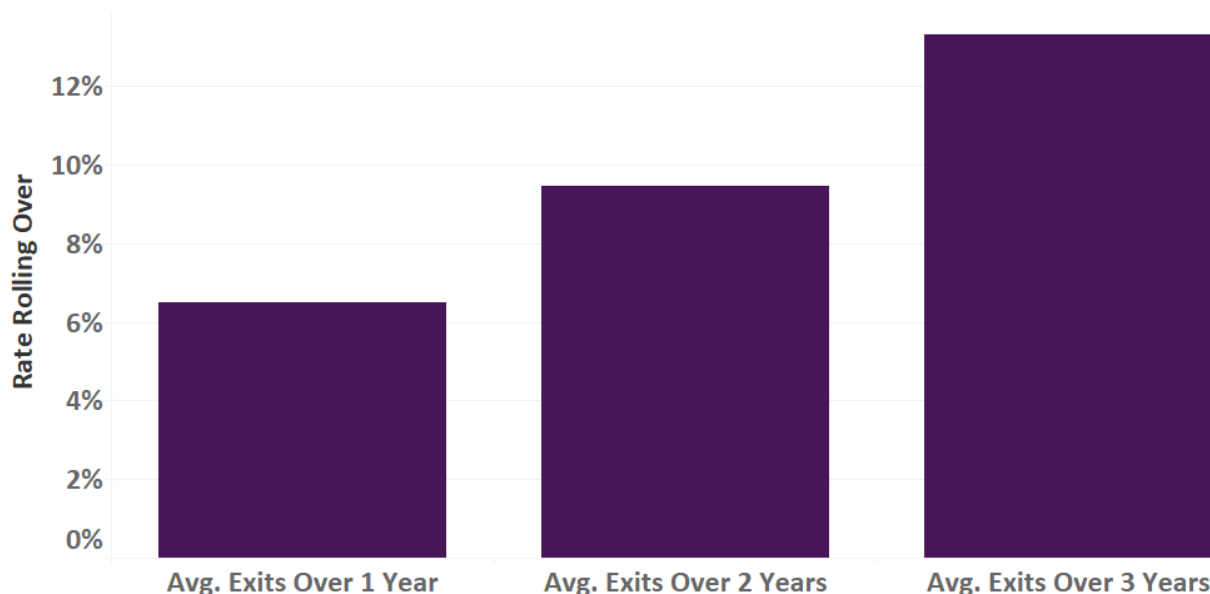
Source: Superannuation Insights 2015.

Graph 27 and Graph 28 show the cumulative rate of exit by age and tenure respectively.

Graph 27.   Cumulative Exit probability by age over 1, 2 and 3 years

Start Age
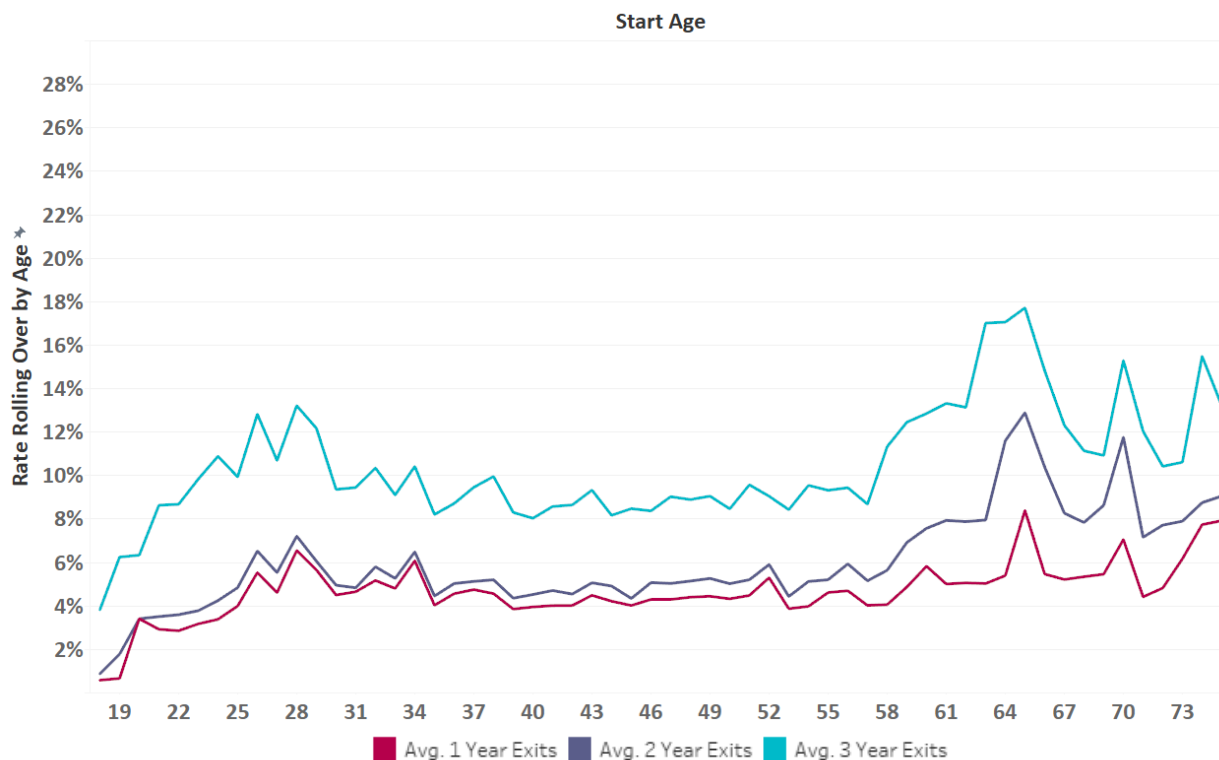
Source: Super Insights 2015

Graph 28.   Cumulative Exit probability by tenure over 1, 2 and 3 years

Start Tenure
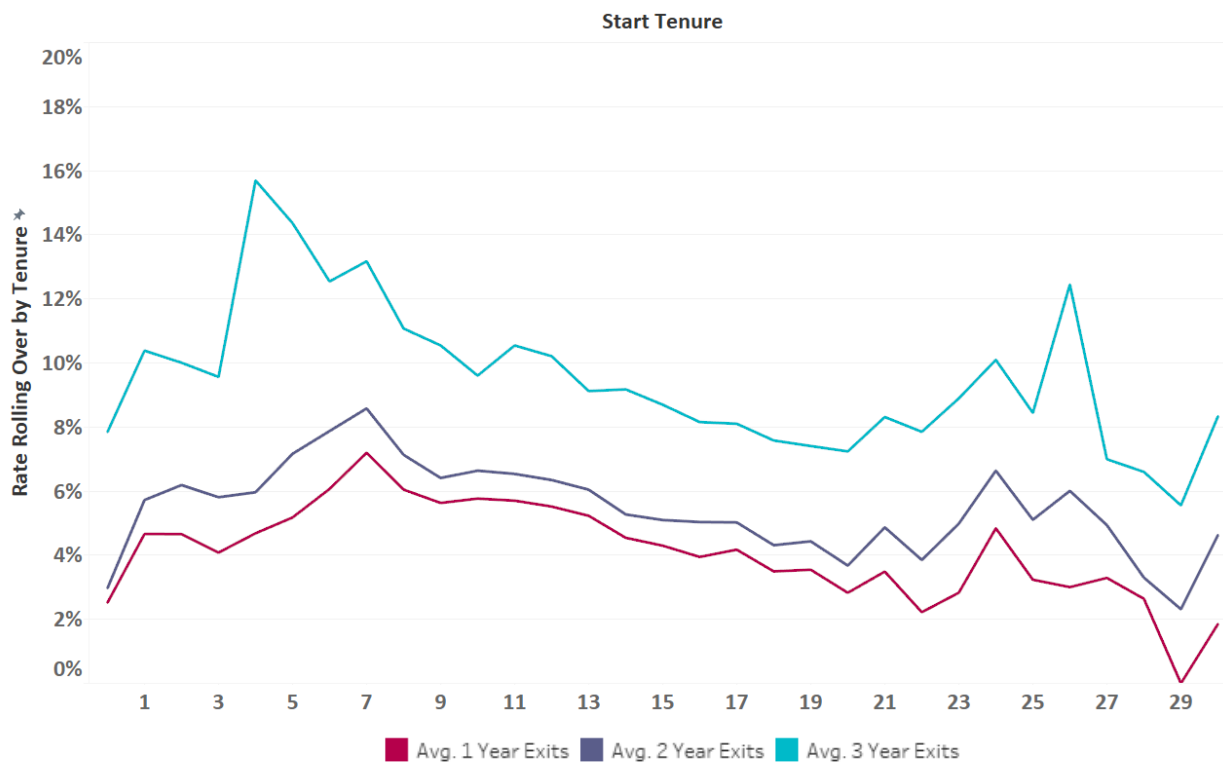
Source: Super Insights 2015

SUPERNOMICS

ADDRESSING FAILURES OF COMPETITION IN THE SUPERANNUATION MARKET ■

MARCH 2010

Industry Super Network

About Industry Super Network

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Foreword

There are three sources of market failure in superannuation: member inertia and disengagement; product complexity and low consumer financial literacy; and conflicted remuneration structures within the financial planning industry.

Two of these failures are recognised in the Cooper Review Panel's Phase 1 preliminary report *Clearer Super Choices – Matching Governance Solutions (2009)*. The third cause of market failure, conflicted remuneration structures within financial planning, is the subject of a number of recommendations made by the Parliamentary Joint Committee (PJC) Inquiry into Financial Products and Services in Australia (2009).

Supernomics explains the interaction of these three causes of market failure and the resulting cost to Australian workers and national savings of billions of dollars. This report then classifies investors and proposes measures to address market failure and increase competition in the Australian superannuation system. These include:

• an extension of the existing system of workplace defaults with representative trustees through the industrial relations system;

• a requirement that financial advisers act in the best interests of their clients;

• a ban on payments of commissions and asset-based fees from product manufacturers to financial planners; the capacity for super funds to provide low cost intra-fund financial advice to their members which is in their 'best interests'; and

• a practical and equitable solution to lost super/inactive accounts.

Executive summary

This paper provides a briefing on the latest research on competition in the superannuation industry.

The issue of competition is critically important because it underpins much of the current philosophy of superannuation fund regulation in this country. Several major reviews are underway dealing with superannuation, but so far the issue of competition has received far too little attention.

The paper explains that while there is competition in the superannuation market – both between sectors[1] and between funds – in its current form this competition is not producing the expected benefits for consumers in reduced cost and improved investment performance.

Choice of Fund was introduced in 2005 with the intent of driving reduced fees and better performance through an increased level of competition between funds. However, the data show that contrary to theory and common sense, the more you pay for superannuation, the less you get: the relationship between price and performance in the superannuation market is *negative*. On average, for each additional 1 per cent of assets p.a. paid in fees and commissions, net returns fall by almost 1.5 per cent.

It is clear also that only a small proportion of members utilise their rights to choose their super fund. As few as 3 per cent of members switch fund each year, and almost half of those switches are driven by job changes. Further, almost none of the flow of funds in the market responds to persistent differences in performance, in a manner necessary to drive funds to improve returns and cut costs for members.

There are clear economies of scale in superannuation administration and funds management. However, while assets per fund have grown dramatically over the last decade, there is no clear downwards trend in fees.

Within the retail sector, improving economies of scale seem to have been offset by increasingly complex product offerings, including more investment and insurance options – a form of non-price competition. As the overwhelming majority of members take the default fund and default investment option, it is debatable whether they are getting benefit from these changes.

The welfare cost associated with this competitive failure is large. Between financial years 1996 and 2009 APRA data show that the retail fund sector has provided average annual net return on assets of 3.3 per cent compared with 4.8 per cent for industry funds (APRA, 2007, 2009a). If retail fund assets had earned industry fund net returns during this period, system assets at the end of financial year 2009 would be around $40 billion higher than they actually are, providing an additional $2.8 billion in investment income annually, or around $7.7 million per day.

In the years to come, without urgently needed policy change, the opportunity cost of superannuation fund underperformance will escalate into the hundreds of billions. This cost is tangible. It will be felt by all Australians in the form of reduced retirement incomes, a smaller capital base, reduced productivity, reduced tax revenues and higher outlays for public pensions.

Competition in the superannuation market has evolved in this way because it is shaped by three factors: consumer behaviour, high product complexity combined with low financial literacy, and the commission system of remuneration for advice.

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1 The scope of the paper excludes self managed super funds (SMSFs).

Consumer behaviour is a factor for several reasons. The Superannuation Guarantee (SG) was designed to address the apathy many people have towards retirement savings. The SG is boosting retirement savings, but it does not remove the apathy itself, which is then expressed in a lack of engagement with superannuation. Researchers have also found inertia amongst relatively active and financially literate consumers, who switch funds much less than might be expected due to risk aversion.

Consumers exercising their right to choose also face a significant learning cost as they seek to understand a market with complicated products, a myriad of pricing mechanisms and incomplete disclosure. On the latter, the paper recognises the important efforts of regulators to work with industry to improve disclosure, including by producing shorter product disclosure statements – notwithstanding research from the US indicating that such steps *in isolation* may have little effect.

The complexity of financial markets underscores healthy demand for financial advice. Unfortunately, the dominant remuneration model for financial advice – over 80 per cent of payments to financial planners are from commissions – raises profound conflicts of interest questions.

Financial planners paid through commissions by the providers of retail financial products have an incentive to promote those products, irrespective of relative performance or potential benefit for the consumer. For this reason, few financial planners recommend non-profit superannuation funds, despite a wealth of data demonstrating persistent outperformance over more than a decade.

The paper recommends that the policy settings in superannuation recognise the factors which are shaping competition in the market.

Default funds and default investment options are a critical part of the system in which passivity and risk aversion continue to be major factors shaping consumer behaviour. ISN supports the decision by the Australian Industrial Relations Commission (AIRC) to identify default superannuation funds within the new consolidated awards to be maintained by its successor Fair Work Australia (FWA).

Members acting under advice need to be confident advisers are acting in their best interest. To align the interests of advisers with their clients, the paper recommends regulation that subjects financial planners to a legal requirement to act in the best interest of their client and prohibits models of remuneration involving payments from product providers or fund managers and ongoing asset based fees.

The recent releases by the advice and funds management industry bodies of proposed new voluntary regimes touching on the remuneration of financial advice are significant concessions that current practices are inappropriate. However, they can only be interpreted as initiatives to head-off needed regulation.

The suggested voluntary regimes only apply to new members, and do not address existing retail sector products – which hold over $300 billion in assets – and will under current policy reduce retirement savings due to commissions for years to come.

1 Introduction

The Australian superannuation market has over 200 large funds directly competing to provide services to the whole community.[2] Regulatory constraints on competition in workplace superannuation have been removed for most workers.[3]

Nonetheless, profound issues remain with competition in this market. The large retail sector funds, including those owned by banks, exert market power by virtue of vertical integration – from funds management through to distribution channels including financial advice. Specific parts of the value-chain, including administration and asset consulting, are relatively concentrated.

Moreover, competition between funds is not driving price and performance improvements as expected. This paper discusses the Industry Super Network's own research, along with papers by several other researchers that show persistent performance differentials between funds and sectors over time.[4]

Recent developments in the theory of competition can help explain this apparent paradox. There is a growing awareness that the links between competition and efficiency are subtle and complex. As John Vickers (1995), of Oxford University, puts it:

> "competition problems…are by no means easy to analyse. Faith in some general and undiscriminating notion of competition offers little guidance as to their solution. Reasoning about competition problems requires more detailed theoretical understanding and of course empirical analysis, of how competition (of different kinds) works (in different circumstances)."

This paper explains that while there is competition in the superannuation market – both between sectors and individual funds – in its current form this competition is not producing the expected benefits for consumers in reduced cost and improved investment performance.

The paper is structured as follows. Section 2 describes the level and form of competition. Section 3 explains this outcome in terms of consumer behaviour and conflicted financial advice. Section 4 provides policy recommendations. Appendix B describes the increasing focus in research and policy on the demand side – looking at consumer behaviour – for ensuring competition promotes efficient outcomes.

A companion paper to be released separately - *Australia's Lost Super Revisited* - provides an estimate of the welfare cost of competitive failure.

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2   Official statistics indicate that as at June 2008 there were over 500 large 'APRA regulated' funds. Over 200 of these were 'public offer' funds. These public offer funds held $527 billion at June 2008, of which 45 per cent was managed by the largest 10 and 64 per cent by the largest 20 funds (APRA, 2009a). This level of market concentration is lower than in comparable industries, notably banking and insurance. Non-public offer funds may also compete – for workplaces – by attempting to sign up new employers.

3   Choice of Fund, introduced in 2005, allows most workers to choose the fund which receives their workplace contributions. At the same time, regulatory change improved portability allowing balances to be rolled over between competing funds more easily. Nonetheless, some regulatory obstacles do remain, with some workplaces still not permitting choice and some funds not allowing outward rollovers. In addition, some workplaces have found it difficult or expensive to implement choice, with the result that in practice some workers cannot exercise their legal right to choose.

4   APRA's superannuation statistics tell the story. For analysis of this and other datasets, see Coleman et al (2003), APRA (2007), Ellis et al (2008) and Bryan et al (2008).

2 The state of competition

Choice of Fund came into force on 1 July 2005. The legislators introducing Choice of Fund believed it would lead to increased competition between funds for market share which would drive reduced fees and better performance (Senate Select Committee on Superannuation, 2002).

The reform was entirely consistent with the recommendations of the Wallis Inquiry (1997). While the view among leading superannuation researchers was mixed, Drew and Stanford (2003) were supportive, predicting that increased choice would address principal-agent problems by allowing members to:

> select their own agent to nominate and monitor the fund for their contributions; …[with] the ultimate sanction of withdrawing and transferring their balances. This creates the incentive for trustees to be responsive to members' wishes and to be more accountable for their decisions.

At this stage, indications are that these expectations were excessively optimistic. In this section, evidence is presented which demonstrates that in the current superannuation market:

(i) there is a persistent *but negative* relationship between price (in fees and commissions) and performance (net returns);

(ii) there is very limited active choosing of super fund (Roy Morgan, 2009) leading to quite static market shares;

(iii) the limited fund flows that do take place are driven primarily by size of fund, with only a tenuous relationship between net returns and fund flows (Bryan et al, forthcoming 2010);

(iv) there is a trend to increased product flexibility and complexity with dubious value-add for most consumers (i.e. competition on non-price factors); and

(v) significant economies of scale due to increased funds under management and fund consolidation have not as yet translated into fee reductions or higher net performance.

2.1 Fees and net returns

In an efficient market, the law of one price ensures that consumers pay an equivalent price for an equivalent product. In terms of superannuation, that would imply a given level of fees and commissions for a given level of net returns. Consumers would only be prepared to pay higher than average fees for higher than average returns.

A series of analyses in recent years have shown this not to be the case.

Evaluating super fund returns from 1996 to 2002 Coleman et al (2003) found that retail funds provided average returns of 4.5 per cent pa, 1.3 per cent lower than industry funds and 1.7 per cent lower than all not for profit funds.[5] They also found 'evidence of a negative relationship between returns and expenses. This suggests that fund members receive little advantage from investing in superannuation funds with high expenses.' Coleman et al also found that a number of (mostly retail) funds provided returns below the risk free rate. Such underperformance would not be sustainable in an efficient market, in which investors need to be compensated for volatility by returns exceeding the risk-free rate.

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5 It is worth noting that corporate funds and public sector funds often face limited competition in their own workplaces and can therefore partly or fully avoid some costs, such as marketing.

APRA (2007) reinforced these findings, presenting data for the period 1996 to 2006 showing that retail funds provided average returns of 5.3 per cent pa, 1.4 per cent lower than industry funds and 2.2 per cent lower than all not for profit funds.

A 2008 paper by Ellis et al explored performance differences between funds, finding that differences between the not for profit sectors were not statistically significant, but that the lower performance of retail sector funds was statistically significant. They found that differences in fees and commissions were the single largest factor contributing to the different level of performance. Among other points made were that annual fees in the retail sector are four times higher than in the not for profit sector on average.

ISN has analysed a dataset supplied by Rainmaker derived from the annual reports of 18 very large superannuation funds (ten non-profit funds, four corporate master trusts and four personal master trusts), together holding around 30 per cent of industry assets. The dataset includes net returns and price (fees, commissions and investment costs) for each fund for the six years from 2004 to 2009, inclusive.[6] The investment option is the default option, or the largest option for personal retail funds that have no formal default option.

Figure 1. The more you pay, the less you get

Net returns versus fees and commissions (expressed as an MER) for the default option of large superannuation funds (six year averages, 2004–2009 inclusive)

$$y = -1.4812x + 0.0803 \quad R^2 = 0.6076$$
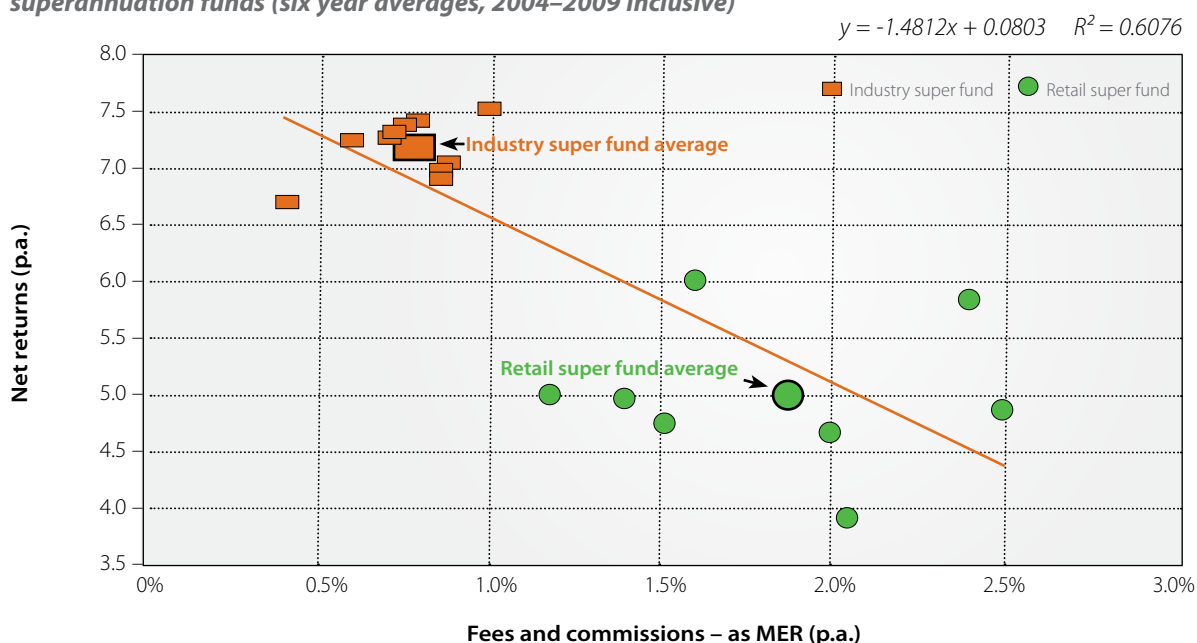
Assumption: Corporate retail funds assume discounts applicable to customers with $10 million in assets.

Source: *Rainmaker (2009) and author's analysis; summary table at Appendix C.*

The data strongly suggest a negative relationship between price and returns (the least squares regression line slopes downwards) which is the opposite of what would be expected in an efficient market.

The dispersion around the regression line – more noticeable for retail funds – is in part due to the relatively small sample size. Nonetheless, an R^2 figure of greater than 0.6 indicates that price is a very important, if not dominant, determinant of returns.

On average, over the last six financial years, members in the default or largest investment options in the largest public offer superannuation funds lost almost 1.5 per cent pa in net returns for each additional percentage point they paid in fees.

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6   Members are assumed to hold a balance of $50,000 and contribute $5,000 pa. Corporate master trusts are assumed to provide fee discounts typical for corporate customers with $10 million in assets. Many small business customers would have less than $10 million in assets and therefore not qualify for such discounts.

The figure also highlights that governance structure (not for profit funds have representative trustees whereas for-profit retail funds do not) is informative about both performance and price. The quadrant of above average returns and below average fees is inhabited only by not-for-profit funds.

2.2   Switching between funds

Despite Choice of Fund, switching between funds is limited.

Since its introduction in June 2005, Roy Morgan has published historical data on two variations on a question asking if respondents have switched fund in the last 12 months. The positive response rate to the former question has fallen from around 5-6 per cent in 2005, to a fairly stable 2.7-3 percent since 2007. There is a fairly consistent difference in results between the two questions due to some respondents opening a new fund without closing their previous fund (ie. acquiring multiple accounts).

ISN estimates that the cumulative total of these series from June 2005 to June 2009 is around 13-15 per cent. Even if we assume that no individuals change fund more than once (so that all of the switches recorded are unique individuals) the data suggest that the overwhelming majority of super fund members have not switched fund. The ISN estimate is broadly consistent with a 2008 estimate from Ernst and Young (2008: 13) that 10 per cent of super fund members had chosen their fund (to the third quarter 2008) based on their own public survey. The result of McNair Ingenuity's (2008) research commissioned by the Association of Superannuation Funds of Australia (ASFA) that 8 per cent of members switched funds in the year to September 2008 (down from 16 per cent the previous year) is difficult to reconcile with either the Roy Morgan data or Ernst and Young's estimate.

Switching is often driven by changes in workplace, which means that switching is not strictly equivalent to choosing – and a lack of switching is not the same as a lack of choosing (these issues are discussed in section 3.1, below). Nonetheless, if shifting assets from one fund to another is the member's main tool to exercise control over funds and address agency problems, a lack of switching demonstrates that very little pressure is being brought to bear on funds via this mechanism.

2.3   Fund flows

For market forces to discipline superannuation providers, members must respond to price and performance measures by shifting assets from consistently poorly performing funds to consistently strongly performing funds.

As discussed above, the quantum of switching has been quite low. A second question in relation to the limited switching, or fund flows, that do occur is: 'what is driving them?'

Fund flow research overseas, particularly in relation to the US mutual fund market, has found that performance is only one of several factors (and a relatively weak one) that guide fund flows. Other factors such as marketing spend and the recommendations of advisers have been found to be more important influences on consumer behaviour (Freeman, 2007).

ISN has commissioned analysis on fund flows by the Workplace Research Centre in the Australian superannuation market. A soon to be released paper (Bryan et al forthcoming 2010) describes an analysis which considers the influence of 1, 3 and 5 year returns on fund flows, along with a range of other factors.

The most influential factor was the size of the fund (after controlling for the positive impact of size on performance), which had a disproportionate impact on flows, suggesting that distribution channels (such as networks of affiliated financial planners) and brand awareness were important drivers of consumer decision-making. 1 year and 5 year returns are not statistically significant influences on fund flows. 3 year returns were influential, but weakly so.

In summary, fund flows are far too small to effectively discipline fund performance, and, in any case, are driven more by size than performance. This all suggests that market forces alone do not appear likely to control principal-agent problems.

2.4   Fees and economies of scale

Numerous studies of the cost of Australian superannuation have found evidence of economies of scale, including Coleman et al (2003), Bateman and Mitchell (2004) and a recent study by Deloittes (2009).

The latter study finds economies of scale in both administrative and investment management costs (see Figures 2 and 3), contributing to median net returns over 5 years (2004–2008) being 0.9 per cent higher for funds with over $1 billion in assets compared with funds with less than $1 billion in assets.

Figure 2. Operational costs ($ per member per week)
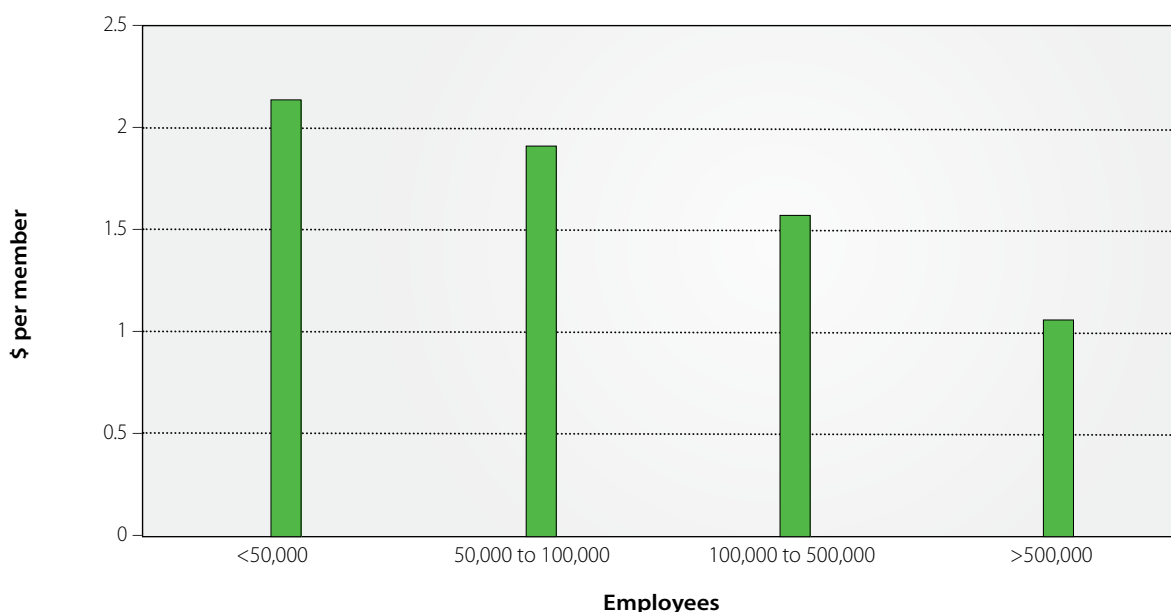
Source: *Deloittes (2009)*

ChantWest (2008) also find evidence that costs vary by 10–20 per cent within market segments based on average account size.

The presence of economies of scale confirms that there are fixed cost elements to superannuation administration and investment management. These factors should result in unit costs falling over time as fund assets and members grow (due to both industry growth and consolidation) and average account sizes increase (as the system matures).

Between 2002 and 2008, industry assets increased from around $520 billion to $1,170 billion, and the assets in large funds increased from around $425 billion to $810 billion. At the same time the number of large funds has fallen from over 2,900 to around 500. Excluding small funds, average assets per fund have consequently increased from $140 million in 2002 to $1.6 billion in 2008. Notwithstanding some one-off merger costs, we would expect that this change would bring a significant reduction in unit costs. In an efficient market, these cost savings would be passed on to members.

The evidence from the various data sources offers little indication that this is the case. RiceWarner (2009) has found that costs (as management expense ratios - MERs) have fallen over this period from 1.37 per cent to 1.21 per cent. This is mainly due to reductions in costs in one market segment, large corporate master trusts.[7] On the other hand, ChantWest (2008) presents data for 2005 to 2008 which shows retail and public sector being stable and industry fund fees rising. Rainmaker (2008) data shows MERs rising for large funds in both retail and industry sectors.

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7   There is some evidence that reduced prices by retail funds in this market segment are a form of loss-leading, where the profitability comes later when members are switched or 'flipped' into personal superannuation products when they change employer.

Figure 3. Investment management fees (per cent of assets)
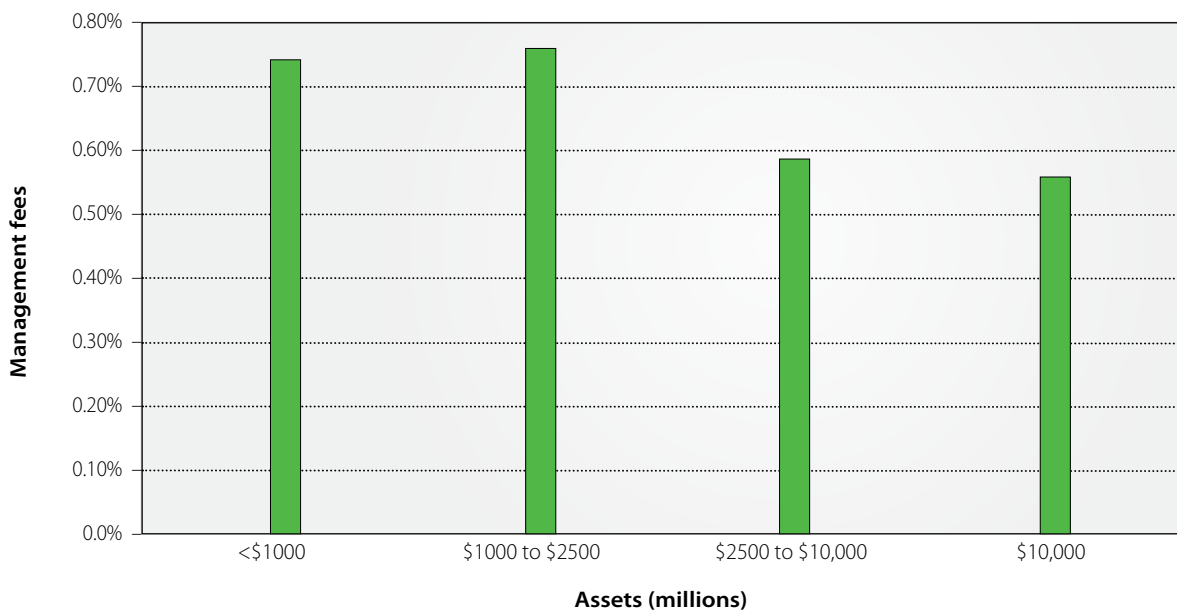
Source: *Deloittes (2009)*

Taken together, these studies suggest there has been no clear systemic change in unit costs during a period in which average assets per fund increased more than ten fold.

Possible explanations for this include that the benefits from increasing scale economies have been partly offset by direct costs associated with choice and competition, including marketing, as well as the cost of increasing product complexity.

2.5   Increasing product complexity

Competition between funds has not had any clear impact on cost or performance. However, other trends are apparent. In particular, the complexity of products offered has increased over time. This trend partly reflects an effort on the part of non-profit funds to provide a 'richer' product offering.

One obvious dimension of this trend is the average number of investment options offered by funds. Across all market segments (excluding SMSFs), the average number of investment options has risen from 14 to 36 between 2002 and 2008 (see Figure 4), with all fund segments showing an increase. Retail funds – both personal and corporate master trusts – started at a higher level and continue to leading this trend by a considerable margin (Rainmaker, 2009).

The average number of insurance options available has also increased. In workplace superannuation the average number of insurance options has increased from 7 to 30 across all market segments (Rainmaker, 2009).

The superannuation market shows a trend to increased product complexity, combined with fairly stable prices. This pattern is consistent with monopolistic competition in which firms compete via product differentiation rather than on price.

Figure 4. Average number of investment options, by market segment

*Weighted by assets
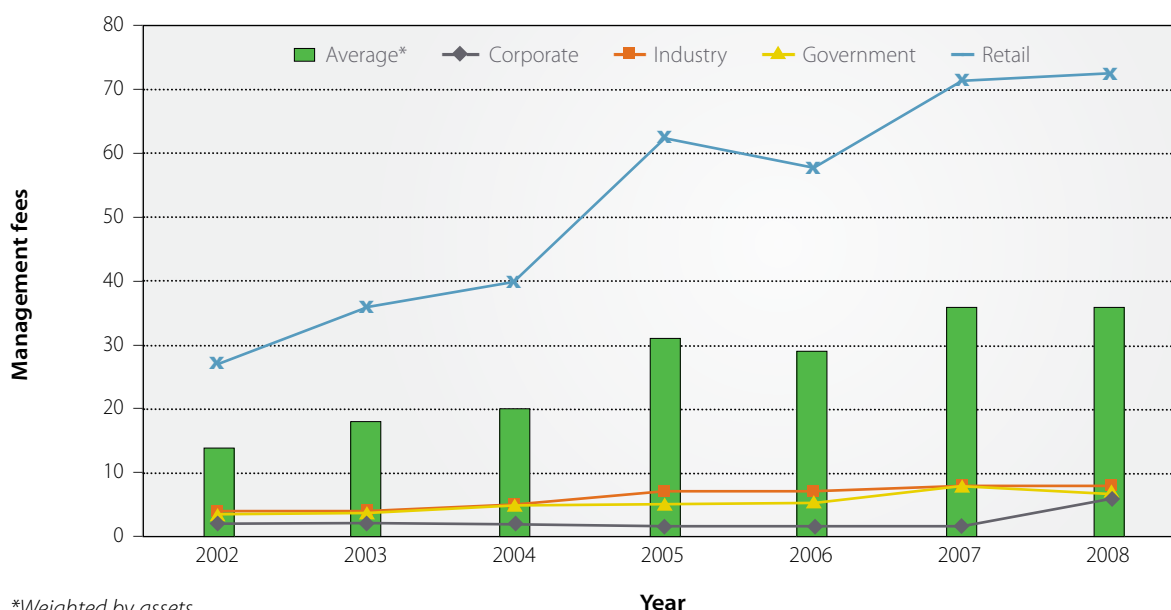
Source: *Rainmaker and author's calculations*

As many consumers remain in default funds and default investment options, it would be more advantageous for most consumers to see price and performance improvements in these options, rather than having the funds loaded with rarely utilised product complexity.

Members may gain advantage from the option-value associated with rarely utilised product features; however, as many consumers remain in default funds and default investment options, their interest is most directly served by price and performance improvements in these products. Finally, increased product complexity further reduces the transparency and accessibility of the industry and arguably makes consumer engagement more difficult to achieve.

2.6   Summary

Persistent underperformance, particularly in the retail sector, indicates that many superannuation consumers tolerate paying more for less – against their own interests.

Poorly performing super funds are not pressed to improve net performance. By contrast, funds that have performed well historically have felt compelled to take on more expense by offering more investment choice, and implementing expensive administrative arrangements such as unit pricing to better facilitate option switching, which relatively few members will utilise.

Direct competition against 200 other public offer funds has somehow not compelled funds to pass the financial benefits associated with rapidly growing assets under management back to consumers though reduced fees or better performance. Together with heavier brand marketing, and increased investment and insurance options, the lack of clear benefit for consumers from increasing economies of scale suggest funds are engaging in non-price competition, a feature of monopolistic competition. This form of competition may allow funds to maintain higher margins or a 'quieter life' for fund trustees and employees.[8]

These outcomes indicate that superannuation is a market in which conventional economic assumptions such as perfect information appear not to hold. If it was, strong price competition would drive retail funds to operate and price more like non-profit funds. Instead, there are signs potentially emerging of the opposite, with non-profit funds offering a more complicated and bundled product. Closer examination of how consumers respond to price signals and other key product information is necessary to understand competition in this market and design an appropriate policy framework.

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8   "The best of all monopoly profits is a quiet life." (Hicks, 1935)

3 Factors which shape competition

Competition in the superannuation market is fundamentally shaped by three factors.

3.1 Consumer behaviour

First, many superannuation consumers are essentially passive.

As discussed above (section 2.2), only around 3 per cent of members switch fund each year. Much of that switching is not active choosing, with around half of respondents saying that changing job was a factor in the switch and over 40 per cent saying it was the only factor (Roy Morgan, 2009).[9]

The prevalence of 'passive switching' (ie. driven only by employment changes), raises the issue of account proliferation. When a worker gets a job with an employer that has a different default fund from their previous employer, the 'do nothing' outcome is to acquire a new account, while keeping the old one. It takes action to consolidate accounts, whether sticking with the previous fund or rolling assets into a new fund. There were 32.7 million superannuation accounts as at June 2009, up by 2.3 million on 24 months before (APRA, 2010). While some individuals may justifiably have more than one account, the extent of account proliferation suggests that many individuals do not consolidate balances when they acquire new funds in new workplaces.

Passivity and work place super also raise the issue of marketing strategies based on 'flipping'. Flipping occurs when consumers leaving a workplace whose default fund is a corporate master trust are transferred automatically into the fund's corresponding private master trust with significantly higher fees (SMH, 19 July 2009; InvestorDaily, 17 September 2009).

Data highlighting the limited extent of active choices cannot, in isolation, prove the extent of passivity, because the group who have not exercised choice may include some who are informed but inactive because they are content with their current offering. Recent research on enrolment in default investment options by a major industry fund[10] indicates that members in the default investment option may be divided into three approximately equal groups according to their level of engagement: one group was 'unknowingly' in the default option (having no awareness of what the default option was or that they had alternate investment options; a second group was aware they were in the default option and that there were alternatives but gave apathetic reasons for being in that option (such as that they were unsure of how to change, that it would take too much time or that they were not interested in investment issues); whilst a third group gave reasons for being in the default option that indicated they had given the question some consideration and thought it the appropriate investment option.

The attitude of members enrolled in a default fund could be divided in a similar manner. Without making assumptions about the relative size of the groups based on this research, it would be fair to say that members who either were not aware they had a choice, or had not exercised choice for apathetic reasons could be disadvantaged unless the workplace default fund in place had representative trustees and strong net returns.

There are a number of reasons why so many superannuation consumers are passive. One important factor is that many superannuation consumers are participants in the market not because they have chosen to save instead of spend, nor because they have chosen to buy a particular investment product over another

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9   On the other hand, some non-switching implies choosing. A worker who moves to a workplace with a different default fund but is happy with their existing fund and does not switch fund is choosing.

10 For reasons of commercial confidentiality the fund will not be named publicly.

but because of the Superannuation Guarantee (SG). The SG requires that employers make superannuation contributions on behalf of almost all employees. This is the second pillar of Australia's widely lauded multi-pillar retirement income system.

The SG was established to address Australia's very low retirement incomes while avoiding the budget pressures associated with higher public pensions. The system, like all compulsory pension systems, addresses the apathy most people (especially the young) feel towards retirement savings. This tendency, sometimes referred to as 'myopia', reflects excessive discounting of remote costs and benefits.[11] The SG system addresses myopia by ensuring that savings are made and preserved for retirement on behalf of almost all workers.

However, the SG does not (and probably cannot) remove the underlying apathetic attitude towards retirement savings, especially amongst young workers, which is subsequently expressed in the undemanding, even unaware, manner many members interact with the market. Members in the market purely because of the SG have been described as 'conscripts rather than volunteers' (Bryan et al, 2010 forthcoming).

A second factor which discourages active choices is risk aversion. Recent behavioural research has found that, as well as demanding increased returns to compensate for increased volatility (as predicted by traditional financial theory), investors place greater weight on avoiding losses than achieving equivalent gains (Knetsch, 1989 in Fry et al, 2007). Also, rather than viewing all possible portfolios equally, they tend to view the currently held portfolio as a reference point.

In combination, these observed tendencies result in investors being more reluctant to change held investments than predicted by traditional theory. This is because the chance of achieving a lower return in an alternate portfolio is over-valued relative to the chance of achieving a higher return. With these biases, investors make changes to portfolios only when the chance of a positive relative performance *significantly* outweighs the chance of a negative relative performance. These tendencies have been found to be more powerful with greater uncertainty (Sethi-Iyengar et al, 2004 in Fry et al, 2007).

Fry et al (2007) have investigated whether this analysis applies to Australian superannuation investors. The researchers drew survey respondents from a group of financial magazine readers, who might be expected to be both more engaged and more financially literate than average. However, the research did indeed find evidence of inertia, which is interpreted to reflect loss aversion. This research suggests that switching will be lower than optimal even amongst relatively engaged and well-informed consumers for whom passivity is probably not an issue.

A third set of factors which reduce switching are institutional. These include product pricing strategies which discourage switching, the most obvious of which is high exit fees. IFSA reportedly estimates up to 25 per cent of all funds under management – hundreds of billions of dollars – are in legacy products (SMH, 18 November 2009). The trend in new products is for exit fees to be lowered. However, substantial contribution fees remain the norm for retail products, and these can also discourage switching. A consumer who knows they are losing up to 5 per cent of funds upfront to contribution fees, may feel that to get value out of the product – to in some sense make that money back – it is necessary to stick with it for at least the medium term.

Other factors which reduce switching may include employers unwilling to take on the administrative burden of dealing with multiple superannuation funds.

In summary, levels of switching are lower than might be expected due to consumer passivity, risk aversion, and institutional factors which reduce choice in practice.

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11 In recent decades, economic theory has recognised and begun to explore why individual decision-making is often apparently inconsistent with rational maximising behaviour. 'Behavioural economics' takes bounded rationality and imperfect information into account in considering decision-making and policy. Bernheim and Rangel (2008) in the **New Palgrave** provide an overview of behavioural economics including a summary of its application to retirement savings. Benartzi and Thaler (2007) survey the discipline and, in Thaler and Benartzi (2004), describe the design and implementation of an 'opt-out' workplace retirement savings scheme to counteract self control issues which, along with myopia, otherwise reduce retirement savings.

3.2   Search and switching costs – financial literacy and product complexity

A second factor is that superannuation products and their pricing are so complex that their assessment is a challenge for financial professionals, let alone the average consumer whose level of financial literacy is quite low.[12]

Making the jump from being an inactive superannuation consumer to being an independent, active superannuation consumer, carries a tremendous learning cost. Switching costs, including learning costs, can limit competition even in the presence of many suppliers (Farrell and Klemperer, 2007).

In the superannuation market, to make the transition from inactive to active consumer, an individual must acquire a basic understanding of:

(i)   finance and investment, including key concepts such as the risk-return relationship, the equity risk premium, and the merits and limits of diversification;

(ii)   financial products – effectively, how the factors in the previous point are reflected in the various offerings from the many competing funds;

(iii) the variety of ways financial products can be priced (and the comparative impact of different pricing structures on net returns over time); and

(iv) the ways various financial products interact with the tax-transfer system.

Despite some recent efforts by regulators,[13] the range of information sources on financial products including superannuation is potentially overwhelming, and marketing and promotional material is difficult to interpret.

As is recognised by both ASIC (2009) and Treasury (2009) in recent public submissions, the average superannuation consumer faces profound information asymmetry, with product providers having the advantage of detailed knowledge of the market which most consumers are unlikely ever to achieve.

Underscoring the competitive benefit achieved for retail funds by the current lack of transparency, that sector campaigned vigorously against APRA's effort to improve information available to members by publishing fund level return data. When unsuccessful, the retail sector has resorted to a campaign to discredit the data, and proposes instead that data be published at the investment choice level. Underperformance at the fund level will be relatively easy to disguise amongst data tracking an estimated 30,000 investment options.

Given the complexity and opacity of financial markets, it is not surprising that there is a large and growing demand for financial advice, met by accountants and financial planners, who offer to guide financial decisions including choice of superannuation fund. However, the use of advisers raises a principal-agent issue,[14] with poorly informed customers having very limited ability to establish whether the advice received is of high quality and reasonably priced.

This raises the third factor which fundamentally shapes competition in the superannuation market: the commission system of remuneration for financial advice.

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12 Findings from a 2006 report by Mercer include that two-thirds of working Australians are not sure if their superannuation fund is a defined benefit or an accumulation style fund, over half are unsure of the basic definitions of growth or defensive investments, two-fifths did not know if their funds are largely invested in either aggressive or conservative strategies and over one-fifth held three or more accounts.

13 The Financial Services Working Group and APRA (2009b) are currently running initiatives to, respectively, simplify Product Disclosure Statements (PDSs) and publish fund level performance results. While both initiatives are important and positive, they represent incremental steps towards addressing the information asymmetry faced by superannuation consumers. Unfortunately, in terms of the former effort, recent research from the US mutual fund market finds that simplified product descriptions have no discernible impact on investor decision-making, even for subjects with above-average levels of financial literacy (Beshears, 2009). These findings emphasise that disclosure alone will not ensure market efficiency.

14 More precisely, use of an adviser for financial advice is a classic principal-agent problem. These arise where information asymmetry limits enforcement of a contract. Shareholder-manager, employer-employee and consumer-firm relationships are all subject to principal agent problems if the principal doesn't have the data, skills or time to observe how honest, effective, or productive the agent is being. Markets for advice are particularly prone to these problems because people seeking advice about a market (almost by definition) do not fully understand it. The relevance of principal-agent issues for the superannuation market was raised by Drew and Stanford (2003).

3.3   Remuneration of financial advice

Upfront and trailing commissions and other asset based advice fees account for an estimated 84 per cent of financial planner revenue (Investment Trends, 2009, cited in ASIC, 2009). Under this model, the adviser seeks little or no direct payment, such as time-based fees, from their client. Instead, the adviser is paid a percentage of funds under advice by retail sector product providers on both an upfront and ongoing basis. These funds are withdrawn from clients' accounts.

Although superficially affordable – and attractive to consumers for this reason[15] – the total direct cost of this fee structure over time will almost inevitably be much higher than any plausible upfront fee.

A rule of thumb suggested by Peter Diamond, of MIT, for estimating the final impact of annual percentage asset based fees (such as trailing commissions) is that they have a 20 fold impact on retirement accumulation, such that a 0.5 per cent trailing fee will reduce accumulation by around 10 per cent.[16] A worker on average wages ($60,000) should accumulate around $430,000 (indexed for wages) over a 40 year working life, suggesting that a 0.5 per cent trail will cost a worker around $43,000 in today's money. An upfront fee of 3 per cent (fees of up to 5 per cent are standard) will further reduce the accumulation by 3 per cent, costing approximately $13,000. Further commissions in the post-retirement phase would see the total direct cost of advice topping a full year's wages.

Certain interest groups advance the argument that reform requiring a move away from commissions (or asset based fees) would make advice less affordable (see, for example, the testimony of IFSA and the FPA in JCCFS, 2009). In fact, such a reform would merely make the cost of advice more transparent. For this to be problematic, it is necessary to argue that it is better for individuals to be overcharged over time for advice they would not otherwise purchase, than for the financial advice industry to demonstrate the value of their service and cost it accordingly.

Dramatic as the direct cost may seem, the more powerfully destructive effect of this pricing structure is indirect. For individuals this is the opportunity cost associated with not choosing a better performing fund. For the Australian Government, the opportunity cost is the loss of public revenue from reduced taxation of earnings on superannuation assets and increased outlays to fund pensions for more retirees with inadequate superannuation savings. For the economy as a whole, it is the constraint on competition in those markets, including superannuation, in which the commissions system is dominant. [17]

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15 Market research shows members are more sensitive to the price of advice if payment is required upfront (Forethought, 2009). As members are less sensitive to payments for advice deducted over time, it is not surprising that research by Rice Warner (2009) shows financial planning paid for by commissions can cost consumers up to 13 times more than when paid for on a fee for service basis.

16 A worker who is charged one percent of balances each year will have an accumulated balance at retirement nearly 20 percent smaller than if those charges were fully avoided. Indeed, the ratio of the reduction of the accumulation over a 40-year career to annual charges on assets is roughly 20 to one, since over a 40-year career, deposits remain in accounts for roughly 20 years on average." (Diamond, 2005) This approach excludes two factors, promotional wage increase over time and the impact of compounding; however, these two factors work in opposite directions and roughly cancel each other out, with the result that Diamond's 20-fold heuristic is quite accurate.

17 A companion paper to be released separately - *Australia's Lost Super Revisited* – will detail these estimates.

Advisers reliant on the dominant remuneration structure only get paid by recommending funds which pay commissions (or other potentially conflicted remuneration payments such as asset based fees) – and when recommending within this group are further incentivised to recommend products with the highest commissions. The structure completely precludes recommendation by such advisers of products from the not for profit sectors which do not pay any commissions or other asset based advice fees and are, partly by virtue of this fact, demonstrably superior. It is this pernicious impact of the commissions system that undermines beneficial competition in the superannuation market.[18]

In an effectively functioning market, competition ensures that an entrepreneur must serve her customers' interests to serve her own interest. Over two centuries ago, Adam Smith observed that an attractive and powerful feature of efficient markets is that they harnessing individual self-interest – rather than charity – to drive positive social outcomes.

> It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity but to their self-love, and never talk to them of our own necessities but of their advantages. (Book I, Ch.2, Wealth of Nations)

These dynamics should apply to advisers just as they do to butchers or bakers. However, the commissions based remuneration model forces a financial planner to choose between his own interest and his clients' because it rewards an expensive distribution model and poor performance. Far from mitigating principal agent issues, it reinforces them. Indeed, it is hard to conceive of an institutionalised pricing structure that would more perfectly misalign incentives.

The commissions-based remuneration model for financial advice is at odds with the principles of competition in all the markets it affects, and is completely inappropriate for superannuation – a retirement savings scheme supported and strengthened by government mandates and incentives.

Recent announcements by the representative bodies of retail funds and the advice industry that commissions are inappropriate and will be voluntarily phased out represent a significant milestone in the evolution of superannuation (IFSA, 2009; FPA, 2009). However, in terms of the prospective implementation of these voluntary codes, it is worth noting that the proposals of these organisations would primarily result in commissions being replaced by asset-based fees, exclude commissions paid on life insurance (often bundled with superannuation) and only address products sold going forward, not the $300 billion in retail superannuation products currently in the market.

Another practical concern is that commissions are built into financial products and cannot be removed without some cost to product manufacturers. Indeed, the many types of remuneration that skew incentives to the adviser (including upfront commissions, trailing commissions, soft-dollar incentives, volume bonuses, sales target rewards, fees based on percentage of funds under advice) are symptomatic of the sales culture that drives the financial advice industry. Consequently, it is not practicable to expect the industry to expunge commissions and other similar arrangements itself. Given the significant negative externalities associated with commissions, prohibition is the responsible course for government.

Recommendations arising from the PJC Inquiry into Financial Products and Services include regulation to require financial planners have a fiduciary obligation to their clients and government consultation with industry to cease payments from product providers to financial planners. The PJC has not explicitly banned sales commissions and other incentives. Industry bodies are divided on whether a fiduciary duty would preclude such payments.

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18 Conflicted advice is not a problem unique to the Australian market. Bullard and O'Neal (2006) find that in the US mutual fund industry for instance, investors using advisers pay a double penalty – they are directed to more expensive fund options, on top of the fees paid to the adviser.

4 Policies to address competitive failures

An important goal of superannuation policy must be to ensure that the (mostly non-government) institutions that deliver the policy do so effectively and efficiently.

The period since 2005 has been an important test of a policy that relies on choice and competition, with regulatory controls focussed principally on disclosure. It is increasingly obvious that such a structure is not adequate to discipline the managers of superannuation funds, particularly those driven by the profit imperative.

Most members currently do not exercise the right to choose, and switching by a small minority of fund members is not translating into stronger competition on fees and performance. Large and persistent performance differentials between the retail and not-for-profit sectors continue.

The welfare costs of this failure are large, with reduced accumulations certain to harm retirement incomes, economic growth and the government's fiscal position.

Industry bodies representing retail funds and financial planners have advocated voluntary codes and charters as a solution. Others have suggested that the government form a national default superannuation fund.

There is certainly a sensible course between these extremes which utilises the innovation and flexibility of a pluralist system, whilst addressing the source of market failures in a targeted manner.

The factors shaping competition discussed above suggest that members/consumers can be divided into three segments:

(i)   passive consumers (the majority);

(ii)   consumers making active choices, with professional advice (a larger minority); and

(iii)   informed and independent consumers (a small minority).

The groups are not necessarily static over time. We would expect that individuals can and would transition between groups over the lifecycle. Such a shift may also be prompted by major events, such as the recent global financial crisis, that lead to greater financial awareness and engagement.

An important goal of policy is currently, and should continue to be, to facilitate the process of consumers becoming more active and independent. Indeed, financial literacy programs aim to transition all consumers towards the first category. However, it is acknowledged even by those responsible for such programs that they will take many years, if not decades, to have significant effect (see ASIC, 2009: 78-81).

In the meantime, while the overwhelming majority of members are either passive or reliant on advice, policy must address those needs rather than rely on an idealised view of competition.

The categorisation is intended to ensure policy is designed to support more efficient outcomes for all consumers, through recognition that each group has distinct policy needs. It is important to recognise that while each group has distinct needs, these needs are not in competition or conflict. Policies to address all three groups can be implemented without sacrifice or trade-off, and without undermining competition or the potential for innovation. In particular, our suggestions to serve passive consumers are intended to strengthen rather than replace competition. See Appendix A for ISN's policy framework – A Super Safety Net.

4.1   Passive consumers

Passive consumers need a system of simple, effective, efficient default funds and investment options. It is entirely appropriate that modern industrial awards contain default superannuation funds that are eligible to receive superannuation contibutions when active choice is not exercised.

Default superannuation arrangements should, as far as possible, ensure the best interests of the consumer are protected. The selection of low cost industry superannuation funds as default funds has proved successful for active and inactive consumers.

The decision by the Australian Industrial Relations Commission (AIRC) to identify default superannuation funds within the new Modern Awards to be maintained by its successor Fair Work Australia (FWA) has been welcomed by employer and employee representatives.

The establishment and application of objective criteria for eligibility for a fund to act as a default fund could be considered. Criteria should include member representation, as this clearly predicts superior performance, and could also include caps on fees, the prohibition of entry and exit fees, commissions and measures to ensure that a no disadvantage test is met when any automatic transfer occurs when an employees' work status changes.

Finally, a comprehensive solution is needed to address continued account proliferation. The approach could be market-based, by ensuring fees on inactive accounts do not meet costs (thereby creating an incentive for funds to manage inactive accounts), or by having a 'consolidate by default' function when people move between workplaces.

4.2   Active consumers under advice

Active, advised consumers need principal-agent problems to be addressed, through regulation which ensures the remuneration model of advisers aligns their incentives with those of the client. Financial planners should be subject to a legal requirement to act in the best interests of their client. Financial planners should be prohibited from accepting any payments from product providers or fund managers, and from charging ongoing percentage based fees for advice.

Arrangements that amortise the costs of complex advice over several time periods must not result in the amount being paid being larger than an agreed time-based fee. Finally, to prevent ongoing revenues from inertia, members should be required to 'opt-in' annually to advice services by accepting in writing the terms of such an arrangement including annual charges in both dollar and percentage terms.

4.3   Active independent consumers

Active, independent consumers require stronger and more comprehensible disclosure and the removal of the vestiges of regulatory and commercial constraints on choice and portability. As already discussed (see Footnote 13), the regulators are making headway in relation to disclosure but important additional work remains to be done to present information in a way that is meaningful to super fund members.

In particular, improved official statistics on the costs of superannuation products – fees, commissions and other charges including on investment management – to match the recently released series on whole of fund net performance, would greatly aid transparency and direct comparison between funds.

Because of the long term nature of superannuation, products potentially remain in the market years after they are closed. These 'legacy' products often have prohibitive exit fees.   Offending providers should be required to make undertakings to transfer consumers out of these products without disadvantage. While legacy products persist, official fee data should include a measure of the opportunity cost associated with such fee structures that limit choice, such as high exit fees.

Appendix A

ISN Superannuation Safety Net

Given the compulsory nature of super and its importance not only to the quality of retirement to individual workers but also to the economic future of Australia, the regulation of the distribution of super needs to effectively accommodate the actual competitive dynamics of the market.

Critically, the industry – which benefits from $61 billion in annual employer contributions (APRA 2009) and taxpayer funded concessions worth $25 billion a year (Treasury, 2008) – should act in the best interests of working Australians and seek to protect their interests, rather than profit from consumer inertia. Indeed, there is an expectation from the Australian community that this should be the case. The proposal to introduce a Superannuation Safety Net is based on the following:

- Superannuation is a creature of regulation and therefore regulatory change can have a substantial beneficial or deleterious effect on individual savings and aggregate national savings.

- The majority of consumers are passive and disengaged in their superannuation; for example nine in ten workers do not choose their own super fund and members excessively discount their future needs.

- The lack of consumer sovereignty has led to market failure that in the short to medium term can only be addressed through changing the regulatory settings.

- The regulatory framework can act as a proxy for consumer driven demand through simulating the behaviour of rational, informed and engaged consumers.

- The regulatory settings must ensure that the key driver of fund selection, whether for an individual or a workplace, is net performance, consistent with maximising final payouts for both engaged and disengaged consumers.

- Competition for informed consumers should be based on brand, performance, cost and/or other features typical of consumer markets.

- It is acknowledged disclosure is insufficient protection for consumers that are disengaged and tend to discount the future.

On this basis a Superannuation safety net is proposed consisting of:

- an extension of the existing system of workplace defaults with representative trustees through the industrial relations system;

- a requirement that financial advisers act in the best interests of their clients;

- a ban on payments of commissions and asset-based fees from product manufacturers to financial planners;

- the capacity for super funds to provide low cost intra-fund financial advice to their members which is in their 'best interests'; and

- a practical and equitable solution to lost super/inactive accounts.

Default fund selection

1. Where workers do not choose their own fund it is important that net performance (investment performance less fees) is prioritised in selection of the workplace default fund.

2. Superannuation is deferred pay and therefore a condition of employment. ISN supports the inclusion of default funds in modern awards. The Fair Work Act provides for awards to be regularly reviewed to ensure they remain relevant. The first formal review, scheduled for 2014, not only provides an opportunity for Fair Work Australia to vary individual awards to include or remove particular funds, but would also allow a Full Bench of FWA to establish principles that would guide the Tribunal in dealing with nomination of default funds. Criteria could include that a nominated super fund:

   a. Not pay commissions or ongoing advice fees to intermediaries.

   b. Operates within specified regulated fee caps, including entry, exit and ongoing fees.

   c. When contributions cease the employee remains a member of the default fund until he/she consolidates into a new active fund or is rolled into a suitable ERF.

   d. The fund is of sufficient size and scale to effectively and efficiently provide services to members.

   e. The fund has procedures in place for following up arrears in payments.

   f. The fund has a representative trustee structure.

   g. The fund holds an APRA RSE Licence.

3. Where an employer and union/employees have negotiated an enterprise agreement, the award provisions should be deemed to apply unless the agreement deals specifically with the issue of naming a default fund or funds. In addition, the above criteria should also apply as part of the consideration in determining the 'no disadvantage' test during certification.

4. In instances where employees are outside award coverage, the default funds selected by their employers should also meet the same objective criteria applied to default funds approved through awards.

Introduction of a 'no disadvantage' test on flipping (for new and existing products)

1. Related to the default fund policy, ISN proposes that a 'no disadvantage' test be applied to the practice of 'flipping'.

2. Where a trustee wishes to shift a member from a corporate or wholesale arrangement into a personal super product, they must ensure that the member is not disadvantaged, irrespective of the powers provided to the trustee in the governing trust deed.

"Best Interests" framework for financial advice

Introduction of a Best Interests Obligation for all Financial Advice

1. Corporations Law be amended to provide that all financial advisers be subject to a requirement to act in their client's best interests.

2. The best interests obligation should replace the requirement for advice to have a reasonable basis (s945A). The key elements of this obligation should be:

   a. It will be owed by an individual planner to his or her client.

   b. The best interests obligation requires the planner to give clients their undivided loyalty, which means the financial planner must strive to avoid any actual or perceived conflict of interest.

   c. The method of payment for financial advice must reflect the planner's undivided loyalty to their client.

   d. An individual adviser or a licensee cannot receive any payments from product providers or fund managers.

   e. Payment for advice must be made by the client and would ideally be based on the amount of time or advice provided.

   f. Where the client and adviser agree on an asset based fee, this must be approved in writing by the client at least annually.

   g. The standard against which this obligation is measured is that of reasonable skill, care and diligence to be expected of an ordinary prudent person acting in the capacity of a professional adviser.

3. The best interests obligation would also impact the construction of approved product lists, which would need to include a variety of product types to meet all client needs.

4. The best interests obligation would apply to planners who are employed by a product provider, or who work for a practice which is a subsidiary or related party of a product provider.

5. ISN proposes a ban on all product providers, including superannuation trustees and their parent trustee companies, from offering commissions or other incentives to adviser groups to secure sales of the product. This ban includes all incentives, including soft dollar incentives, shelf fees and volume bonuses.

6. ISN proposes that clients should opt-in, on an annual basis and in writing to receive and pay for financial advice. This is typical in client-professional relationships and ensures that consumers are only paying for advice they desire and receive.

7. ISN proposes that as part of the structural adjustment of the industry, advice fees paid directly by the client should be tax deductible.

Simple Advice to Super Fund Members

1. ISN supports the retention of regulatory measures which enable super trustees to provide advice to their existing members.

Appendix B

Information asymmetry and demand side competition

Markets are institutions that connect buyers and sellers.

In the idealised view, competition between participants on both sides of a market leads to the equalisation of prices for equivalent products and should also, over time, drive innovation and efficiency, resulting in lower prices for a given product or improved quality products for a given price. Competition for investment returns between capital providers should also result in instances of above average profits being reduced as new market entrants provide stronger competition.

However, there are a number of circumstances – market failures – in which these dynamics may be undermined.

The traditional focus of competition theory and policy has been on failures that develop on the *supply side* of the demand-supply relationship. In particular, it has long been recognised that markets with high barriers to entry may result in relatively stable oligopolies or monopolies, leading to reduced competition, especially on price, and higher profits for suppliers than would otherwise be expected.

This supply side emphasis is reflected in, for example, the role of competition authorities in approving mergers or acquisitions that might increase market concentration beyond acceptable levels.[19]

In recent decades, however, there has also been a growing awareness among researchers and policy-makers that competition is also fundamentally shaped by *demand side* influences, particularly when the demand is from retail consumers (as opposed to demand from businesses in wholesale markets).

The main theoretical change driving this shift is the relaxation of the traditional neoclassical assumptions of perfect information and rational decision-making.

Imperfect information and bounded rationality may affect all market participants. However, in practice evolutionary forces will ensure that suppliers to retail markets understand the costs, benefits and risks associated with their core activities in great detail – or quickly go out of business.

The same cannot be assumed for retail consumers, who will often face potentially complicated transactions without the necessary information or skills to evaluate them on an equal footing. Information asymmetry is the name given to an imbalance in the information or skills of market participants.

Important areas in which demand side competition theory has developed include how the decision-making of consumers is shaped by transaction or switching costs (including learning costs), their understanding of complicated products or pricing structures and behavioural factors such as risk aversion and myopia (excessive discounting of future costs and benefits).

An example of a demand-side effect is high exit costs on long term contracts, such as for utilities, telephony or financial products (including mortgages and superannuation). Even in markets with many suppliers, these pricing techniques will lead to inelastic firm specific demand curves for the group of consumers with such contracts, because this group of consumers will be relatively insensitive to discounting from other suppliers. This will allow a greater level of profitability for suppliers than one would expect was possible in a superficially 'competitive' market (Farrell and Klemperer, 2007).

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19 Concentration on the demand side is rarely an issue in retail markets. In wholesale markets, however, conditions of monopsony or oligopsony can develop in which large buyers wield considerable market power. Arguably the large supermarket chains have such a position in the Australian grocery market as dominant purchasers of groceries at the wholesale level.

Switching costs may also influence competition even if not strictly financial – they may also result from product characteristics which will lead to time-wasting or irritation. An example from the telephony market is not being able to port landline and mobile telephone numbers from one supplier to another. The inconvenience associated with informing many friends and associates that your telephone number is changing discourages consumers from switching. Researchers in the US estimate that enabling customers to take their phone number with them to another supplier results in a decline in costs for toll-free services of about 14 per cent (Viard, 2003, in Ennis and Heimler, 2004).

The impact of information asymmetries on competition is analogous to a switching cost, which varies depending on the starting knowledge of the consumer. For a consumer to search for options and evaluate them, involves a cost, especially if that involves development of new skills. Consumers with less information and relevant skills either have higher switching costs or face greater uncertainty, with a higher chance of a sub-optimal outcome and losses.

As a result, uninformed or apathetic consumers will tend to be less price elastic, like customers who face high exit fees. Ennis and Heimler (2004) argue that the aim of consumer protection policy is to shift uniformed customers onto the more price elastic demand curve of the informed.

Information economics and behavioural finance have changed the way markets are understood. The presence of a number of suppliers is no longer viewed as a guarantee of strong competition and productive efficiency. Regulators must closely examine the market, including on the demand side, to establish whether consumer protection is necessary.

Appendix C

Summary table – fees and returns

Table 1. Net returns versus fees and commissions for 18 large super funds

Default or largest investment option over six financial years – 2004 to 2009 inclusive (simple average)

Fund	Segment	FP/NFP	Net returns	Fees
AustralianSuper	Industry	NFP	7.42%	0.78%
UniSuper	Industry	NFP	7.25%	0.59%
First State Superannuation Scheme	Industry	NFP	6.70%	0.40%
Retail Employees Superannuation Trust	Industry	NFP	7.39%	0.75%
HESTA Super Fund	Industry	NFP	7.05%	0.87%
Sunsuper	Industry	NFP	6.92%	0.85%
Construction and Building Unions Superannuation	Industry	NFP	7.53%	0.99%
Health Super Fund	Industry	NFP	6.99%	0.85%
HOST-PLUS	Industry	NFP	7.27%	0.70%
MTAA Superannuation Fund	Industry	NFP	7.30%	0.72%
ASGARD Superannuation Account	Personal	FP	4.87%	2.48%
AMP Flexible Lifetime Super	Personal	FP	5.85%	2.38%
MLC MasterKey Superannuation	Personal	FP	4.67%	1.98%
Colonial First State - FirstChoice Personal Super	Personal	FP	3.93%	2.03%
AMP CustomSuper	Corporate	FP	6.00%	1.58%
AMP SignatureSuper	Corporate	FP	4.98%	1.38%
Integra Super (Corporate Division)	Corporate	FP	5.00%	1.17%
MLC MasterKey Business Super	Corporate	FP	4.76%	1.50%

Source: Rainmaker, *Custom Data Sets* (2008, 2009)

Assumptions: $50,000 account balance, $5,000 contributions (net of tax), mid-point in range of contributions fees charged (eg. if range is 0 – 5%, 2.5% fee is assumed).

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RIR Brief on the Assets Test Taper

The assets test taper rate of $3 per fortnight per thousand dollars of assets over the threshold means that pensions are reduced $7.80 for each one hundred dollars[1] above the pension if a person is asset tested.

Allocated pensions are often used by retirees with superannuation savings because they are tax free on earnings and withdrawals. They are commutable to a lump sum at any point and there is no maximum withdrawal, so the whole balance can be withdrawn before death in order to avoid estate duty.

The majority of people draw down their allocated pension at the minimum, presumably in order to preserve capital in their tax-free growth fund. The extent to which they draw down harder on their bank accounts is not known. The minimum age-based drawdown is 5% between ages 65 and 74, and 6% between 75 and 79 and has further step increases at older ages.

The 7.8% pension reduction is below the minimum drawdown rate until age 85. For most people the reduction in pension exceeds their drawdown rate and they end up with lower spending capacity as their savings increase. The asset test reduction rate also exceeds any likely drawdown rates from other savings. The more money people have, the lower their disposable income will be.

The asset test reduction rate of 7.8% is also higher than any safe level of earnings that pensioners should seek on their savings. If a pensioner was earning 6% on their assets, but losing 7.8% on their pension, their effective marginal tax rate (EMTR) would be 130%. For every $60 in private income they lose $18 in disposable income. If the savings are outside tax free super, there would also be personal tax on the $60 in income.

EMTRs over 100% are always signs of exceedingly poor policy design.

The asset test reduction rate is a major disincentive to saving for retirement. Pillar 1 totally undermines Pillars 2 and 3 of the retirement income system. Once an individual or couple exceed the asset test threshold there is no realistic incentive to save until the people no longer qualify for pension. The asset test destroys the cohesion of the Australian retirement income system.

The following two sections demonstrate how this is true within a single year, and is also true over the many years in retirement.

Current Year Analysis
Effect of Different Taper Rates on Pension Received and Disposable Income 2019-20

Seventy per cent of retirees are partnered at retirement. The effect on couples best represent that for new retirees.

Chart 1 shows the effect on the amount of assets on pension received with tapers of $3.00, $2.00 and $1.50 per thousand per fortnight. A $3.00 taper rate gives a cut out of $877,500 in assets, while

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[1] There are 26 fortnights in a year so $1000 over the threshold reduces the annual pension by $78 or by 7.8%.

a $2.00 taper (5.2%) would give a cutout of $1,102,500. The $3.00 taper rate removes $35,379 in pension over a $457,500 asset range.

The means-test uses the higher of the income test or asset test reduction, so the asset test reduction does not begin at the assets test threshold.

Chart 1: Different asset test tapers significantly affect pension

Chart 1: Couples - comparison of Pension Amounts in 2019-20 with Different Asset Tapers
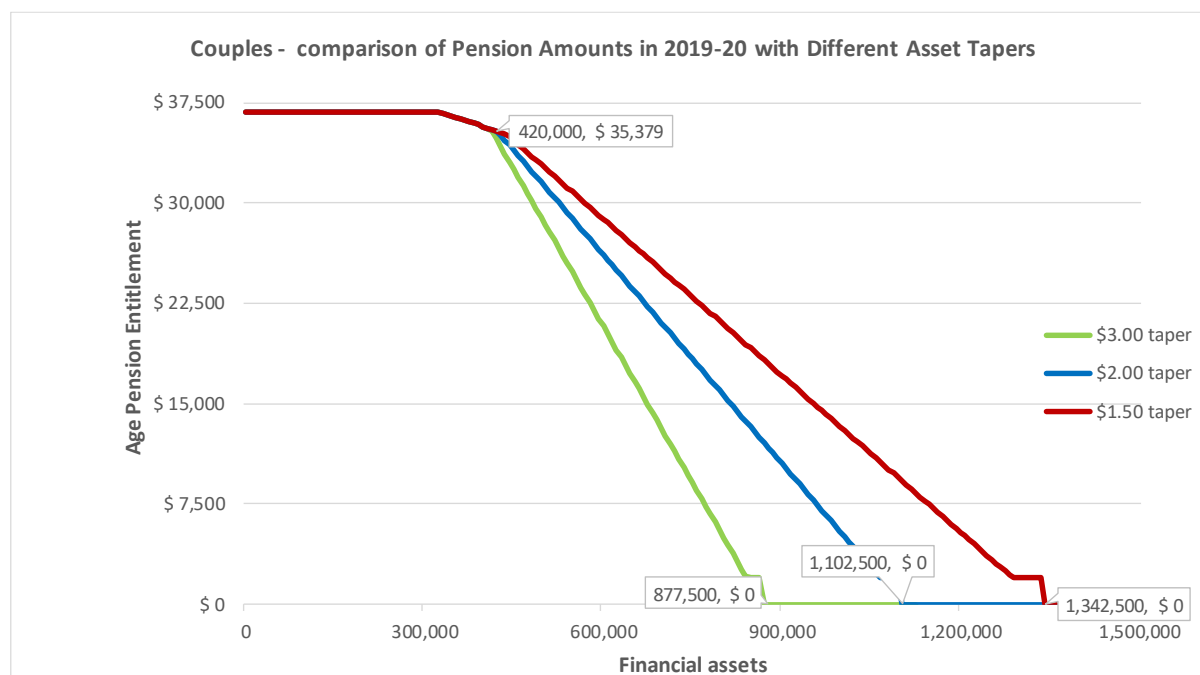
Chart 2 shows that for couples with a 5% drawdown, disposable income goes backwards between $405,000 of assets and $877,500 in assets. The reduction in disposable income over this range is from $55,854 to $43,875 – a reduction in disposable income of $11,979 a year from having saved $472,500 more in assets!

The assets test taper of $3.00 per fortnight per $1000 is a major disincentive to save for retirement. Over a very wide range of assets your income is lower by the more that you save.

This creates an incentive to put assets into exempt categories such as your home, or risky places that Centrelink cannot see like under your mattress.

Chart 2: Reduction in Disposable Income if a Couple Has More Assets

Couples

- $1.50 taper
- $2.00 taper
- $3.00 taper

Data labels shown on chart:
- $ 405,000, $ 55,854
- $ 877,500, $ 43,875
- $ 1,110,000, $ 55,500
- $ 1,350,000, $ 67,500

Y-axis: Disposable Income ($ 0 to $ 80,000)
X-axis: Financial assets ($ 0 to $ 1,500,000)

Across the Years of Retirement

Chart 3 looks at the asset test reduction in disposable income (wage deflated drawdown plus age pension) over the active years of retirement between 67 and 79. Four couples retiring in 2019-20 are portrayed. They each invest all savings outside their home into an allocated pension earning 6%. The amounts saved are $400K, $600K, $800K and $1 million. They drawdown 6 per cent of the allocated pensions.

Who gets to spend more and in which year of retirement do they spend more?

Chart 3: Spending (Wage Deflated) of Couples Retiring in 2019-20 at Age 67 under current $3 asset test taper
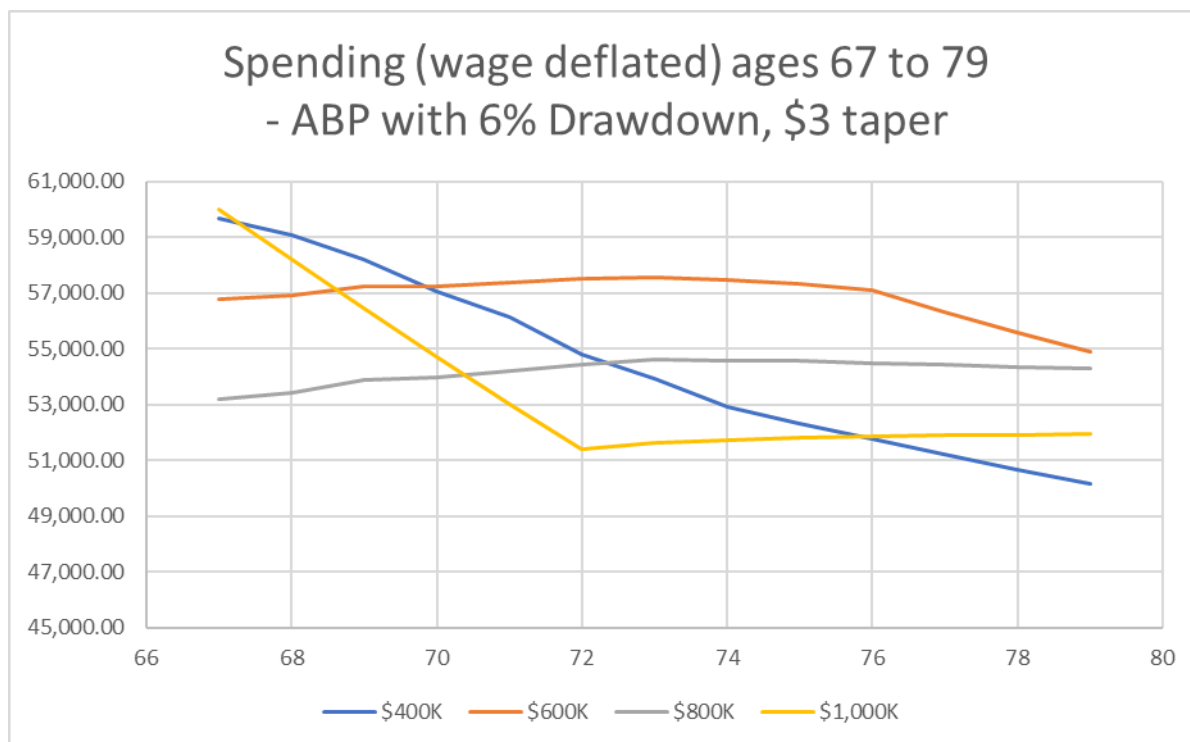
Chart 3 shows the spending pattern of the four couples between ages 67 and 79 years. Attachment A Table 1 has the plotting points. The bizarre outcomes include:

- From ages 68 to 75 inclusive, the couple who retired with $400,000 have more disposable income than the couple who retired with $1 million.
- The couples who retired with $600,000 and $800,000 also have more spending than the million-dollar couple from ages 69 and 71 respectively.
- The couple with $600,000 always have more disposable income than the couple who had $800,000.
- The couple with a million have rapidly declining spending until they begin to receive age pension at age 73.
- The other three couples all have more disposable income between ages 71 and 75 than the million dollar couple.

Giving Some Incentive to Save – A $2 Asset Test Taper

Chart 4 gives the results if the assets test taper rate were changed to $2 per fortnight per thousand over the threshold.

A $2 taper would be equivalent to an annual pension reduction rate of 5.2%. This rate would exceed returns in conservatively invested allocated pension funds, but it does produce an incentive to save.

A $2 taper would have significantly less budgetary cost than returning to the $1.50 taper introduced and maintained by Treasurer Peter Costello.

Chart 4: Spending (Wage Deflated) of Couples Retiring in 2019-20 at Age 67 under $2 asset test taper

Spending (wage deflated) ages 67 to 79 - ABP 6% drawdown, $2 taper
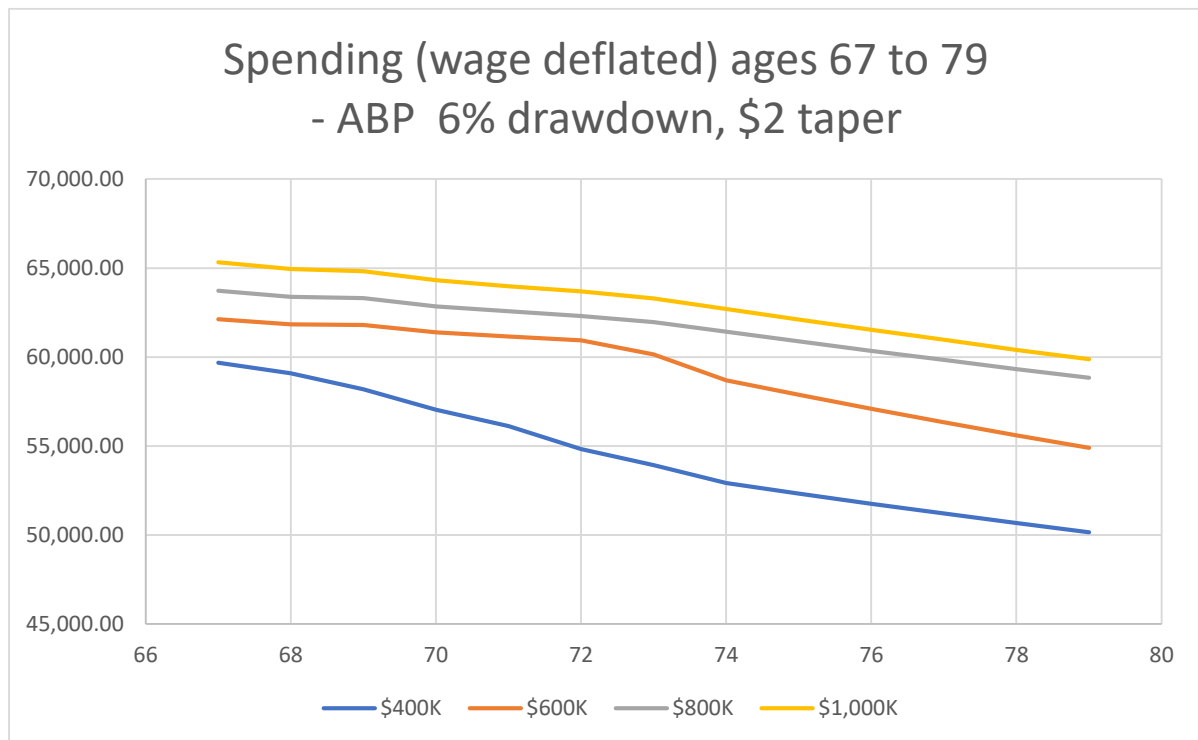
In all $2 taper rate cases, those who retired with more assets have higher spending capacity during the active years of their retirement. The best return for an extra $200,000 in assets is from $400K to $600K in savings.

Plotting Points for Charts 3 and 4

Table 1: Plotting Points for Chart 3 - $3 Taper

Age	$400K	$600K	$800K	$1,000K
67	59,679	56,784	53,184	60,000
68	59,079	56,902	53,409	58,203
69	58,186	57,263	53,874	56,460
70	57,036	57,245	53,959	54,718
71	56,121	57,376	54,191	53,029
72	54,817	57,529	54,442	51,391
73	53,930	57,582	54,600	51,617
74	52,912	57,459	54,592	51,725
75	52,325	57,325	54,569	51,813
76	51,757	57,091	54,504	51,855
77	51,206	56,333	54,455	51,908
78	50,673	55,602	54,366	51,919
79	50,155	54,893	54,304	51,951

Table 2: Age Pension Amounts (Wage Deflated) underlying Chart 3 - $3 Taper

Age	$400K	$600K	$800K	$1,000K
67	35,679	20,784	5,184	0
68	35,806	21,986	6,849	0
69	35,618	23,398	8,711	0
70	35,171	24,429	10,192	0
71	34,940	25,579	11,778	0
72	34,298	26,720	13,342	0
73	34,118	27,828	14,902	1,977
74	33,882	28,872	16,448	4,024
75	34,047	29,861	17,919	5,977
76	34,201	30,706	19,289	7,811
77	34,345	30,985	20,620	9,587
78	34,480	31,251	21,857	11,253
79	34,603	31,500	23,070	12,877

Table 3: Plotting Points for Chart 4 - $2 Taper

Age	$400K	$600K	$800K	$1,000K
67	59,679	62,127	63,727	65,327
68	59,079	61,834	63,387	64,939
69	58,186	61,804	63,310	64,817
70	57,036	61,391	62,851	64,311
71	56,121	61,154	62,569	63,985
72	54,817	60,941	62,313	63,685
73	53,930	60,144	61,962	63,287
74	52,912	58,686	61,420	62,694
75	52,325	57,875	60,888	62,113
76	51,757	57,091	60,349	61,526
77	51,206	56,333	59,838	60,969
78	50,673	55,602	59,319	60,407
79	50,155	54,893	58,835	59,881

Table 4: Age Pension Amounts (Wage Deflated) underlying Chart 4 - $2 Taper

Age	$400K	$600K	$800K	$1,000K
67	35,679	26,127	15,727	5,327
68	35,806	26,917	16,827	6,736
69	35,618	27,938	18,147	8,357
70	35,171	28,576	19,084	9,593
71	34,940	29,357	20,156	10,955
72	34,298	30,131	21,213	12,294
73	34,118	30,390	22,264	13,647
74	33,882	30,099	23,276	14,994
75	34,047	30,410	24,238	16,277
76	34,201	30,706	25,134	17,482
77	34,345	30,985	26,003	18,647
78	34,480	31,251	26,811	19,741
79	34,603	31,500	27,602	20,806

Australians' experiences and expectations of retirement

Research conducted for Industry Super Australia

By

Susan Bell Research

January 2020

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Executive Summary

"I don't know a lot about retirement, it seems quite complex, the system is way too complicated."
(Survey respondent)

"[Financing retirement] is very complicated and it need not be so complex that's my main concern. A lot of people put it off as there is no confidence the rules are going to be the same now as the age they retire." (Survey respondent)

"It's scary because I have no idea how much I will need and don't know about the different options to access it. …I'd like to retire at 65. I hope that I won't be dirt poor. I don't need a lot but I don't want to wonder where my next meal will come from." (Survey respondent)

1. Key findings

Overall, the study shows that financing retirement can be difficult for a range of reasons. As the quotes above suggest, the system is 'complex'. For about a third of recent retirees, life in retirement can be difficult because they are not making ends meet or are on a very tight budget.

The study also highlights the need for better information available to pre-retirees about the realities of retiring - and to inform them earlier. Over half of recent retirees did not take part in some form of retirement planning or receive associated advice, with the proportion understandably higher for the sizeable cohort of people for whom retirement was forced on them unexpectedly by external factors (such as illness or inability to find employment).

The problem is that this next generation of retirees seem to be carrying much greater levels of debt into retirement than was previously the case. Indeed, the average mortgage debt is greater than the average superannuation balance for pre-retirees.

Pre-retirees should take note of the cautionary tales from recent retirees, of whom about half retired earlier than they expected to with less money and less planning than those who chose their retirement date.

2. The experiences and expectations of recent retirees

This Executive Summary starts by describing the experiences and expectations of recent retirees, most of whom in our sample were under the age of 70. Significantly – and similarly to a decade ago[1] – only about half of these retirees had retired when they wanted to. The rest had retired earlier because of their or someone else's ill health, or because of lack of work opportunities.

Financial comfort in retirement - retirees
Almost four in ten (38%) of these retirees described their financial circumstances as 'not making ends meet' or on a 'very tight budget'. The rest 'had some spare cash' (32%) or were 'comfortable...we can do things like travel and other activities' (30%). In 2010 these proportions

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[1] Retirement Intentions. Industry Super Network July 2010

stood at 30%, 34% and 36% respectively (see 'Research Method' section, below, for details on how these longitudinal findings were generated).

- Retirees who had retired when they wanted to were much more likely to say they were 'comfortable' (36%) than retirees who had not chosen the time of their retirement (21%).
- Financial comfort in retirement seems to decline over time – 28% of retirees in their first year were currently not making ends meet or were on a very tight budget, compared with 48% of the retirees who retired four to five years ago.
- The retirees who were the least comfortable in retirement were women, and those on the lowest incomes in retirement. Qualitative evidence from this study also links financial difficulties in retirement with a chequered work history. That is, people who had taken time off work for health reasons, because of redundancies and/or to raise children were generally the people with most financial strain in retirement.

Workforce participation - retirees

Men who retired recently had on average spent 12 more years working full time than had women. Recent retirees who retired because they lost their job had worked full time for about a year and half less than those who had chosen to retire.

Financial data - retirees

- The average superannuation balance at retirement for the cohort as a whole was $227, 579, falling to around $70,000 for the retirees who were on a very tight budget or not making ends meet.
- Half (46%) of retirees had debts at the time of retirement – 18% had debts of under $50,000 while the remainder were spread between $50,000 and $300,000. The debt to assets ratio had increased since 2010 in that 40% of retirees had a debt to asset ratio of up to 50%, in 2020 compared with 18% 10 years ago
- Four in ten (41%) invested some or all of this in a retirement product. Others took it all or some as a lump sum.
- A third (35%) used their super to pay off debts, 26% used it to buy short-term (non-investment) assets and 21% to travel, six percent gave money to children or grandchildren, nine percent did something else (including buying a house) while 35% did none of these. People who retired with less than $200,000 in super were most likely (75%) to use their super this way – compared with 45% of those with more.

Planning for retirement - retirees

About half (45%) of recent retirees had attended a retirement seminar and/or seen a financial planner or accountant and/or had a formal financial plan prepared. The proportion preparing in this way was lower for people who had had to retire for health, carer duties or lack of work opportunities, where it was only 40%.

3. The experiences and expectations of pre-retirees

The pre-retirees in our sample were over the age of 47. Some were expecting to retire in the next couple of years, but for most retirement was over five years away.

Financial comfort in retirement – pre-retirees

Pre-retirees perceived their current financial situation in similar terms to recent retirees: 33% said they were not making ends meet or were on a very tight budget. Pre-retirees who were the least comfortable had current incomes under $30,000 a year and/or said they had a chequered work history to date in that they had taken time off work for health reasons, because of redundancies and/or to raise children.

Workforce participation – pre-retirees

Men had worked an average of more than 10 more years full time than women, which was similar to recent retirees.

Financial data – pre retirees

Pre-retirees' average superannuation balance – at around $263,000 was a little lower than the average for the most recent retirees, which is to be expected.

- Men had significantly higher balances than women (around $340,000 for men compared with around $190,000 for women).
- Pre-retirees had over twice as much super on average in 2020 than in 2010 ($109,548 in 2010; 263,729 in 2020). However, they had about five times more mortgage debt (72,418 in 2010: $352,103 in 2020).
- More participants had a property (57% in 2010: 82% in 2020). The average value of the propert(ies) was higher ($754,285 in 2010 to$862,638 in 2020) and more had a mortgage (27% in 2010: 60% in 2020).
- A quarter of the pre-retiree cohort did not know what they would do with their super on retirement, though 38% expect to invest some or all in a retirement product and 36% to take some or all as a lump sum – similar to retirees.
- Three in ten (31%) expected to be on the full pension in retirement (compared with 38% of retirees who were); 28% on the part pension (19% of retirees were), while a relatively small proportion (22%) expected not to be on the age pension at all (compared to 43% of retirees who were self-funded). The remainder did not know.
- Almost half (47%) expect to use their super or pension to travel (only 21% of retirees did this) while only 18% of pre-retirees expect to use some of the money for short term assets like cars compared with 26% of retirees who did that.

Planning for retirement – pre-retirees

By now, 42% of pre-retirees have attended a retirement seminar and/or seen a financial planner or accountant and/or have had a formal financial plan prepared. It seems as if pre-retirees prepare when they are close to retirement – 64% of people expecting to retire in the next two years had done this compared with around three in ten people over five years away from retirement.

Pre-retirees' knowledge of retirement products was low. Only 30% expressed confidence in their knowledge of account-based pensions – 29% for annuities, 43% for transition to retirement options.

Introduction

Industry Super Australia commissioned Susan Bell Research to design and conduct research into the experiences and expectations of Australian pre-retirees and recent retirees, focussing on the views of members of Industry Super funds. It was conducted in December 2019 and January 2020.

Research objectives

There were two research objectives:

1. How well prepared are pre-retirees?

The first objective was to observe how perceptions of pre-retirees' financial circumstances correspond to their actual situation, and how much that has changed, if at all, since 2010 when Industry Super Network commissioned similar research[2]. Financial measures included: their actual super balance, non-super assets, and debt. Other measures were:

- Perceptions of financial security/adequacy, and self-reported levels of financial literacy
- Levels of familiarity with certain retirement income products and topics
- How they make their decisions about retirement, including how their super balance will be treated (e.g. lump sum, allocated pension, etc)
- Intentions for spending in retirement such as short-term investment, long-term investment, consumption, transfers to children, and housing.
- Career pathways (length of time spent out of workforce or eligibility for super (and reasons)

2. The attitudes and expectations of pre-retirees

The second objective was to test the hypothesis that the upcoming cohort of pre-retirees have different expectations of retirement than the cohort who have just retired. Topics included:

- Expectations about having to live more frugally in retirement, or not
- Expectations about access to the full or part pension, vs self-funding a retirement
- Levels of familiarity with certain retirement income products and topics
- How they make their decisions about retirement, including how super balance will be treated (e.g. lump sum, allocated pension, etc)
- Intentions for spending in retirement (estimated amount by category: short-term investment, long-term investment, consumption, transfers to children, and housing
- Career pathways (length of time spent out of workforce or eligibility for super (and reasons)

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[2] Retirement Intentions. Industry Super Network July 2010

Research method

We describe the research method here briefly. There is more detail in the Appendix.

Driving the design of the research was the need to ask people to share their personal financial situation - their superannuation balance and their debts – in a way that provided them with all the information they needed to feel at ease with the request. At the same time, Industry Super Australia required the research to be conducted in the most efficient way possible and with a sample size sufficient for analysis.

Our solution was to divide the research into two:

A behaviour and expectations survey: An online survey was conducted by UMR Market Research with N= 422 pre-retirees and N= 112 retirees. This survey focussed on behaviour and expectations but did not include any questions about respondents' personal financial circumstances.

A financial circumstances survey. This was a three-stage telephone survey conducted with 150 pre-retirees and 50 retirees. Respondents were initially screened online and informed that if they wished they could take part in a further survey for Industry Super Australia in which they would be asked about their personal finances. Full reassurances were then given by phone and email as to how their data would remain confidential. One limitation of the study to be aware of was that the financial data were self-reported. We were not able to verify it. However, we did ask respondents specifically to check their balances and paperwork. In general, people rounded up the figures, for example to "$85,000".

The telephone survey also included the questions on behaviour and expectations asked in the online survey. It was conducted by Q&A Market Research on behalf of Susan Bell Research. The sample was N=150 pre=retirees and 50 retirees.

Both were branded Industry Super Australia.

For this report, the two data sources were merged, where appropriate.

At times in this report we compare our 2020 data with data from a similar study conducted in 2010. It is important to bear in mind that there are some differences between the samples so be cautious when drawing comparisons. Key differences are:

- The 2010 survey drew its sample from five funds; the 2020 survey used an access panel of the general population to identify industry super funds members. The 2010 survey grouped the sample by superannuation payout. The 2020 survey did not do this.
- The 2010 survey was conducted entirely online. The 2020 survey recruited people online and then conducted a telephone survey after respondents had the opportunity to collect the information we needed.
- The 2010 survey was conducted with people who had received a superannuation payout in the last six months, some of whom were still working and some of whom had retired. The 2020 study was divided into two discrete samples: retirees in the last five years and pre-retirees aged over the age of 47.

The final stage was a telephone survey which included the questions on behaviour and expectations asked in the online survey. The financial circumstances survey was conducted by Q&A Market Research on behalf of Susan Bell Research. The sample was N=150 pre-retirees and 50 retirees.

Both surveys were branded Industry Super Australia. Both were national including regional.

For this report, the two data sources were merged, where appropriate.

All fieldwork and analysis met or exceeded the ISO20252 standard and the AMSRS Code of Professional Behaviour.

Key findings

A. The experiences of recent retirees

Introduction

This section of the report is about people who were no longer in the workforce at the time of the survey. They had all retired during the last five years. As we will see some of them do work occasionally, though they have not formally returned to work. The report starts with how recent retirees are feeling now, in retirement.

How recent retirees perceive their financial situation

At the time of the survey, over a third (38%) of recent retirees said they had a very tight budget (32%) or felt they were not making ends meet (6%). This proportion is higher than it was a decade ago (30%).

All recent retirees were asked how they felt about their current personal financial situation. Just under four in ten (38%) stated that they were not making ends meet or had a 'very tight budget' with only enough for essentials.

Figure 1.   **How retirees felt about their personal financial situation**
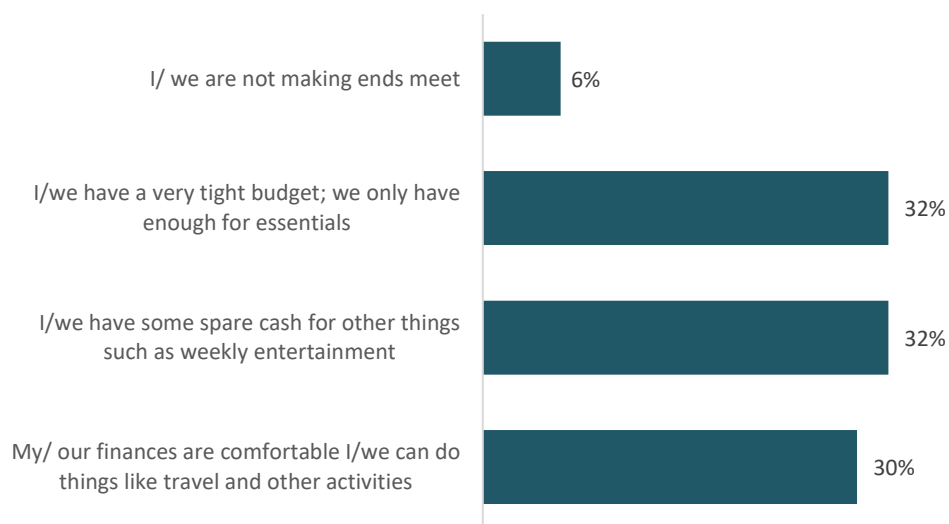
Question: Which of these describes how you feel about your personal financial situation at the moment?
Base = 162 retirees (UMR 112 plus 50 Q&A)

Three in ten (32%) had some spare cash 'for other things such as weekly entertainment' and a similar proportion (30%) described themselves as comfortable.

According to our survey, recent retirees felt less financially comfortable in 2020 than they did in 2010[3]. In 2010, 30% of retirees stated that they were not making ends meet or were on a very tight budget. In 2020, this proportion was 38%.

Figure 2.   **How retirees feel about their personal financial situation 2010: 2020**
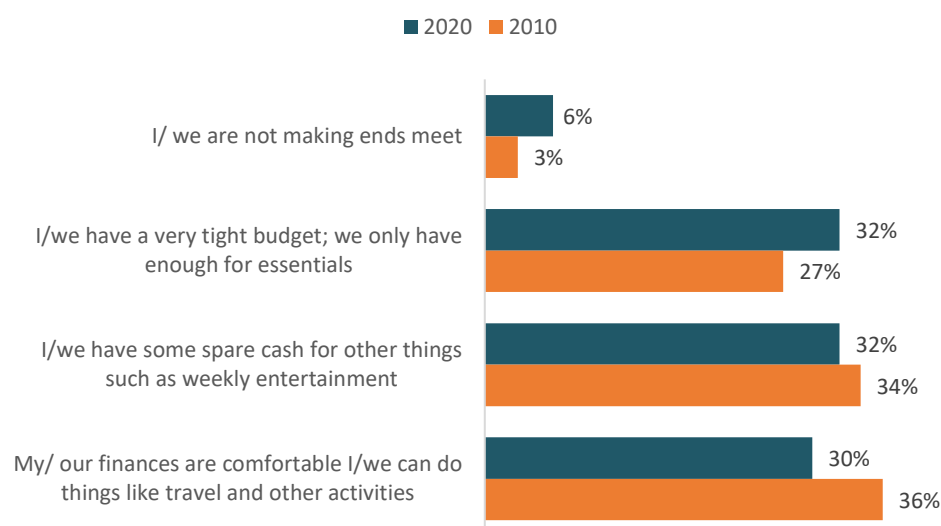
Question: Which of these describes how you feel about your personal financial situation at the moment?
Base = 2020: 162 retirees (UMR 112 plus 50 Q&A); 2010 N=179

Why are some retirees more financially comfortable than others?

Retirees with current incomes over $50,000 were the most likely to feel financial comfortable.

Obviously, income affects financial comfort. Retirees who were on very tight budgets or not making ends meet were predominantly living on low incomes. The table below shows perceptions of their financial situation by retirees with different levels of (current) income. Retirees on current incomes of less than $30,000 were more likely to say that they were not making ends meet (11%) or were on a very tight budget (50%) compared with retirees with current incomes over this amount. Retirees on incomes of $50,000 or more 'had spare cash' (40%) or were 'comfortable' (51%).

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[3] Retirement Intentions. Industry Super Network July 2010

Table 1.   **Perception of current financial situation by current income**

	Less than $30,000	$30,000-$39,999	$40,000-$49,999	$50,000 or more
N=	*71*	*27*	*23*	*35*
I/ we are not making ends meet	11%	4%	0%	3%
I/we have a very tight budget; we only have enough for essentials	50%	29%	21%	6%
I/we have some spare cash for other things such as weekly entertainment	27%	21%	36%	40%
My/ our finances are comfortable I/we can do things like travel and other activities	12%	43%	25%	51%

Question: Which of these describes how you feel about your personal financial situation at the moment?
Base = 162 retirees (UMR 112 plus 50 Q&A)

Similarly, it is clear that there are differences according to whether the retiree is self-funded or not. At the time of the survey, almost four in ten (38%) recent retirees said they were on the full age pension, while about two in ten (19%) said they were on the part pension, and four in ten (43%) were self-funded, i.e. not on the age pension at all.[4]

Those on the age pension were significantly less likely to say they were 'comfortable' than retirees who were self-funded – i.e. not on the age pension at all, as shown below.

Table 2.   **Perception of current financial situation by whether on age pension or not**

	On the full government age pension	On a part government age pension	Not on the age pension at all
N=	*61*	*31*	*70*
I/ we are not making ends meet	10%	3%	4%
I/we have a very tight budget; we only have enough for essentials	46%	26%	23%
I/we have some spare cash for other things such as weekly entertainment	28%	52%	27%
My/ our finances are comfortable I/we can do things like travel and other activities	16%	19%	46%

Question: Which of these describes how you feel about your personal financial situation at the moment?
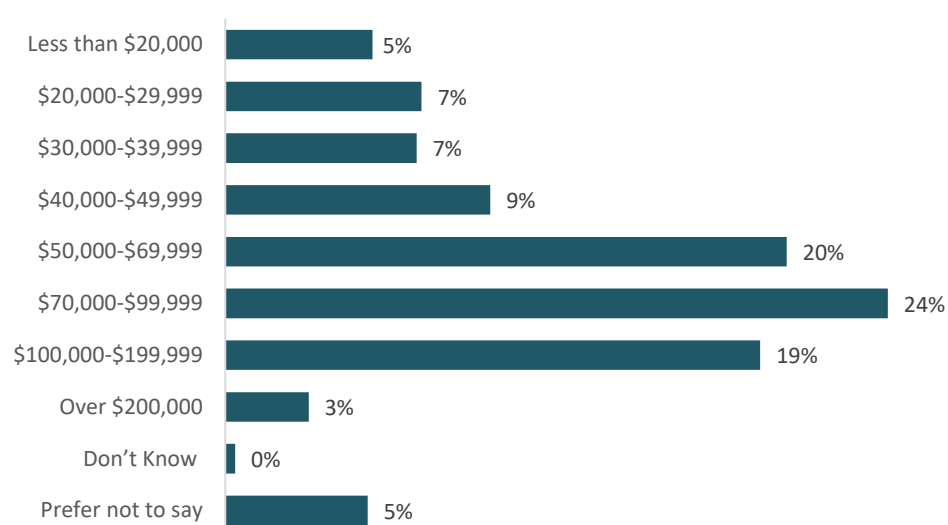*Base = 162 retirees (UMR 112 plus 50 Q&A)*

"I only have enough for the basics - I live from pension payment to pension payment."

Nevertheless, it is striking that less than half of recent self-funded retirees described themselves as 'comfortable'. Also, 27% of them said they had a very tight budget or were not making ends meet. One man on a part pension explained:

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[4] It was very common for people who had retired early because they lost their job to now be on the full age pension. This was also higher for retirees who had retired about five years ago. Only a third of people who had retired in the last year were on the full pension.

"My partner is considering retiring as well. She is not of pension age at this stage yet but when she retires my pension will go up to the full amount."

One reason why some are less comfortable than others - or have less income than others - is because some retired earlier than they wanted to, which has left them in difficult circumstances. Among the retirees in our sample who had all retired in the last five years, only about half (56%) retired when they wanted to. Two in ten (18%) had had to retire because of their own ill health and a similar proportion (21%) lost their job in some way and then found it difficult to return to the workforce. Some (6%) stopped work to look after someone else.

Figure 3. **Whether chose to retire**
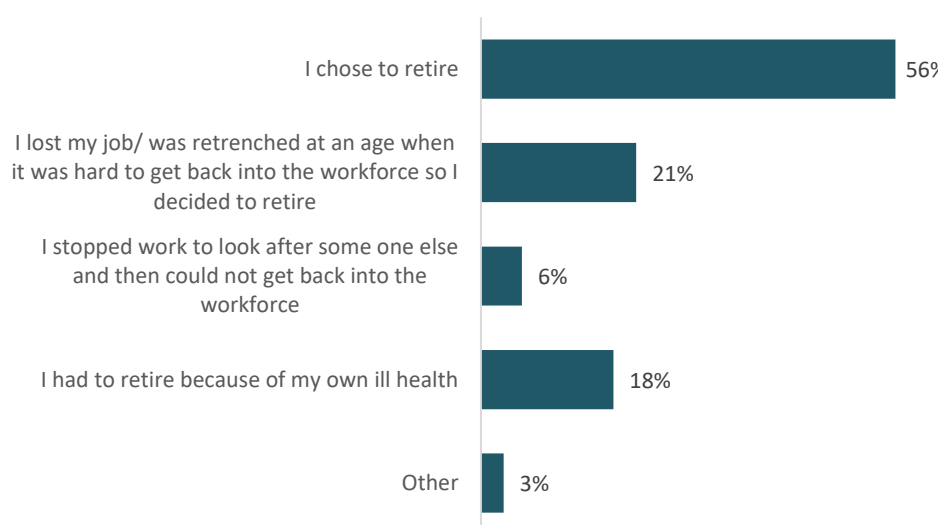
Question: Did you choose to retire?
Base =: 162 retirees (UMR 112 plus 50 Q&A)

Retirees who had retired when they wanted to were much more likely to say they were 'comfortable' (36%) than retirees who had not chosen the time of their retirement (21%).

Table 3. **Perception of current financial situation by whether chose to retire**

	Chose to retire	Retired because lost job/ ill health/to be carer
N=	*92*	*70*
I/ we are not making ends meet	7%	7%
I/we have a very tight budget; we only have enough for essentials	28%	37%
I/we have some spare cash for other things such as weekly entertainment	29%	35%
My/ our finances are comfortable I/we can do things like travel and other activities	36%	21%

Question: Which of these describes how you feel about your personal financial situation at the moment?
Base = 162 retirees (UMR 112 plus 50 Q&A)

The data suggest that perceived financial comfort levels drop after the first few years of retirement; people who retired over two years ago were less likely to state they felt financially comfortable than

people who had retired more recently. That is, 42% of retirees who retired in the last year said they were 'comfortable', compared with 22% of retirees from two to three years ago feeling comfortable, and 29% four to five years ago.[5]

Table 4.   **Perception of current financial situation by when retired**

	In the last year	2-3 years ago	4- 5 years ago
N=	*43*	*63*	*56*
I/ we are not making ends meet	5%	8%	5%
I/we have a very tight budget; we only have enough for essentials	25%	27%	43%
I/we have some spare cash for other things such as weekly entertainment	28%	43%	23%
My/ our finances are comfortable I/we can do things like travel and other activities	42%	22%	29%

Question: Which of these describes how you feel about your personal financial situation at the moment?
Base = 162 retirees (UMR 112 plus 50 Q&A)

Women were more likely to say that they were not making ends meet or had a very tight budget (46%) compared with men (31%). Men were more likely to say they 'have some spare cash for other things' (43%) compared with 21% for women.

Table 5.   **Perception of current financial situation by gender**

	Male	Female
N=	*81*	*81*
I/ we are not making ends meet	5%	7%
I/we have a very tight budget; we only have enough for essentials	26%	39%
I/we have some spare cash for other things such as weekly entertainment	43%	21%
My/ our finances are comfortable I/we can do things like travel and other activities	26%	33%

Question: Which of these describes how you feel about your personal financial situation at the moment?
Base = 162 retirees (UMR 112 plus 50 Q&A)

Turning now to the verbal explanations given by retirees in the survey about their financial circumstances, it is clear that income at retirement is not the only determinant. To some extent, it is about the timing of when couples retire. Some were comfortable on low incomes because one partner was still working:

> *"My wife works full time [so as a result] ... I think we are financially sound because of my wife's income."*

For others, one partner could not earn an income because of caring for the other partner.

> *"My husband is incapacitated, and I am caring for him. We will be tight on finances for a while."*

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[5] This difference is not statistically significant

Another reason that some are comfortable in retirement is their attitude to money, as hypothesised. Some were frugal during their working lives:

"I am still young and fit - I anticipate having an active life for the next ten years - we are not wasting money - we have always been frugal and it's hard to change that attitude now. I still travel economy and cut costs where I can."

Some specifically avoided debt:

"It's easy because we own everything - no debt and haven't had debt in 40 years. I paid my house off in 3 years when I was 25."

Some deliberately salary-sacrificed in the last part of their working lives.

"The last 10 years I worked I saved everything, and salary sacrificed so we are comfortable. I don't see it changing, unless the stock market crashes."

We saw earlier that women were less likely to feel comfortable financially in retirement than men. One reason for this difference is in the years that women typically take out of the workforce, which cuts into their earnings over their lifetime and their superannuation. We explore this next.

Workforce participation before retiring

Men who retired recently had on average spent 12 more years working full time than had women. Recent retirees who retired because they lost their job had worked full time for about a year and half less than those who had chosen to retire.

How long people spend in the workforce affects how much superannuation they will have in retirement. The chart below summarises how long these recent retirees had spent working full time, part time, as a contractor, or out of the workforce. Each person was asked to state the number of years they had worked: full time (with zero for none), part time or casual, as a subcontractor and their years out of the workforce to bring up children, or for other reasons.

The data show that retirees had worked an average of 33.9 years full time, 4.4 years part time, 3.8 years as a contractor, and were out of the workforce for 1.7 years to raise children and 1.3 years for other reasons.

Figure 4. **Number of years worked – recent retirees**
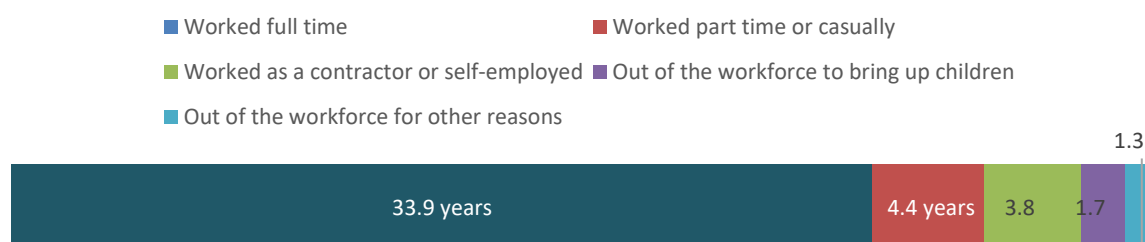
- ■ Worked full time
- ■ Worked part time or casually
- ■ Worked as a contractor or self-employed
- ■ Out of the workforce to bring up children
- ■ Out of the workforce for other reasons

| 33.9 years | 4.4 years | 3.8 | 1.7 | | 1.3 |

Question: How many years have you worked in Australia and how much time have you spent working full time, part time or not working? Base = 112 (UMR survey)

Men had on average spent about 12 years more working full time than had women (39.2 years for men; 27 years for women). Women had done more part time work (7.1 years on average) and more time out of the workforce to bring up children (3.9 years).

Figure 5. **Number of years worked – recent retirees by gender**
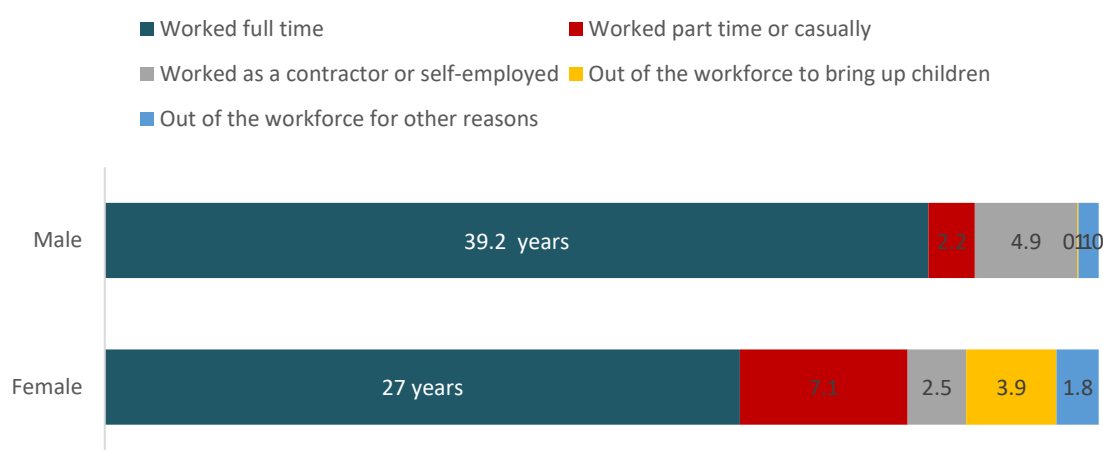
- ■ Worked full time
- ■ Worked part time or casually
- ■ Worked as a contractor or self-employed
- ■ Out of the workforce to bring up children
- ■ Out of the workforce for other reasons

Male: 39.2 years | 2.2 | 4.9 | 0.1 | 0

Female: 27 years | 7.1 | 2.5 | 3.9 | 1.8

Question: How many years have you worked in Australia and how much time have you spent working full time, part time or not working? Base = 112 (UMR survey)

Recent retirees who retired because they lost their job had worked full time for about a year and half less than those who had chosen to retire (33.1 years on average). They spent longer working part time (5.3 years) and longer out of the workforce for children (2.3 years) and for other reasons (2.2 years).

Figure 6. **Number of years worked - recent retirees by whether chose to retire**

Legend:
- ■ Worked full time
- ■ Worked part time or casually
- ■ Worked as a contractor or self-employed
- ■ Out of the workforce to bring up children
- ■ Out of the workforce for other reasons

	Full time	Part time/casual	Contractor/self-employed	Out for children	Out other
Chose to retire	34.5 years	3.6	2.0	1.9	0.2
I lost my job/ was retrenched at an age when it was hard to get back into the workforce so I decided to retire	33.1	5.3	3.1	2.3	2.2
I stopped work to look after some one else and then could not get back into the workforce	36.1	6.0	1.0	1.5	5.8
I had to retire because of my own ill health	32.9	5.0	8.3	2.0	3.8

Base = 112 (UMR survey)

Recent retirees who had retired for their own health had worked about 33 years on average full time, with 3.8 years out of the workforce for other reasons.

Note that the proportion 'stopped work to look after someone else' has a small base (n=8) - use caution when interpreting.

Superannuation balances and level of debt at retirement

The average superannuation balance at retirement for this cohort of retirees was over $200,000 but this average hides a wide range. Just under half (46%) of the recent retirees reported having some debt (including mortgages) at retirement. This ranged from under $50,000 (18%) to over $500,000 (4%). Fourteen percent had debts of over $100,000

According to the data from our survey, recent retirees' average (mean) superannuation balance at retirement was $227,579.

Table 6. **Average superannuation balance at retirement – recent retirees**

Total	$227,579
Men	$274,695
Women	$201,076
Retired in the last year	$306,808
Retired 2-3 years ago	$204,760
Retired 4- 5 years ago	$194,444

When you retired, approximately how much did you have in superannuation? Please just estimate if you don't know exactly. (NOTE: this is the individual's super at retirement - does not need to include their partners)

Reinforcing the point made earlier about gender differences, men retired with higher balances ($274,695 on average) than women ($201,076 on average).

Recent retirees in our sample had higher balances on average ($306,808) if they retired in the last year compared with people who retired two to three years ago ($204,760) or over three years ago ($194,444).

While a useful comparison tool, the averages above hide the fact that people entered retirement with vastly different superannuation balances. Some (4%) of our sample had no superannuation at all because they had worked below the threshold or outside Australia. Three in ten (30%) had a superannuation balance of under $100,000 when they retired, while 18% had over $500,000.

Figure 7.   **Superannuation balance at retirement – recent retirees**
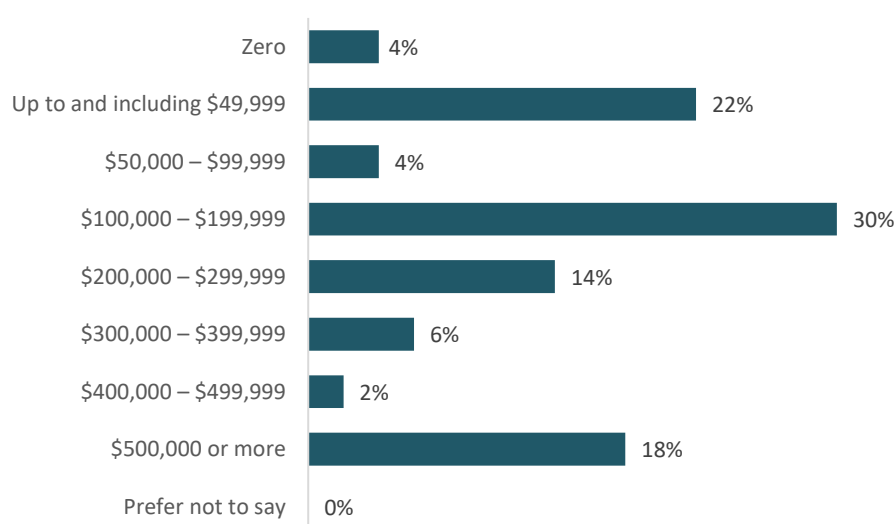
Category	Percentage
Zero	4%
Up to and including $49,999	22%
$50,000 – $99,999	4%
$100,000 – $199,999	30%
$200,000 – $299,999	14%
$300,000 – $399,999	6%
$400,000 – $499,999	2%
$500,000 or more	18%
Prefer not to say	0%

Question When you retired, approximately how much did you have in superannuation? Please just estimate if you don't know exactly. (NOTE: this is the individual's super at retirement - does not need to include their partners)

The next table shows the proportions of recent retirees with the value of their assets including housing, cars and savings but not super. One in ten (10%) had assets of under $200,000, another 14% had assets of $200,000 to under $400,000 and so on. Note that these may be household rather than personal assets.

Figure 8.   **Recent retirees' current assets**
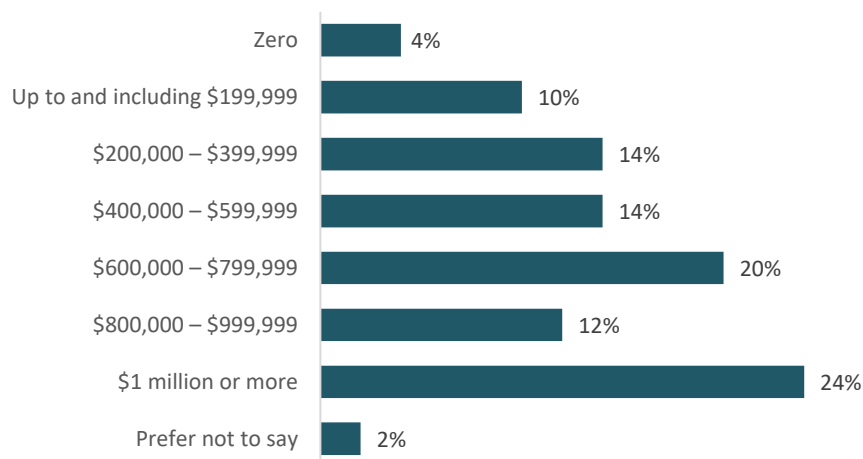
Zero	4%
Up to and including $199,999	10%
$200,000 – $399,999	14%
$400,000 – $599,999	14%
$600,000 – $799,999	20%
$800,000 – $999,999	12%
$1 million or more	24%
Prefer not to say	2%

Question: Excluding your super - but counting any cars you own, any savings, any properties that kind of thing, what would you say your total assets were when you retired? An estimate is fine.

Base: N=50 (Q&A Survey)

Just under half (46%) of the recent retirees reported having some debt (including mortgages) at retirement. This ranged from under $50,000 (18%) to over $500,000 (4%). Fourteen percent had debts of over $100,000.[6]

Figure 9.   **Debts at retirement – recent retirees**
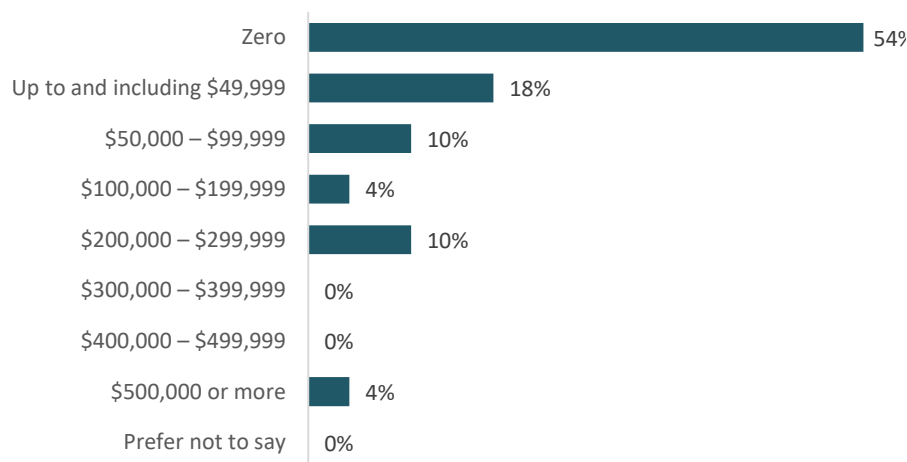
Zero	54%
Up to and including $49,999	18%
$50,000 – $99,999	10%
$100,000 – $199,999	4%
$200,000 – $299,999	10%
$300,000 – $399,999	0%
$400,000 – $499,999	0%
$500,000 or more	4%
Prefer not to say	0%

Question: When you retired, what debts did you have (including any mortgages)? Please just estimate if you don't know exactly.

Base: N=50 (Q&A Survey)

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[6] The $500,000 or more debts may be outliers. One person with the $500,000 debt said that they owned several investment properties.

This chart below shows total debts as a percentage of assets including super. The top darker bar is for 2020 and the lower one for 2010. The comparison shows evidence of a small increase in the proportion with debt, especially debt ratio of up to 50%. The proportion with a debt ratio of over 50% accounted for 22% in 2010, but diminished to 4% in 2020.

Figure 10. **Debt to assets plus super ratio (2020 and 2010)**[7]
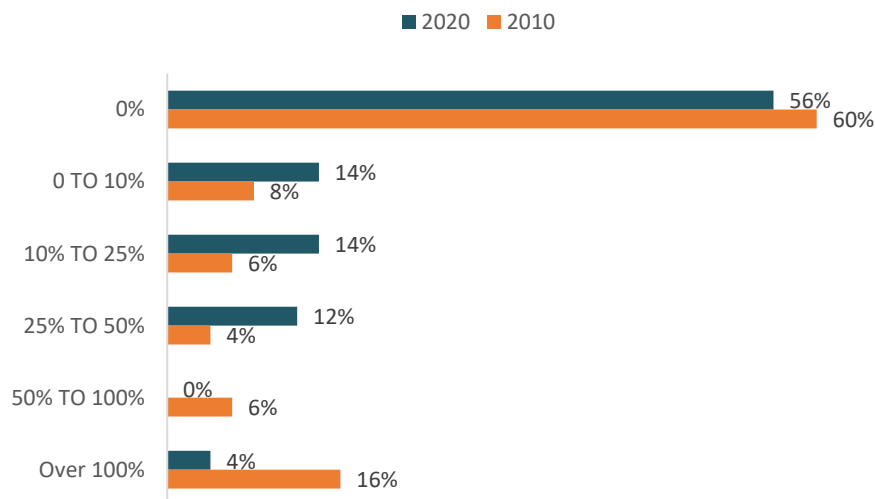
Question When you retired, approximately how much did you have in superannuation? Please just estimate if you don t know exactly. (NOTE: this is the individual's super at retirement - does not need to include their partners)

Question: Excluding your super - but counting any cars you own, any savings, any properties that kind of thing, what would you say your total assets were when you retired? An estimate is fine.

Question: When you retired, what debts did you have (including any mortgages)? Please just estimate if you don't know exactly.

Base: N=50 (Q&A Survey)

Open-ended comments from people with debt ratios of 25% or more include some who see their situation changing:

"In March I will start receiving the pension and we just had solar panels put in so we will spend less on bills and have pension payments coming in."

"I am hoping that my budget will get better - anticipate that it will get better as I get smarter with money. I am reading the Barefoot Investor and buying shares to boost my income."

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[7] For this calculation we used 10% for the '1 to 10%' band; 100% for the highest band, and the lower number in the band for the rest.

Others do not:

"I can't see things changing. My wife is on full Medicare, there is enough money in the pension for living. But we can't save any of the money for bigger things."

Some retirees still work occasionally (26%) though they have not formally returned to the workforce. The primary reason for doing occasional work was financial. Six in ten (60%) gave a financial reason for doing this, with half saying they needed to pay the bills and a third saying it was to have a more comfortable lifestyle (Note: some chose both options).

Retirees who were not working at all at the moment were asked if they might work again. A small proportion (12%) said they might 'possibly' do so partly for financial reasons and partly because they were bored.

Continuing this theme of financial comfort, retirees living alone were told the amount of age pension for people living alone and asked how much, if anything, extra they believed they would need 'to live the kind of lifestyle you want in retirement'. Couples were told the amount for couples and asked the same question. The results are shown in the table below.

Only a small proportion (12% and 8% respectively) believed no extra money was needed. People living alone were divided between needing an extra $300-$599 per week ($15,600-$31,199 per year) (31%) or an extra $1-$299 per week ($1-$15,599 per year) (35%). Couples tended to choose an extra $600-$999 per week ($31,200-$51,999 per year) (47%). [8]

Table 7.   **Additional money needed on top of pension – perceived**

	Retirees living alone	Retirees living as couple
N=	*33*	*79*
$1,000 or more per week ($52,000 or more per year)	11%	9%
$600-$999 per week ($31,200-$51,999 per year)	11%	21%
$300-$599 per week ($15,600-$31,199 per year)	31%	47%
$1-$299 per week ($1-$15,599 per year)	35%	15%
No additional money	12%	8%

Question: IF LIVE ALONE: The current age pension is $25,000 a year, how much if anything do you think you would need ON TOP OF THAT to live the kind of lifestyle you want to live in retirement? IF LIVE WITH PARTNER: The current age pension is $36,500 a year, how much if anything do you think you would need ON TOP OF THAT to live the kind of lifestyle you want to live in retirement?

Base = N=112 (UMR survey)

[8] For context, note that the ASFA Single Comfortable rate is around $44,000.

Is retirement what retirees expected?

Two in ten recent retirees said they were worse off than they expected to be. People on low incomes and women were most likely to feel worse off. People who had setbacks during their working life also tended to feel worse off.

For about half of retirees, retirement is about the same financially as they expected. Most of the rest are evenly divided as to whether it is better or worse.

Figure 11. **Expectations of retirement**
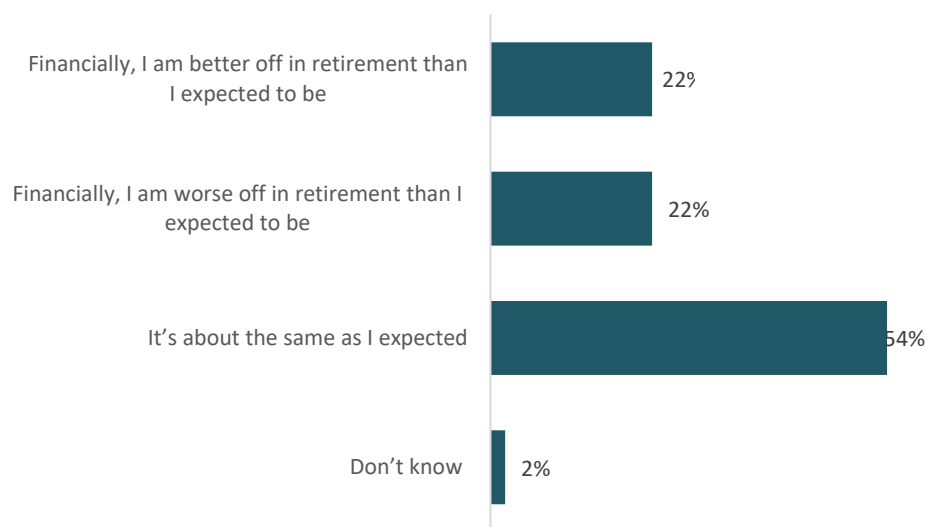
Question: Think about what you expected retirement to be like and what it is like ....

Base= Q&A Survey N=50

The average superannuation balance at retirement for people who considered themselves 'better off' was over $400,000. For retirees who felt worse off, the average was around $70,000 (and around $200,00 for those who think it's the same).

A third of women (31%) said they were worse off than they expected compared with 6% of men. (The comparable figures for 'better off' are 28% and 19%.)

However, there is another perspective to consider. We invited people who felt worse off to tell us more. Some told us that they had suffered setbacks during their working life which have had financial implications for them later in life – specifically they did not earn as much super as they would have expected. Some of these setbacks involved their own ill health or having responsibility for others with health problems. Some had been set back by divorce and separation.

"I lost my money [and] we lost our house in 1989. The interest rate was 19%; that was what killed us. I tried to get a job after that m... I only got bits and pieces of jobs, a bit of security and hospitality and it wasn't enough to live on. If I had my house I could have borrowed against it."

"Because of my family situation I divorced - I have less income and I have to face the music on my own."

One woman with a disabled son and a husband with a serious illness feels worse off because Centrelink had placed her on a part pension because they believed the couple had an investment property that has actually been sold. Her income was now under $20,000 p.a.

Others commented that they were worse off because the amount of pension they were receiving at the moment was not enough.

"Because what you get on the pension does not match the inflation, the prices go up and your pension doesn't go up like electricity going up a lot and pension does not go up enough."

What did retirees do with their super when they retired?

Retirees varied in whether they took a lump sum and/or invested in a retirement product.

Around four in ten used the money for short-term costs such as paying off debts or buying goods and property. Some spent less than 5% of their super doing this, while others spent over 50%. Spending more than half was more common among people who had been forced into retirement.

When these recent retirees retired, four in ten invested their super in a retirement product like an annuity or allocated pension, 28% took it all as a lump sum and 10% took some as a lump sum. The 'something else' below includes several people who did nothing, as they were too young to do anything with their super or chose not to. This is especially high for people who retired in the last year, who have yet to do anything with their super.

Four in ten (41%) invested some or all their super in retirement products.

Figure 12. **Recent retirees – what did with super when retired**

Took it all as a lump sum — 28%
Took some as a lump sum — 10%
Invested some or all of it in a retirement product like an annuity or allocated pension — 41%
Something else- please explain — 22%
I don't know — 2%
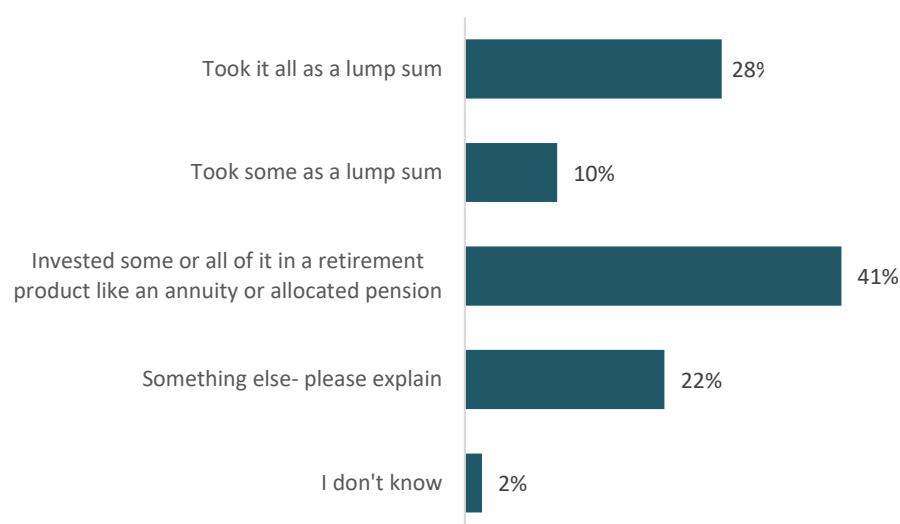
*Question: When you retired **what did you do** with your super? MULTIPLE RESPONSE*
Base =: 162 retirees (UMR 112 plus 50 Q&A)

Around two thirds of all recent retirees (65%) spent some of their superannuation when they retired. The most common of these (35%) was on short-term costs such as paying off debts.

Figure 13. **Recent retirees – what did with super when retired**

Pay off some of your debts	35%
Buy something like a car or a boat, or renovate the house	26%
Give/ transfer some money to your children or grandchildren	6%
Go on a trip	21%
Something else - what is that? Write in	9%
None of these	35%
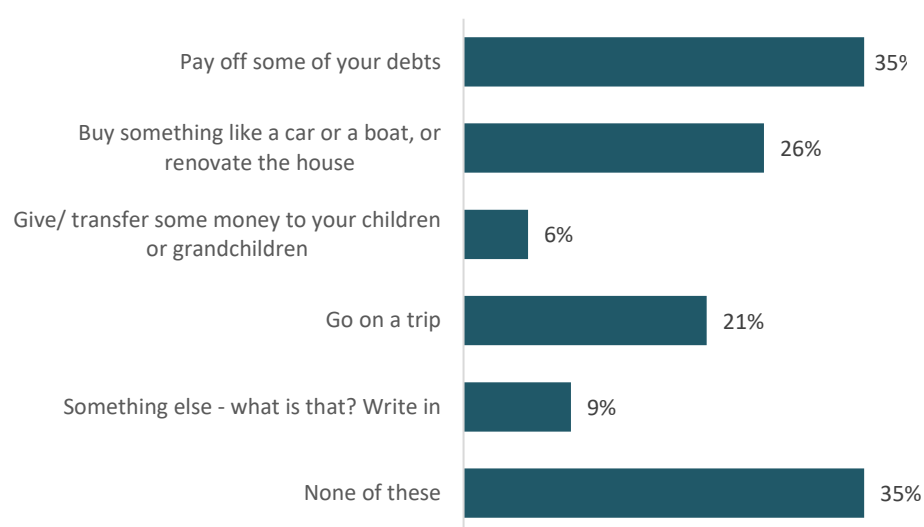
Question: Did you ...... MULTIPLE RESPONSE
Base =: 162 retirees (UMR 112 plus 50 Q&A)

Two in ten (21%) went on a trip.

The 'something else' category above included some retirees who bought a 'property' with their super. It also includes some people who did nothing with it.

People who retired when they lost their job or for ill health were the most likely to pay off debts with their super.

The lower the amount of super, in general, the more likely it was to be used for paying debts or buying short term assets. Three in ten (32%) retirees who had less than $200,000 in super when they retired paid off some debts, and 29% bought short term assets such as cars. In contrast, over half (55%) of retirees with over $200,000 did not spend it.

Table 8. **What retirees did with their super when they retired – by how much they had in super**

	Under $200,000 in super	Over $200,000 in super
N=	*28*	*20*
Pay off some of your debts	32%	10%
Buy something like a car or a boat, or renovate the house	29%	25%
Give/ transfer some money to your children or grandchildren	7%	5%
Go on a trip	18%	15%
Something else - what is that? Write in	7%	5%
None of these	25%	55%
Don't know	0%	0%

Question: Did you ...... MULTIPLE RESPONSE
Base =: N= 50 Q&A

How much retirees spent varied. In fact, the distribution is polarised. As shown below, 28% spent less than 10% while 27% more than 50%:

Figure 14.   **Retirees who spent some super on debts/ renovations etc - the % they spent**
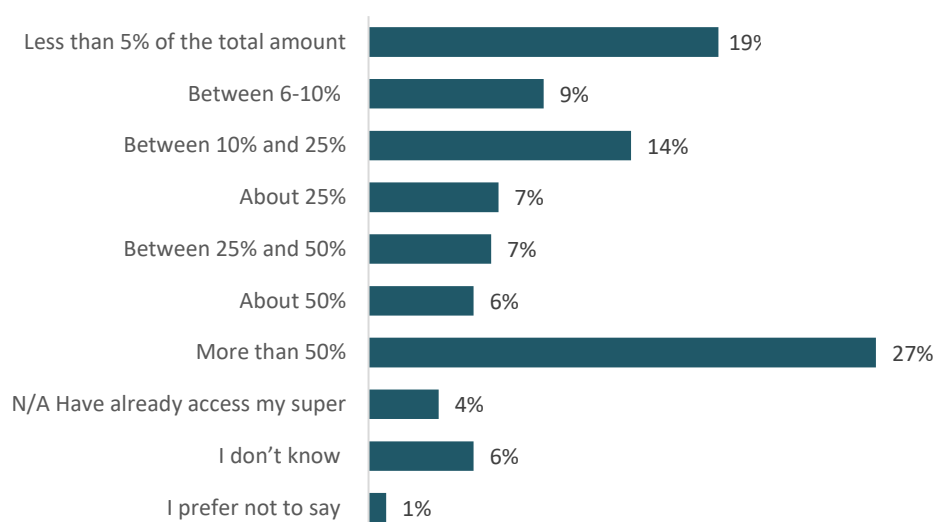
Question:. IF PAID OFF DEBTS/ SPENT ON / TRANSFER TO .. ETC … How much did you spend on (paying off your debts/ buying things. giving to children/ travelling) as a percentage?......
Base = All who spent on debts/ short terms assets/ travelling etc. 106 (UMR n=105, Q&A n=31)

The difference comes about because of different spending by different segments of retirees. The table below shows that 38% of retirees who retired because of lack of work opportunities or ill health spent more than 50% of their super on paying off debts, renovating or travelling. In contrast, only 19% of those who chose to retire did this.

Table 9.   **Retirees who spent some super on debts/ renovations etc - the % they spent**

How much did you spend on (paying off your debts/ buying things? giving to children/ travelling) as a percentage? by Did you choose to retire?	Chose to retire	Retired because lost job/ ill health etc
N=	*58*	*50*
Less than 5% of the total amount	17%	20%
Between 6-10%	16%	2%
Between 10% and 25%	17%	12%
About 25%	6%	10%
Between 25% and 50%	5%	8%
About 50%	6%	6%
More than 50%	19%	38%
N/A Have already access my super	4%	4%
I don't know	10%	0%

Question: :. IF PAID OFF DEBTS/ SPENT ON / TRANSFER TO .. ETC … How much did you spend on (paying off your debts/ buying things. giving to children/ travelling) as a percentage?......

Base = All who spent on debts/ short terms assets/ travelling etc. 106 (UMR n=105, Q&A n=31)

What preparation did retirees make for their retirement?

Most recent retirees did not retire with a formal financial plan.

This section is about the kinds of formal advice and guidance retirees had – if any - before they retired. Overall, around half of these recent retirees (45%) prepared for their retirement in some of these ways: attended a seminar on retirement, spoke to an accountant or financial planner, or had a formal financial plan prepared, as shown below.

Figure 15. **Recent retirees: retirement preparation**
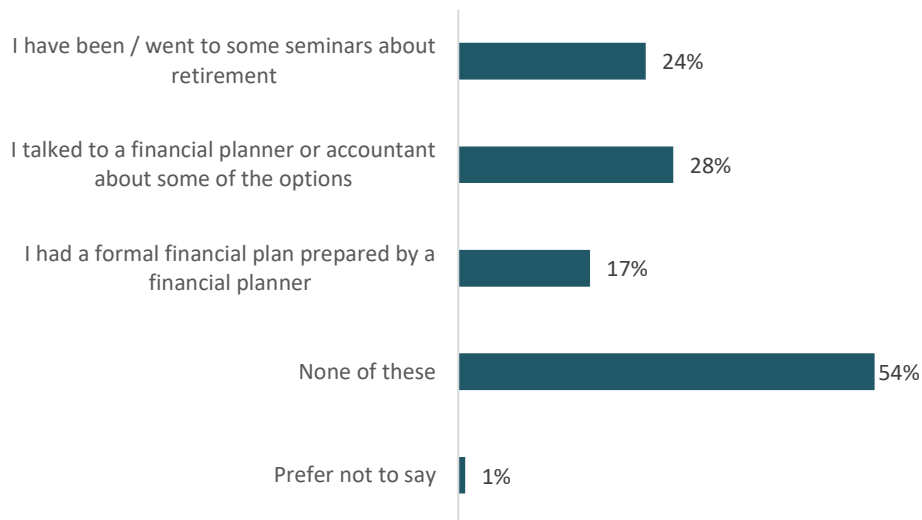
Question: have you done any of these to help plan for your retirement? MULTIPLE RESPONSE
Base = n=112 (UMR survey)

Most (79%) with a formal financial plan had paid for it.

Retiring because of lack of work opportunities or for ill health affects the preparation people are able to make for retirement. The people who chose the timing of their retirement were the most likely to have a formal financial plan for retirement. As shown below, 22% had a formal financial plan, 32% had talked to a financial planner or accountant and 24% had been to a retirement seminar. In contrast, people who retired because they lost their job, for their own ill health or to look after someone else had done less. Only 12% had a formal plan and 23% had talked to a planner or accountant – 60% had done nothing.

Figure 16. **Recent retirees: retirement preparation by whether chose to retire or not**
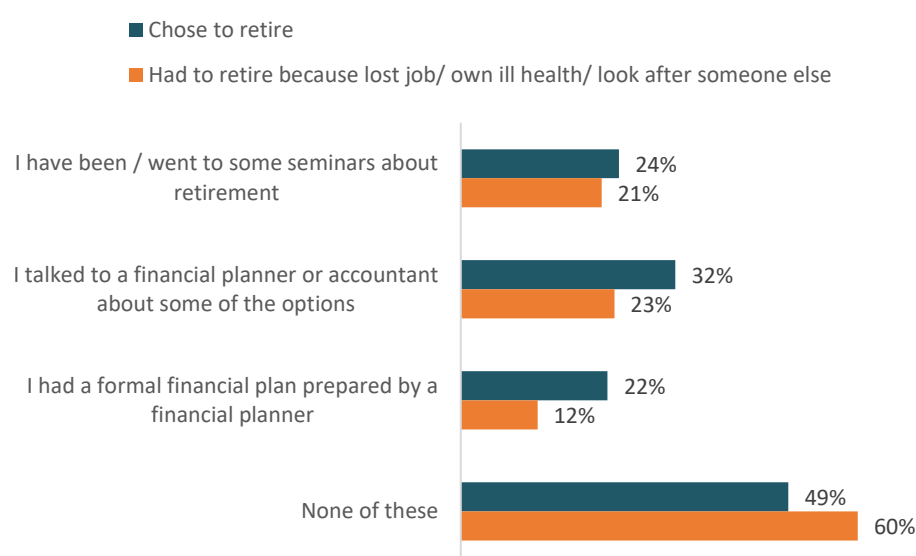
■ Chose to retire

■ Had to retire because lost job/ own ill health/ look after someone else

Category	Chose to retire	Had to retire
I have been / went to some seminars about retirement	24%	21%
I talked to a financial planner or accountant about some of the options	32%	23%
I had a formal financial plan prepared by a financial planner	22%	12%
None of these	49%	60%

Question: have you done any of these to help plan for your retirement? MULTIPLE RESPONSE
Base = n=112 (UMR survey)

This suggests that pre-retirees should be encouraged to seek financial advice early to prepare them for the possibility of retiring earlier than they might expect.

The study has shown that retirees use their superannuation in the transition to retirement. They use it to pay off debts and buy short-term assets for example as well as retaining some or all of it for living in retirement. Without a financial plan, it is likely that decisions about how much to spend and how much to invest are difficult decisions for individuals to make, leading to the possibility that people spend what they perhaps should have saved, in turn leading to a 'very tight' time in retirement. Behavioural economics suggests that in circumstances like these people can benefit from default options or 'nudges'. It may therefore be worth exploring whether people transitioning to retirement could benefit from some form of nudge, to help them make their super last longer.

B. The experiences of pre-retirees

Introduction

This next section of the report is about people who were in the workforce at the time of the survey. Most were aged between 47 and 65[9] with a smaller proportion over 65. All described themselves as working, though some had retired and returned to the workforce.

How pre-retirees perceive their financial situation

About a third of the pre-retirees surveyed were currently not making ends meet or were on a very tight budget. Four in ten had spare cash for things like entertainment, and two in ten were 'comfortable'.

All pre-retirees were asked how they felt about their personal financial situation 'at the moment'. It seems that pre-retirees also have their financial constraints, as these examples illustrate

"I got made redundant two years ago and since that time I got part time work that's only seasonal. Example, I haven't worked since November and I don't go back till the end of February so that's put financial strain on us. We have one child but that always has expenses like uniforms, books etc."

"We are just managing a tight budget we are only on one income my wife has disability she was on a higher income in corporate management but now we are only on just one income."

Less than three in ten (27%) pre-retirees described themselves as comfortable and able to do things like 'travel and other activities'. Just under one in ten (9%) said they were not making ends meet and 24% that they have a very tight budget.

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[9] More information about the sample is in the appendix.

Figure 17.   **Perceptions of current financial situation – pre-retirees**
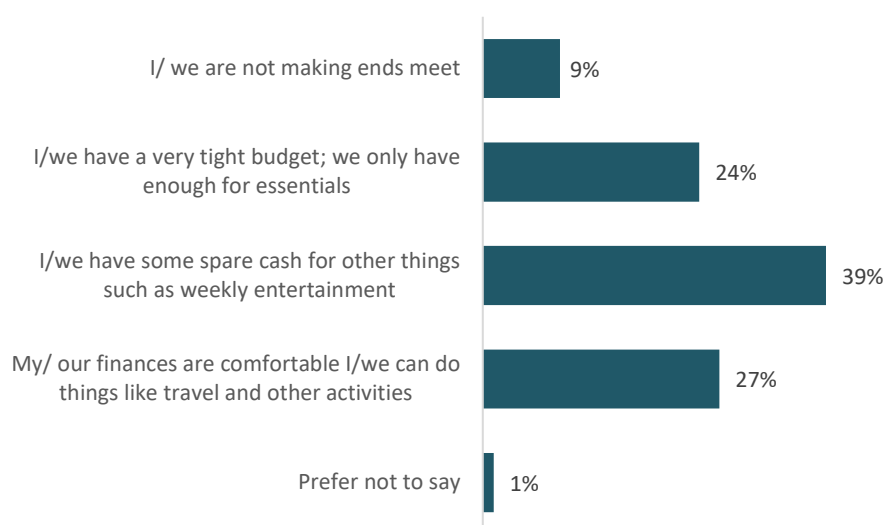
Question: Which of these describes how you feel about your personal financial situation at the moment?
Base = 572 (422 UMR survey and 150 Q&A survey)

For people planning to retire in the next few years, the picture is broadly the same – 19% of people planning to retire in the next two years and 26% planning to retire in three to five years say they are currently not making ends meet or are on a very tight budget.

Table 10.   **Pre-retirees perceived personal situation by when pre-retirees expect to retire**

	In the next 2 years or so	In about 3-5 years	In about 6-10 years	More than 10 years	I don't expect to retire
N=	*58*	*118*	*140*	*188*	*31*
I/ we are not making ends meet	5%	6%	6%	11%	26%
I/we have a very tight budget; we only have enough for essentials	14%	20%	29%	25%	29%
I/we have some spare cash for other things such as weekly entertainment	43%	34%	41%	41%	29%
My/ our finances are comfortable I/we can do things like travel and other activities	38%	40%	22%	22%	16%
Prefer not to say	0%	0%	2%	1%	0%

Question: Which of these describes how you feel about your personal financial situation at the moment?
Base = 572 (422 UMR survey and 150 Q&A survey)

Why are some pre-retirees less financially comfortable than others?

It is of concern that some people are feeling financial constraints pre-retirement. This section of the report explores why some pre-retirees are less financially comfortable than others.

Pre-retirees' current income is a key factor as it impacts superannuation savings. As the chart below shows, 28% of pre-retirees have incomes under $50,000 a year, 20% are on $50,000 to $69,999 a year, 24% on $70,000 to $99,999 a year, with 22% on over $100,000.

Figure 18. **Pre-retirees current income**

Income	Percentage
Less than $20,000	5%
$20,000-$29,999	7%
$30,000-$39,999	7%
$40,000-$49,999	9%
$50,000-$69,999	20%
$70,000-$99,999	24%
$100,000-$199,999	19%
Over $200,000	3%
Don't Know	0%
Prefer not to say	5%

Question: This last question helps us understand more about how different people plan for retirement. Which of the following best matches your current total income from all sources before tax?

Base = 572 (422 UMR survey and 150 Q&A survey)

Analysing the perceived financial situation data by income we can see that the group of people not making ends meet typically earn under $40,000, although some on higher incomes are also feeling constrained. Half of people earning over $100,000 are 'comfortable'.

Table 11. **Pre-retirees perceived personal situation by income of pre-retirees**

	Less than $20,000	$20,000-$29,999	$30,000-$39,999	$40,000-$49,999	$50,000-$69,999	$70,000-$99,999	$100,000-$199,999	Over $200,000
N=	*30*	*40*	*39*	*54*	*117*	*135*	*109*	*17*
I/ we are not making ends meet	34%	20%	8%	13%	8%	5%	1%	0%
I/we have a very tight budget; we only have enough for essentials	40%	15%	36%	41%	27%	19%	19%	0%
I/we have some spare cash for other things such as weekly entertainment	20%	43%	38%	29%	38%	48%	37%	47%
My/ our finances are comfortable I/we can do things like travel and other activities	3%	20%	18%	17%	25%	28%	43%	53%
Prefer not to say	3%	2%	0%	0%	2%	0%	0%	0%

Question: Which of these describes how you feel about your personal financial situation at the moment?
Base = 572 (422 UMR survey and 150 Q&A survey)

Current income is not the only consideration. Some people have had fluctuating working lives when at times they had less income than they do now, or none at all.

"I worked full time from age 18-33. The business I worked for collapsed. I married and had children, so I was out of work for 8 years. I worked part time for 6 years following that. I looked after my husband when he was sick therefore was out of work for about 4 years. I have recently just come back to the work force for the past 8 months."

Specifically, 30% of the pre-retirees who were not making ends meet or who were on a very tight budget explained that historically their income had always fluctuated. As one single parent said:

"I'm 63 now mostly full time except when I had the kids went back part time. I hurt my back when I was 32 ... and was out of work for 3 years. For that 3 years I didn't get any super. I was on Workcover so you miss out on all that super ... I worked casual and part time - 2 part time jobs - you get penalised for being part time - you have to work so many hours before you get super."

Pre-retirees' workforce participation

Overall, over half the sample (59%) was in full time work at the time of the survey. However, men were much more likely to be in full time work (78%) than women (43%) who tended to be in part time work.

"I think women have less options in retirement than men. if you've had time off for kids, worked part time or casual or had an injury, you're not building up your super. I think you have to be working full time in a really well-paid job for super to work for you. Just the fact that I was 32 when super came in I was catching up."

As shown below, people planning to retire were also more likely to work part time - 48% of those expecting to retire in the next two years were working part time compared with 29% who expect to retire after more than five years.

Table 12.   **Whether working full time, part time or casual – by when plan to retire**

	In the next 2 years or so	In about 3-5 years	In about 6-10 years	More than 10 years	I don't expect to retire	I don't know
N=	*56*	*116*	*140*	*184*	*31*	*36*
Full time (that is 30 hours or more per week)	41%	49%	64%	70%	65%	47%
Part time (that is less than 30 hours per week)	48%	37%	29%	21%	19%	36%
Casual	11%	15%	0%	10%	13%	17%
Don't know	0%	0%	0%	0%	3%	0%
Prefer not to say	0%	0%	0%	1%	0%	0%

Question: Are you working full time, part time or as a casual
Base =all currently working 565 (416 UMR survey and 149 Q&A survey)

Eight in ten (82%) survey respondents (who are all over the age of 47) who are in the workforce now have never retired. Some had retired before and returned to the workforce (6%) and one in ten had cut down their hours (10%).

Figure 19. **Working patterns of people in the workforce now**

I am in the workforce and have never retired	82%
I retired and then went back into the workforce full time	2%
I retired and then went back into the workforce part time	4%
I am still in the workforce but have cut down my hours	10%
Other / prefer not to say	2%
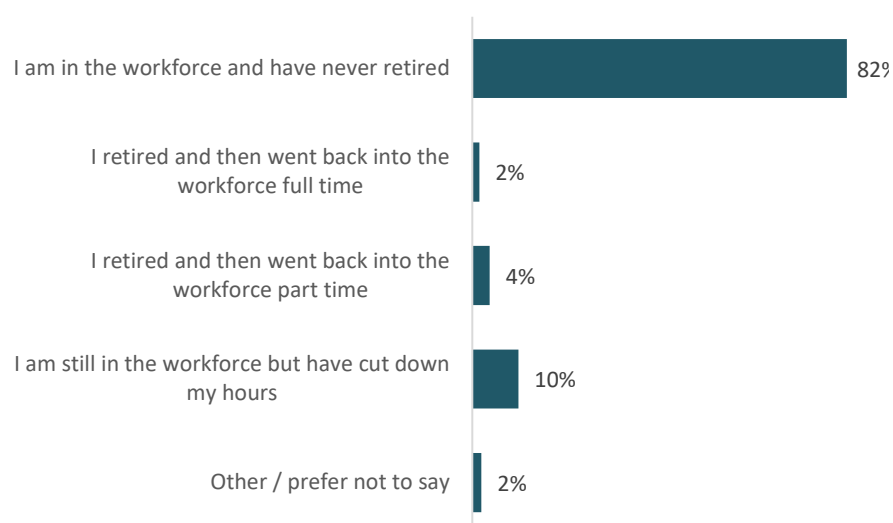
Question: Which of the following best describes you?
Base = 572 (422 UMR survey and 150 Q&A survey)

The data show that the people who cut down their hours are currently on relatively low incomes (we do not know however, what their income was before). They vary in occupation and include professionals (such as GPs and lawyers), while others have clerical occupations or are self-employed.

"At 18 I started a traineeship, then worked full time until I was 25, when I started my own business. I have been operating my business only part time for the last few years as I start to wind down."

"I'm self employed as a landscaper I've done that since I was 32 nearly 30 years its full time all the time about 50 hours a week and very hard on my body I'm trying to get out of it but it's really difficult because nobody once to employ a 61 year old."

The people who had re-joined the workforce after retiring were generally people expecting to retire (again) in three to five years' time. The main reason to re-join the workforce was financial - to help pay the bills and for a more comfortable life. Some were bored. People who had retired once before and returned to the workforce were mostly working part time.

How much super retirees have in retirement is influenced in part by how long they have worked and how long they worked full time. The following table shows the average number of years worked by pre-retirees generally who ranged in age from 48 to 71. This cohort of pre-retirees have worked on average 23.1 years full time so far, 6.2 years part time and 2.6 years as a contractor. They have spent 2.0 years out of the workforce raising children and another 0.9 of a year out of the workforce for other reasons.

Figure 20. **Numbers of years worked (average) - pre-retirees**
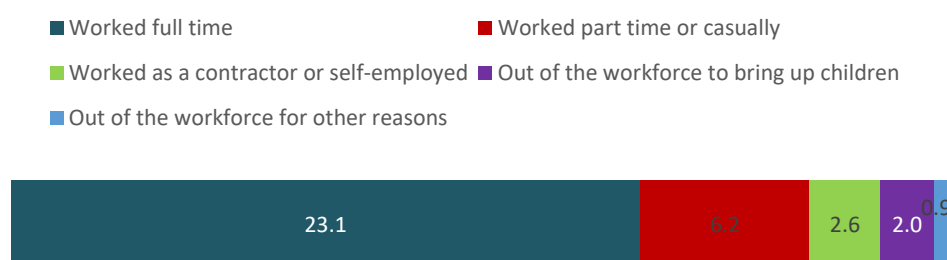
■ Worked full time   ■ Worked part time or casually

■ Worked as a contractor or self-employed   ■ Out of the workforce to bring up children

■ Out of the workforce for other reasons

| 23.1 | 6.2 | 2.6 | 2.0 | 0.9 |

Question: How many years have you worked in Australia and how much time have you spent working full time, part time or not working?
Base = 572 (422 UMR survey and 150 Q&A survey)

The chart below analyses the 'years worked' data for men and women currently in the workforce. As things stand at the moment, male pre-retirees have had almost ten more years working full time than female pre-retirees. The latter have worked part time for 9.6 years or been out of the workforce for longer (3.8 years for children and 1.5 for other reasons) on average.

Figure 21. **Numbers of years worked (average) - pre-retirees by gender**
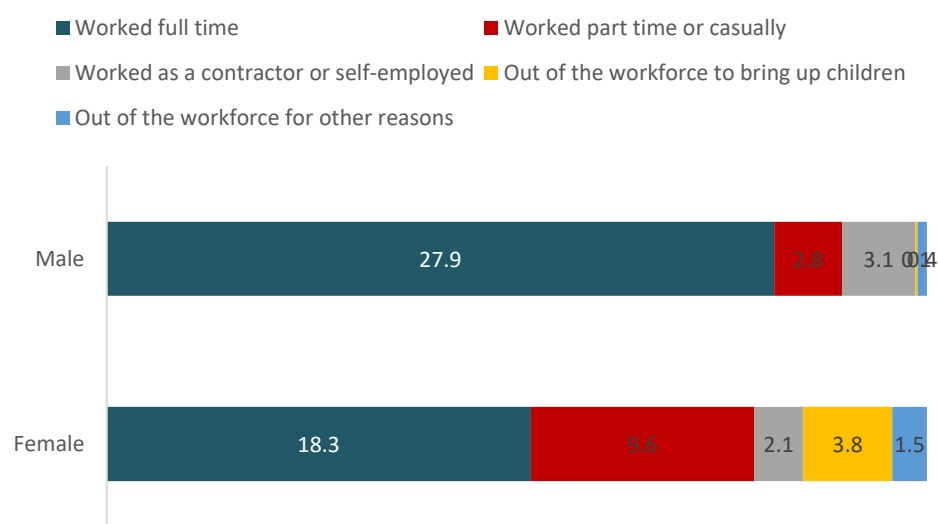
■ Worked full time   ■ Worked part time or casually

■ Worked as a contractor or self-employed   ■ Out of the workforce to bring up children

■ Out of the workforce for other reasons

Male 27.9	2.8	3.1	0.4	
Female 18.3	9.6	2.1	3.8	1.5

Question: How many years have you worked in Australia and how much time have you spent working full time, part time or not working?
Base = 572 (422 UMR survey and 150 Q&A survey)

To reinforce this point: 36% of men were able to nominate how long they had been out of the workforce after the superannuation guarantee was introduced in 1992, compared with 60% of women.

Superannuation balances and level of debt - pre-retirees

The average mortgage debt is greater than the average superannuation balance for pre-retirees

"I am worried about mortgage rates going up, I am worried I will back able to continue paying that due to my divorce. Eventually I will sell my property to fund my retirement."

The table below summarises the average assets and debts of the pre-retirees.[10] On average, a pre-retiree who has superannuation has

- A balance of around $263,000.
- If they have a partner, the partner's balance is around $184,000
- The household has savings of about $75,000 (if they have any)
- And other investments worth about $500,000 (if they have any)
- And property worth an average of over $860,000
- In debts, the average is: mortgage debt of over 350,000 and other debts (such as credit card) of about 30,000

All in all, this means that on average individuals with superannuation are carrying debts significantly greater than their superannuation balance. Indeed, as the table shows in the final column, the ratio of the individual's superannuation balance to their mortgage is on average 0.75, that is their superannuation balance amounts to three quarters of their mortgage (superannuation $263,729: mortgage debt $352,103). While couples may also have their partner's super to help pay the mortgage, people who live alone had a superannuation balance 88% the value of their mortgage on average.

Table 13.   **Assets and debts – pre-retirees**

	Own super	Partner super	Savings	Other investments	House and property	Mortgage debt	Other debt	Own super: mortgage ratio
All	$263,729	$184,561	$75,680	$553,146	$862,638	$352,103	$30,363	**0.75**
Couples	$290,736	$330,507	$79,385	$677,517	$950,060	$389,171	$41,095	**0.75**
Singles	$219,218	N/A	$70,339	$309,380	$681,375	$250,170	$7,876	**0.88**
Men	$342,064	$152,615	$92,964	$603,152	$822,419	$292,042	$13,346	**1.17**
Women	$192,706	$239,926	$59,357	$500,362	$903,606	$417,753	$43,240	**0.46**
% of respondents with	93%	55%	70%	49%	825	60%	44%	

Base = 572 (422 UMR survey and 150 Q&A survey)

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[10] The questionnaire was structured to allow for multiple super funds, multiple properties, mortgages etc

Several people spoke about how difficult it has been to clear their debts:

"I don't see it changing in the next few years - we still have a mortgage   and the cost of living is high. The company I work for no longer gives bonuses or annual pay rises. When the cost of living goes up the company doesn't provide that on. If I don't find a better paying job I'll be going backwards."

The table below takes all the assets into account, including the partner's super, their own home, investment properties, any savings, all mortgages and other debts. The first column in the table shows total assets in $s, the middle column total debts in $s and the final column the difference between the two – the 'net'. Overall, on average pre-retirees have $1,557,288 more in assets than they have in debts.

Table 14.   **Assets and debts – pre-retirees**

	Total assets	Total debt	Net assets
All	$1,939,754	$382,466	$1,557,288
Couples	$2,328,205	$430,266	$1,897,939
Singles	**$1,280,312**	$258,046	**$1,022,266**
Men	$2,013,214	$305,388	$1,707,826
Women	$1,895,957	$460,993	$1,434,964

Base = 572 (422 UMR survey and 150 Q&A survey)

The table below has this analysis according to proximity of retirement. This shows that imminent retirees (next two years) had mortgage debt that was lower than their own superannuation – a ratio of 1.66. However, people thinking to retire in over three years' time had more mortgage debt than they had in their own super.

Table 15.   **Assets and debts – pre-retirees**

	Own super	Partner super	Savings	Other investments	House and property	Mortgage debt	Other debt	**Own super: mortgage ratio**
All	$263,729	$184,561	$75,680	$553,146	$862,638	$352,103	$30,363	**0.75**
Retire next 2 years	$420,555	$427,500	$118,825	$393,571	$1,366,667	$253,500	$1,200	**1.66**
Retire next 3-5 years	$407,209	$297,097	$110,820	$606,273	$1,067,428	$498,442	$9,500	**0.82**
Retire 6-10 years	$264,064	$152,256	$88,800	$1,139,912	$834,333	$337,000	$6,838	**0.78**

Base = 572 (422 UMR survey and 150 Q&A survey)

This table shows total assets, total debts and the difference between the two for people expecting to retire in the next two years, next three to five and over five. Pre-retirees expecting to retire had $2,472, 418 more in total assets than they had in debt.

Table 16.   **Assets and debts – pre-retirees**

	Total assets	**Total debt**	**Net assets**
Next 2 years	$2,727,118	$254,700	$2,472,418
3-5 years	$2,488,827	$507,942	$1,980,885
6 to 10 years	$2,479,365	$343,838	$2,135,527

Base = 572 (422 UMR survey and 150 Q&A survey)

In comparison with the 2010 survey:

- Pre-retirees had over twice as much super ($109,548 in 2010; 263,729 in 2020) but around five times more mortgage debt (72,418 in 2010: $352,103 in 2020).
- more participants had a property (57% in 2010: 82% in 2020)
- the average value of the propert(ies) had increased ($754,285 in 2010 to $862,638 in 2020)
- more had a mortgage (27% in 2010: 60% in 2020)

"I see this changing in the future because we'll have paid off our home in the next 3 years and it'll give us more money."

When asked how confident they were that they would have enough money in retirement, around half (51%) were very or fairly confident, 28% not very confident and 16% not at all confident.

Figure 22.   **Pre-retirees' confidence that they will have enough money in retirement**

Question: How confident are you that you will have enough money in retirement?
Base = 572 (422 UMR survey and 150 Q&A survey)

However, perhaps a more accurate picture comes from those who think they will retire relatively soon – in the next two years or so. Of those 29% are very confident, 40% fairly confident - and 29% are not very or not all confident that they will have enough.

Table 17. **Pre-retirees' confidence that they will have enough money in retirement by when expect to retire**

	In the next 2 years or so	In about 3-5 years	In about 6-10 years	More than 10 years	I don't expect to retire	I don't know
N=	*58*	*118*	*140*	*188*	*31*	*36*
I am very confident – I think I /we will be fine	29%	19%	9%	4%	10%	14%
I am fairly confident	40%	46%	44%	42%	13%	11%
I am not very confident	15%	28%	31%	32%	16%	17%
I am not at all confident – I am worried that we will not be able to manage	14%	7%	14%	17%	55%	30%
I don't know	2%	0%	2%	4%	6%	25%
I prefer not to say	0%	0%	0%	1%	0%	3%

Question: How confident are you that you will have enough money in retirement?
Base = 572 (422 UMR survey and 150 Q&A survey)

Confidence levels drop quite sharply after this with only 19% of 'in the '3 to 5 years' time' group saying they are very confident. Half (49%) of people thinking they will retire in more than 10 years' time said they were not very or not all confident.

Confidence and levels of superannuation and other savings are clearly correlated. The table below shows that the people with greatest confidence have higher levels of super on average than people with less confidence. So too do their partners. They also have more savings.

Table 18. **The average superannuation balance of pre-retirees by their level of confidence that they will have enough money in retirement**

Average (mean)	Own super	Partner super	Other savings
I am very confident – I think I /we will be fine	$470,421.	$377,384.	$138,710.
I am fairly confident	$257,740.	$189,746.	$39,379
I am not very confident	$148,947	$70,352.	$26,837
I am not at all confident – I am worried that we will not be able to manage	$97,258	$73,366.	$5,708.

Question: How confident are you that you will have enough money in retirement?
Base = 572 (422 UMR survey and 150 Q&A survey)

One reason for lack of confidence is the uncertainty about pension availability:

"There still seems to be a lot of uncertainty [about] whether there will be a pension available when I retire. There is a big question if it is better to leave money in a super fund or withdraw it and invest elsewhere."

Part of it is the realisation that a chequered work history has left some people with low levels of super:

"It's scary to think about. I have separated from my husband and I don't have any financial preparations for retirement. It's harder for people who are single to save for retirement. We can't save because we have to support ourselves."

Part of the reason is that some have simply not thought much about it:

"I have no idea what I am going to do. It is something I am just starting to look into."

How pre-retirees expect to fund their retirement

About a third of the cohort expect to retire within the next five years or so. Plans about when to retire are largely a function of age.

The next cohort of retirees is likely to include some taking a lump sum and some investing in retirement products.

We have used the label 'pre-retirees' for his cohort because they are over 47 and have not permanently retired. However, they vary in when they might retire (and some say they won't) as show below. Three in ten (31%) expect to retire within the next five years, a quarter (25%) in six to 10 years' time, 33% over 10 years' time and some do not know.

Figure 23. **Pre-retirees' expectations of when they will retire**
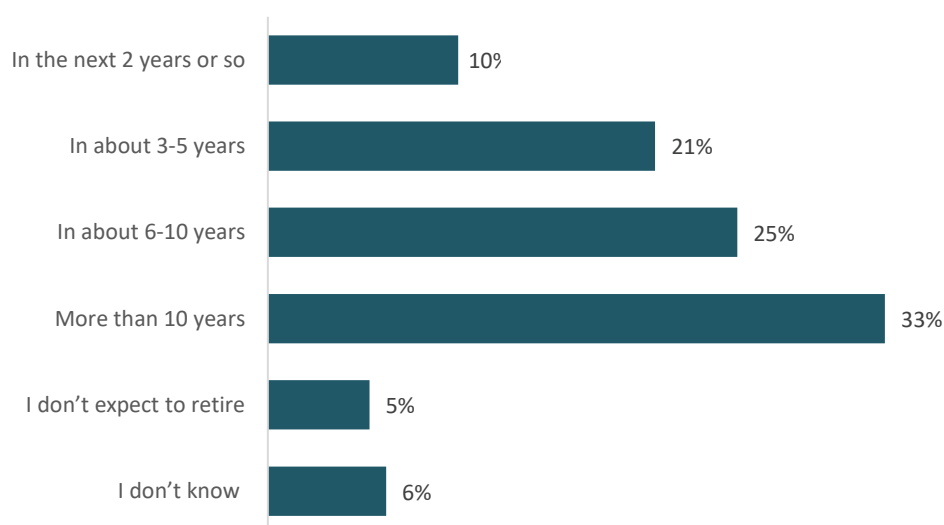
Question: When do you think you might retire (or retire again)? A guess is fine
Base = 572 (422 UMR survey and 150 Q&A survey)

These plans are almost entirely driven by age.

Three in ten pre-retirees said they expect to be on the full age pension when they retire, and about the same expected to be on a part pension. Two in ten did not expect to be on the pension at all.

Figure 24. **Pre-retirees' expectations of the age pension**
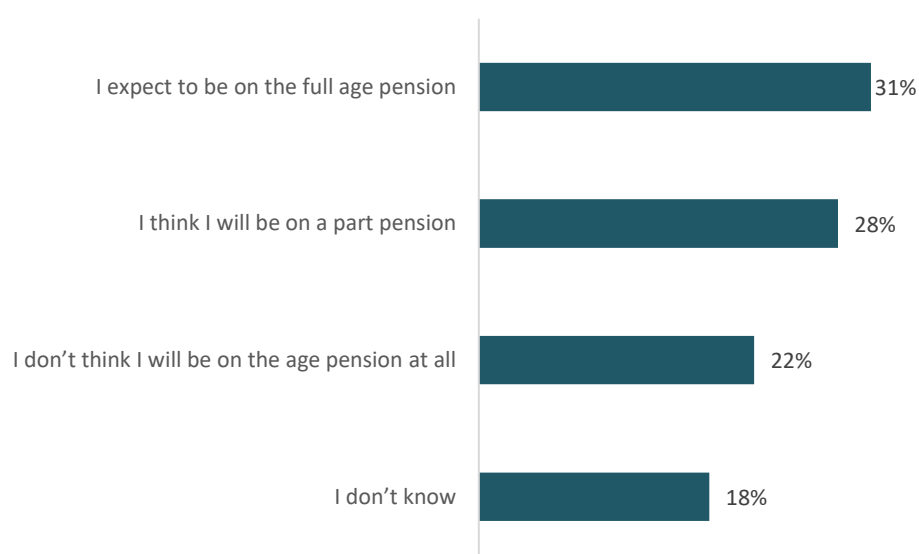
Question: When you retire, do you think you will receive the age pension? MULTIPLE RESPONSE ALLOWED
Base = 572 (422 UMR survey and 150 Q&A survey)

These expectations are similar for people expecting to retire in five years, in 10 years or more.

One in four (25%) pre-retirees said they did not know what they would do with their super when they retired. However, the overall pattern is there is likely to be a mix of people taking a lump sum and people investing in retirement products.

Figure 25. **Pre-retirees: what do you think you will do with super when you retire?**
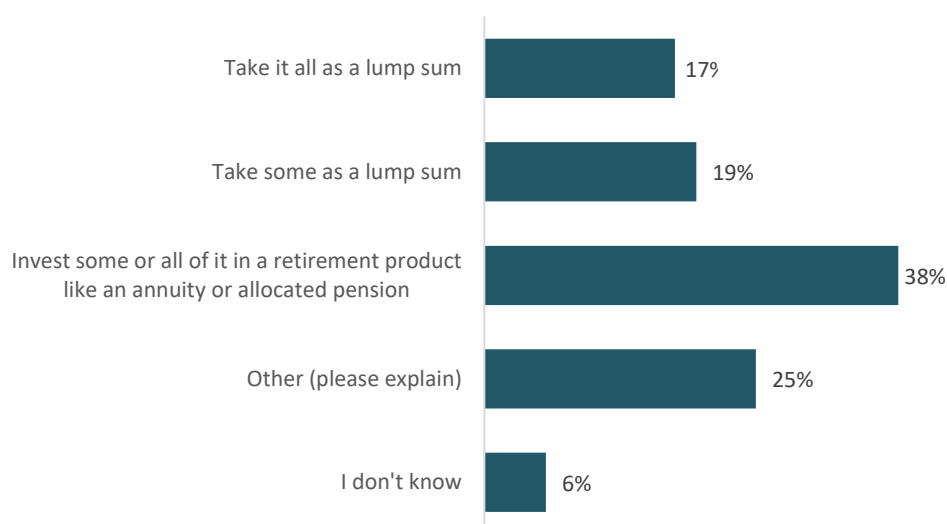
Question: When you retire, what do you think you will do with your super? Just what you will probably do is fine. MULTIPLE REPONSE
Base = 572 (422 UMR survey and 150 Q&A survey)S

A quarter of people due to retire in the next five years also did not know what they will do, with the mix of lump sum/retirement products about the same as the overall picture.

At this stage, about half (47%) expect to use their lump sum or pension to travel, while three in ten (30%) expect to pay off some debts. As described earlier, recent retirees were more likely to have paid off debts than travelled but this was affected to some degree by the actions of people who did not choose the timing of their retirement, who were less likely to travel.

Figure 26. **Pre-retirees: what expect to do with lump sum or pension**
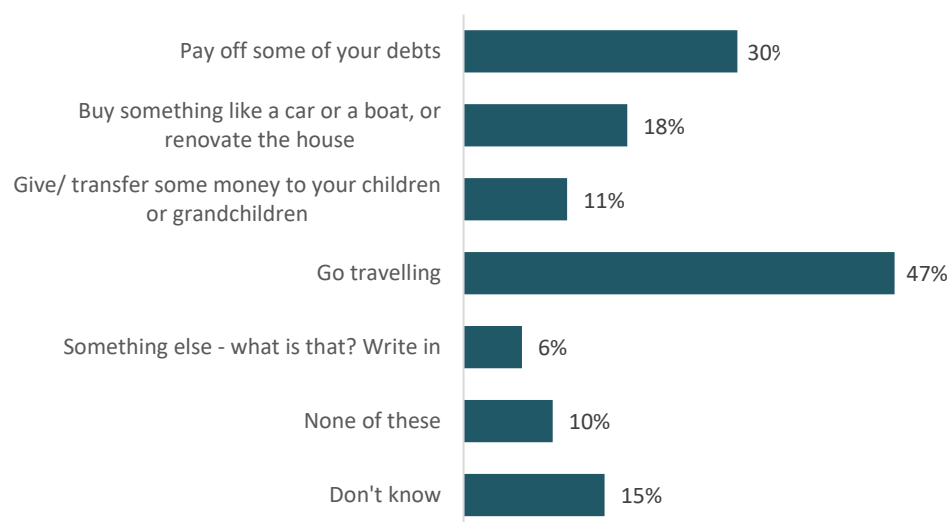
Question: When you receive your lump sum or pension, do you think you will......MULTIPLE RESPONSE
Base = 572 (422 UMR survey and 150 Q&A survey)

Six in ten (59%) imminent retirees have more plans to travel.

Table 19. **Pre-retirees: what expect to do with lump sum or pension by when expect to retire**

	In the next 2 years or so	In about 3-5 years	In about 6-10 years	More than 10 years
N=	*58*	*118*	*140*	*188*
Pay off some of your debts	26%	23%	37%	50%
Buy something like a car or a boat, or renovate the house	22%	18%	22%	23%
Give/ transfer some money to your children or grandchildren	12%	13%	14%	14%
Go travelling	59%	54%	43%	73%
Something else	3%	3%	6%	11%
None of these	12%	8%	9%	10%
Don't know	5%	11%	11%	24%

Question: When you receive your lump sum or pension, do you think you will......MULTIPLE RESPONSE
Base = 572 (422 UMR survey and 150 Q&A survey)

When asked how much of their lump sum or pension they thought they might spend, pre-retirees were much more conservative compared with how retirees have spent theirs. About four in ten (38%) expect to spend 25% or less of their lump sum or pension on such things as debts and renovations. Only seven percent suggested over 50%. However, as we saw earlier some of the larger

spending in proportional terms came from people who retired earlier than they had expected to. Note also that 28% of people did not know how to answer this question.

Figure 27. **Pre-retirees how much expect to spend on travelling, debts etc**
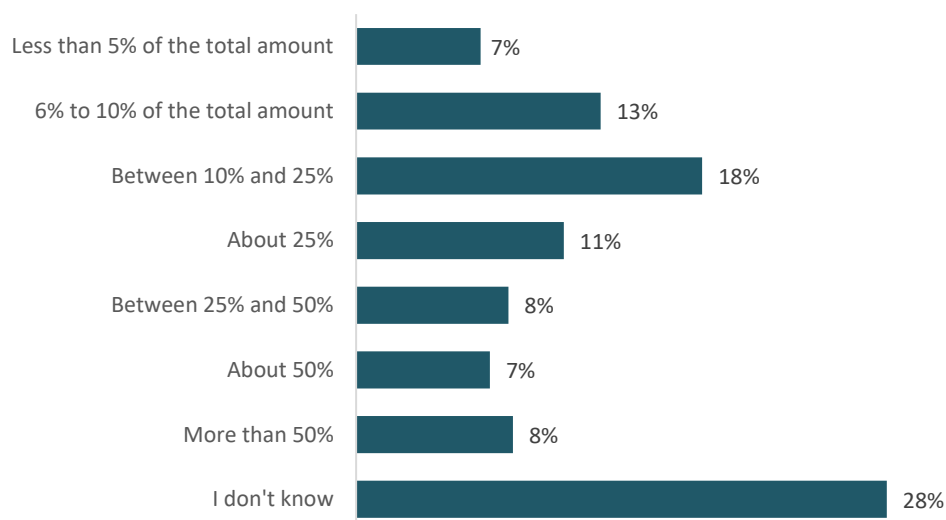
Question: **IF PAY OFF DEBTS/ SPEND ON / TRANSFER TO ..)** *How much do you think you will spend on (paying off your debts/ buying things. Giving to children/ travelling) as a percentage. ......*
Base = 411(275 UMR survey and 136 Q&A survey)

This suggests, unsurprisingly, that retirees have to deal with unexpected events and unexpected spending.

Responses to this question were broadly the same for people expecting to retire in the next five years or retiring later.

Turning now to pre-retirees' expectations about how much they would need in retirement, using the current age pension as a baseline – pre-retirees think they will need more than the retirees suggested. This is specifically the case for couples where 25% of pre-retirees who are one of a couple think they will need $1,000 or more a week on top of the pension.

Table 20. **Perceptions of how much would be needed in retirement – pre-retirees**

	Pre-retirees living alone[11]	Pre- retirees living as couple
N=	*142*	*369*
$1,000 or more per week ($52,000 or more per year)	18%	25%
$600-$999 per week ($31,200-$51,999 per year)	23%	29%
$300-$599 per week ($15,600-$31,199 per year)	34%	25%
$1-$299 per week ($1-$15,599 per year)	17%	12%
No additional money	8%	8%

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[11] [11] For context, note that the ASFA Single Comfortable rate is around $44,000.

Pre-retirees were asked how confident they were in what they knew about the following retirement topics: account-based pensions, annuities, eligibility for the age pension, the asset test taper rate and transition to retirement pensions. The results are shown below for all pre-retirees.

The topic most were confident about was eligibility for the age pension, with 63% saying they were fairly or very confident. Even then only 19% said they were very confident they knew about this.

Three in ten pre-retirees expressed some confidence they knew what account-based pensions and annuities are – 43% for transition to retirement options. About half of these pre-retirees expressed a lack of confidence in their knowledge of account-based pensions, annuities, the asset test taper rate and transition to retirement options.

Table 21. **Pre-retirees' confidence in their knowledge**

Pre-retirees	Account-based pensions	Annuities	Eligibility for the age pension	Asset test taper rate	Transition to retirement options
Very confident	7%	6%	19%	7%	12%
Fairly confident	23%	23%	44%	19%	31%
Not very confident	27%	27%	20%	25%	27%
Not at all confident	28%	30%	12%	32%	19%
Don't know	15%	14%	5%	17%	10%

Seven percent said they were very confident in their knowledge of the asset test taper rate. Among retirees likely to retire in the next five years, this rose to 16%.

Pre-retirees' preparations for retirement

To prepare for their retirement, four in ten (43%) pre-retirees have done one or more of: attended a retirement seminar, spoken to an accountant or financial planner about retirement and / or had a formal financial plan prepared, as shown below.

Figure 28. **Retirement preparation by when pre-retirees expect to retire - all pre-retirees**
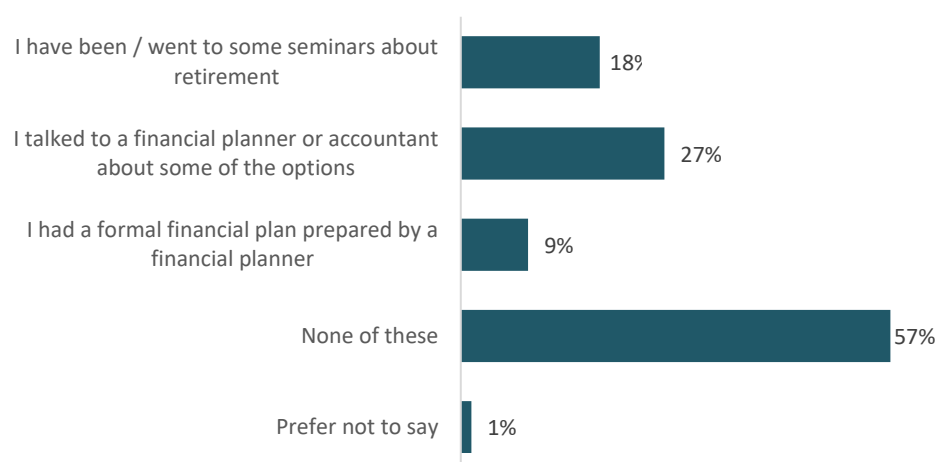
Question: Have you done any of these to help plan for your retirement? MULTIPLE RESPONSE ALLOWED
Base = 572 (422 UMR survey and 150 Q&A survey)

Among pre-retirees planning to retire in the next two years: 64% have done at least one of: have attended seminars (41%), talked to a financial planner or accountant (29%),or had a formal financial plan prepared (14%). Among pre-retirees who are three-five years away from retirement, 51% had done at least one of these compared with six to ten years away- 39% and 35% for over ten years away

As the next table shows, 17% of people thinking they will retire in the next two years or so who have no formal financial plan are waiting until they are closer to retirement. This certainly suggests that pre-retirees equate financial planning for retirement with decisions about how their super is distributed rather than how to accumulate enough for lifestyle in retirement. This in turn suggests the need to explore ways to encourage pre-retirees to seek retirement advice to ensure adequate balances.

Table 22. **Reason for not having formal financial plan – pre-retirees**

	In the next 2 years or so	In about 3-5 years	In about 6-10 years	More than 10 years	I don't expect to retire
N=	*49*	*79*	*107*	*124*	*28*
I already know / knew how I will finance my retirement	36%	24%	12%	13%	36%
I am / was concerned about how much the advice would cost	20%	22%	20%	17%	20%
I just never got round to it	3%	5%	8%	8%	3%
I have never thought about doing this	12%	15%	17%	17%	12%
I am waiting until I am closer to retirement	17%	21%	22%	26%	17%
I wouldn't know who to ask	12%	7%	17%	13%	12%

Question: **IF NO FORMAL PLAN ,** you mentioned you do not or did not have a formal financial plan for retirement . Which of these reasons explain why not MULTIPLE REPONSE
Base = 572 (422 UMR survey and 150 Q&A survey)

Appendix

Research method

After developing the questionnaire with Industry Super Australia, Susan Bell Research conducted a pilot test of the proposed survey. Industry Super Australia then commissioned UMR to conduct an online survey using this questionnaire which took place in December 2019. In January 2020, Susan Bell Research commissioned Q&A Market Research to conduct a second survey using a similar questionnaire, this time conducted largely by phone.

Cogntive pilot test of the proposed survey, followed by revisions	→	Online survey conducted by UMR in December 2019	→	Online and phone survey conducted by Q&A Market Research in 2020

We describe each stage in detail below

The behaviour and expectations survey

An online survey was conducted by UMR with N= 422 pre-retirees and N= 112 retirees. This survey focussed on behaviour and expectations but did not include any questions about respondents' personal financial circumstances.

The UMR survey was conducted online as a cost-effective way to achieve a useful sample size. This survey excluded the questions on superannuation balances and debts, as these questions are unsuitable for such a survey.

- Name of the panel: Qualtrics
- Fieldwork dates: 18-23 Dec 2019
- Type of incentive: non-cash
- Weighting procedures if any: None
- Data cleaning: As standard Qualtric's data review team identifies and removes respondents who have conducted the following sped through the survey, or flatlined
- The method of recruiting panel members: Qualtrics runs "open enrolment" and "by-invitation-only"® recruitment campaigns, via direct email and through online marketing channels, utilizing hundreds of diverse, online affiliate partners and targeted websites. "By-Invitation-Only" is a proprietary method of exclusively inviting pre-validated individuals, or

individuals who share known characteristics, to enrol into our market research panels. They achieve "By-Invitation-Only" by partnering with a diverse set of globally recognized consumer and business-facing brands.

The financial circumstances survey

This survey was conducted in several stages by Q&A Market Research.

The sample size was N=150 pre-retirees and 50 retirees.

First, respondents were screened online using a subset of questions used in the UMR survey. Eligible respondents were then asked if they wanted to take part in a phone survey in which they would be asked about their superannuation balance and other financial information. Those who agreed where provided with information about the questions. They then then completed the phone interview at an agreed time, given them time to look up the information we were asking for.

- Sample source: Q&A Panel Sample
- Online Screener – Retired   2min 42sec
- Online Screener – Working 6min 43sec
- CATI – Retired   6min 57sec
- CATI – Working   9min 30sec
- Fieldwork dates
- Online Screener   07/01/2020 – 15/01/2020
- CATI Fieldwork   10/01/2020 – 16/01/2020
- Type of incentives: GiftPay gift card
- Data cleaning 10% of all cases validated via recording and all open-end responses reviewed for quality and recontacted to update for further information if needed.
- The method of recruiting panel members: Q&A panellists were sent a screener invitation via email. Once qualified they were subsequently contacted via CATI to participate in the full survey.
- Susan Bell Research processed the data using policies and procedure consistent with ISO 20252.
- Testing of electronic scripts, including confirming acceptance

Limitations of the research method

- The nature of online panels makes it difficult to claim that the sample for the online study is representative of the population.
- The multiple stages of the phone survey may have deterred some participants from taking part.
- The financial data we report here is self-reported. We were not able to verify it. However, we did ask respondents specifically to check their balances and paperwork. In general, people rounded up the figures, for example to "$85,000".
- Some of the questions in the survey require people to 'self-report' their own knowledge, behaviour and expectations. Each of these is potentially prone to failings of memory. People

may also choose to present themselves in the best light possible. Other biases may also have been present during the survey.

The sample

The sample was national including regional.

Table 23.   **Gender**

	Retirees	48%
Male	50%	52%
Female	50%	48%

Base = 572 (422 UMR survey and 150 Q&A survey)

Table 24.   **Year of birth**

	Retirees	**Pre-retirees**
1945-49	22%	2%
1950-59	65%	24%
1960-64	8%	28%
1965 -1972	5%	46%

Base = 572 (422 UMR survey and 150 Q&A survey)

Table 25.   **Occupation / previous occupation**

	Retirees	**Pre-retirees**
Professional e.g. lawyer, accountant, GP	19%	16%
Management role / Director	14%	9%
Business Owner/Self-employed	4%	7%
Contractor	3%	3%
Office worker/clerical/administration	22%	21%
Retail/Sales	9%	7%
Skilled trade	12%	14%
Unskilled trade	8%	10%
Other (specify)	9%	12%
Prefer not to say	0%	1%

Base = 572 (422 UMR survey and 150 Q&A survey)

Susan Bell Research

Susan Bell Research is a market and social research agency, based in Sydney. The agency is Australian-owned and managed and AS/NZS ISO 20252 Market and social research certified. All researchers are members of the Australian Market and Social Research Society (AMSRS) and therefore bound by the AMSRS Code of Professional Behaviour. Susan Bell is a Fellow of the AMSRS.

Attachment on Tax Concession Estimates for 2019-20

The modelling in this Attachment was prepared by Phil Gallagher PSM, former Director of the Retirement Income Modelling Taskforce at Treasury from 1993 to 2013 and now the Specialist Retirement Policy Advisor at ISA.

A: Tax expenditures on concessional contributions

Tax expenditures on concessional contributions are defined as the difference between (tax on current taxable income plus concessional contributions) LESS the (tax on current taxable income) less contributions tax plus LISTO minus DIV 293 tax.

It is an estimate of what extra income tax a person would pay if concessional contributions were added to their income less net fund contribution taxes.

The data source for these estimates is the ATO 2% sample file of personal tax returns for 2016-17. The taxable incomes and contributions on the file have been uprated to 2019-20 values using the MYEFO wage forecast. The number of taxpayers has been grown with the MYEFO forecast for employment. Therefore, ISA has created a microsimulation model for 2019-20 which uses 2019-20 tax arrangements.

In any distributional analysis it is very important to analyse the population of direct interest. We are interested in people who work or are at an age where they have some chance of obtaining work. We have excluded the age retired because they will cloud the results, particularly because their super and saving drawdowns are not part of taxable income. Our operational definition of this population is all people in the tax file aged 20 to 59, and people of any other age who have wage, business or partnership income or who have concessional contributions.

In looking at tax expenditures we often are worried whether a group has their fair share. To look at shares we split the population into deciles of taxable income.

These are the percentile boundaries for the deciles. The 10th percentile ($12,122) is the top of the first decile. No one in the first decile will have a personal tax liability.

Percentile										
10	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**95**	**99**
$12,122	$22,061	$31,039	$40,399	$49,827	$60,366	$73,710	$91,669	$124,403	$166,623	$344,281

Table A1: Estimates of contribution tax expenditure aggregates in millions of dollars by taxable income decile and gender for the population 20 to 59 and working people outside this age range.

Taxable Income 2019-20	Gender		All
	male	female	
	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20
	Sum	Sum	Sum
	$m	$m	$m
Decile1	-$13	-$7	-$20
Decile2	$28	$41	$69
Decile3	$239	$383	$622
Decile4	$348	$533	$880
Decile5	$479	$644	$1,123
Decile6	$781	$857	$1,639
Decile7	$985	$903	$1,888
Decile8	$1,471	$1,140	$2,611
Decile9	$2,463	$1,464	$3,927
Decile 10	$3,838	$1,302	$5,140
All	$10,617	$7,261	$17,878

Looking at the total row and column first.

- Males are estimated to have $10.6 billion in contribution tax concessions, women $7.3 billion.
- The bottom decile has a negative tax expenditure because some people with low taxable income pay no income tax, and the taxes on their contributions exceed the LISTO they get back (LISTO is capped at $500, but someone making a $10,000 deductible contribution would pay $1,500 in contributions tax).
- Concessions rise strongly up the deciles because of higher average contributions and more favourable tax breaks.

Comparing the male and female columns:

- Women have more of the concessions in deciles 1 to 6 because they have larger numbers in those deciles. Men have more of the concessions in deciles 8 to 10.

Table A2: Estimates of the number of people by taxable income decile and gender for the population 20 to 59 and working people outside this age range.

	Gender		All
	male	female	
	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20
	Number of People	Number of People	Number of People
Taxable Income 2019-20			
Decile1	584,230	813,391	1,397,621
Decile2	604,420	793,147	1,397,567
Decile3	594,727	802,948	1,397,674
Decile4	589,157	808,464	1,397,621
Decile5	625,681	772,100	1,397,781
Decile6	696,802	700,819	1,397,621
Decile7	764,228	633,340	1,397,567
Decile8	816,336	581,284	1,397,621
Decile9	889,171	508,450	1,397,621
Decile 10	1,014,222	383,399	1,397,621
All	7,178,973	6,797,341	13,976,314

Table A2 shows that women out-number men in deciles 1 to 6 but have lower numbers in the tax file overall (presumably because of lower labour force participation).

Table A3 is Table A2 done as shares.

Table A3: Estimates of the shares of people by taxable income decile and gender for the population 20 to 59 and working people outside this age range.

Taxable Income 2019-20	Gender		All
	male	female	
	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20
	Sum	Sum	Sum
	SHARE of People	SHARE of People	SHARE of People
Decile1	4.2%	5.8%	10.0%
Decile2	4.3%	5.7%	10.0%
Decile3	4.3%	5.7%	10.0%
Decile4	4.2%	5.8%	10.0%
Decile5	4.5%	5.5%	10.0%
Decile6	5.0%	5.0%	10.0%
Decile7	5.5%	4.5%	10.0%
Decile8	5.8%	4.2%	10.0%
Decile9	6.4%	3.6%	10.0%
Decile 10	7.3%	2.7%	10.0%
All	51.4%	48.6%	100.0%

Table A3 shows that women are over-represented in the lower taxable income deciles.

Table A4 is Table A1 done as shares.

Table A4: Estimates of contribution tax expenditure aggregate SHARES by taxable income decile and gender for the population 20 to 59 and working people outside this age range.

Taxable Income 2019-20	Gender		All
	male	female	
	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20
	Sum	Sum	Sum
	SHARE of Total	SHARE of Total	SHARE of Total
Decile1	-0.1%	0.0%	-0.1%
Decile2	0.2%	0.2%	0.4%
Decile3	1.3%	2.1%	3.5%
Decile4	1.9%	3.0%	4.9%
Decile5	2.7%	3.6%	6.3%
Decile6	4.4%	4.8%	9.2%
Decile7	5.5%	5.0%	10.6%
Decile8	8.2%	6.4%	14.6%
Decile9	13.8%	8.2%	22.0%
Decile 10	21.5%	7.3%	28.7%
All	59.4%	40.6%	100.0%

Table A4 along with Table A3 show that:

- Men are 51.4% of taxpayers, but they get 59.4% of the contribution tax concessions;
- Women are 48.6% of taxpayers, but they get 40.6% of the contribution tax concessions;
- The top 10% of taxpayers get 28.7% of the concessions, with men getting 21.5% and women 7.3%;
- The top 20% of taxpayers get 50.7% of the contribution tax concessions, with women in the top 20% getting 15.5%;
- The bottom 50% of taxpayers get 15% of the tax concessions.

The alternative fairness measure to shares is averages.

Table A5: Estimates of the average contribution tax concession by taxable income decile and gender for the population 20 to 59 and working people outside this age range.

	Gender		All
	male	female	
	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20	Contributions Tax Expenditure 2019-20
	Mean	Mean	Mean
Taxable Income 2019-20			
Decile1	-$23	-$8	-$14
Decile2	$46	$52	$49
Decile3	$402	$478	$445
Decile4	$590	$659	$630
Decile5	$765	$835	$804
Decile6	$1,121	$1,223	$1,172
Decile7	$1,289	$1,425	$1,351
Decile8	$1,802	$1,961	$1,868
Decile9	$2,769	$2,879	$2,809
Decile 10	$3,784	$3,395	$3,677
All	$1,479	$1,068	$1,279

Table A5 shows that:

- the average concession for a person in decile 10 ($3,677) is 75 times the average concession in decile 2 ($49);
- within deciles, average concessions for men and women are similar;
- but overall men have an average concession which is almost 40% more than women.

B Tax expenditures on earnings of funds

Tax expenditures on earnings are defined as the difference between (tax on current taxable income plus fund earnings) LESS the (tax on current taxable income) less an estimate of earnings tax received.

It is an estimate of what extra income tax a person would pay if super fund earnings were added to their income less net fund earnings taxes.

ISA has made the estimates of contributions and earnings used in this analysis conservative when compared to the APRA statistics for the year ending June 2018. APRA has employer contributions of

$94.8 billion whereas our total for concessional contributions (includes member deducted contributions) is $79.9 billion. Similarly, APRA estimates the net investment earnings of funds as $190 billion for the year ending June 18 and we conservatively estimate earnings at $112 billion for the year ending June 2020.

Treasury's tax expenditure estimates will be smaller because they remove capital gains concessions, dividend imputation credits, non-realised capital gains, negative gearing deductions, prior year losses and other deductions.

The data source for these estimates is the ATO 2% sample file of personal tax returns for 2016-17. The taxable incomes and contributions on the file have been uprated to 2019-20 values using the MYEFO wage forecast. The number of taxpayers has been grown with the MYEFO forecast for employment. Therefore, ISA has created a microsimulation model for 2019-20 which uses 2019-20 tax arrangements. We have grown balances from 2016-17 to 2019-20 using the gender, age and within-age balance decile growth from 2013-14 to 2016-17.

In any distributional analysis it is very important to analyse the population of direct interest. We are interested in people who have a superannuation balance and are older than 19 years of age.

In looking at tax expenditures we often are worried whether a group has their fair share. To look at shares we split the population into balance deciles

These are the percentile boundaries for the general balance deciles. The 10th percentile ($4,336) is the top of the first decile of balances.

Percentile										
10	20	30	40	50	60	70	80	90	95	99
$4,336	$12,518	$25,207	$43,213	$66,440	$98,550	$140,831	$210,851	$384,950	$649,692	$1,642,598

Table B1: Estimates of earnings tax expenditure aggregates in millions of dollars by balance decile and gender for the population 20 and over with a balance.

	Gender		All
	male	female	
	Earnings Tax Concession 2019-20	Earnings Tax Concession 2019-20	Earnings Tax Concession 2019-20
	Sum	Sum	Sum
Estimated Balance 2019-20	$m	$m	$m
Decile1	$7	$5	$12
Decile2	$48	$40	$88
Decile3	$122	$114	$236
Decile4	$244	$223	$467
Decile5	$409	$384	$792
Decile6	$682	$598	$1,281
Decile7	$1,122	$872	$1,994
Decile8	$1,774	$1,303	$3,077
Decile9	$3,211	$1,964	$5,175
Decile 10	$12,234	$7,645	$19,879
All	$19,853	$13,150	$33,002

Looking at the total row and column first.
- Males are estimated to have $19.9 billion in earnings tax concessions, women $13.2 billion.
- Concessions rise strongly up the deciles because of higher balances and more favourable tax breaks.

Comparing the male and female columns:
- Women have lower concessions in all deciles.

Table B2: Estimates of the number of people by balance decile and gender for the population 20 and over with a balance.

	Gender		All
	male	female	
	Earnings Tax Concession 2019-20	Earnings Tax Concession 2019-20	Earnings Tax Concession 2019-20
	Number of People	**Number of People**	**Number of People**
Estimated Balance 2019-20			
Decile1	644,640	662,527	1,307,167
Decile2	638,856	668,097	1,306,952
Decile3	613,953	693,107	1,307,059
Decile4	613,524	693,482	1,307,006
Decile5	611,596	695,463	1,307,059
Decile6	640,677	666,383	1,307,059
Decile7	691,018	615,988	1,307,006
Decile8	718,492	588,568	1,307,059
Decile9	776,117	530,943	1,307,059
Decile 10	780,722	526,283	1,307,006
All	6,729,594	6,340,840	13,070,434

Table B2 shows that women out-number men in deciles 1 to 6 but have lower numbers in the tax file overall (presumably because of lower labour force participation).

Table B3 is Table B2 done as shares.

Table B3: Estimates of the shares of people by balance decile and gender for the population 20 and over with a balance.

Estimated Balance 2019-20	Gender		All
	male	**female**	
	Earnings Tax Concession 2019-20	**Earnings Tax Concession 2019-20**	**Earnings Tax Concession 2019-20**
	SHARE of Total	SHARE of Total	SHARE of Total
Decile1	4.9%	5.1%	10.0%
Decile2	4.9%	5.1%	10.0%
Decile3	4.7%	5.3%	10.0%
Decile4	4.7%	5.3%	10.0%
Decile5	4.7%	5.3%	10.0%
Decile6	4.9%	5.1%	10.0%
Decile7	5.3%	4.7%	10.0%
Decile8	5.5%	4.5%	10.0%
Decile9	5.9%	4.1%	10.0%
Decile 10	6.0%	4.0%	10.0%
All	51.5%	48.5%	100.0%

Table B3 shows that women are over-represented in the lower balance deciles.

Table B4 is Table B1 done as shares.

Table B4: Estimates of Earnings Tax Concessions 2019- aggregate SHARES by balance decile and gender for the population 20 and over with a balance.

Estimated Balance 2019-20	Gender		All
	male	female	
	Earnings Tax Concession 2019-20	Earnings Tax Concession 2019-20	Earnings Tax Concession 2019-20
	Sum	Sum	Sum
	SHARE of Total	SHARE of Total	SHARE of Total
Decile1	0.0%	0.0%	0.0%
Decile2	0.1%	0.1%	0.3%
Decile3	0.4%	0.3%	0.7%
Decile4	0.7%	0.7%	1.4%
Decile5	1.2%	1.2%	2.4%
Decile6	2.1%	1.8%	3.9%
Decile7	3.4%	2.6%	6.0%
Decile8	5.4%	3.9%	9.3%
Decile9	9.7%	6.0%	15.7%
Decile 10	37.1%	23.2%	60.2%
All	60.2%	39.8%	100.0%

Table B4 along with Table B3 show that:

- Men are 51.5% of taxpayers with a balance, but they get 60.2% of the earnings tax concessions;
- Women are 48.5% of taxpayers with a balance, but they get 39.8% of the earning tax concessions;
- The top 10% of taxpayers get 60.2% of the concessions, with men getting 37.1% and women 23.2%;
- The top 20% of taxpayers get 75.9% of the earnings tax concessions, with women in the top 20% getting 29.2%;
- The bottom 50% of taxpayers get 4.8% of the earnings tax concessions.

The alternative fairness measure to shares is averages.

Table B5: Estimates of the average earnings tax concession by balance decile and gender for the population 20 and over with a balance.

Estimated Balance 2019-20	Gender		All
	male	female	
	Earnings Tax Concession 2019-20	Earnings Tax Concession 2019-20	Earnings Tax Concession 2019-20
	Mean	Mean	Mean
Decile1	$11	$8	$9
Decile2	$74	$61	$67
Decile3	$198	$165	$181
Decile4	$398	$321	$357
Decile5	$668	$552	$606
Decile6	$1,065	$898	$980
Decile7	$1,623	$1,416	$1,526
Decile8	$2,469	$2,215	$2,354
Decile9	$4,137	$3,699	$3,959
Decile 10	$15,670	$14,526	$15,210
All	$2,950	$2,074	$2,525

Table B5 shows that:
- the average earnings concession for a person in decile 10 ($15,210) is 1690 times the average concession in decile 1 ($9);
- within deciles, average concessions for men and women slightly favour men;
- but overall men have an average concession which is 42% more than women.

C Tax expenditures on combined contributions to and earnings of funds

The combined concessions are higher than the addition of the concessions on contributions and the concessions on earnings because adding both to income means that some more people cross tax brackets.

Combined tax expenditures are defined as the difference between (tax on current taxable income plus fund earnings plus contributions) LESS the (tax on current taxable income) less an estimate of earnings tax + contributions tax paid by the fund, plus LISTO paid to the fund, less Div293 tax paid by the fund or the individual.

It is an estimate of what extra income tax a person would pay if super fund earnings and concessional contributions were added to their income less net fund taxes.

ISA's estimates of contributions and earnings used in this analysis are conservative when compared to the APRA statistics for the year ending June 2018. APRA has employer contributions of $94.8 billion whereas our total for concessional contributions (including member deducted contributions) is $79.9 billion. Similarly, APRA estimates the net investment earnings of funds as $190 billion for the year ending June 2018 and we conservatively estimate earnings at $112 billion for the year ending June 2020.

Treasury's tax expenditure estimates will be smaller because they remove capital gains concessions, dividend imputation credits, non-realised capital gains, negative gearing deductions, prior year losses and other deductions.

The data source for these estimates is the ATO 2% sample file of personal tax returns for 2016-17. The taxable incomes and contributions on the file have been uprated to 2019-20 values using the MYEFO wage forecast. The number of taxpayers has been grown with the MYEFO forecast for employment. We have created a microsimulation model for 2019-20 which uses 2019-20 tax arrangements. We have grown balances from 2016-17 to 2019-20 using the gender, age and within-age balance decile growth from 2013-14 to 2016-17. The uprated balances have been given a 5% return and a 7% effective tax rate to keep estimates conservative relative to APRA.

In any distributional analysis it is very important to analyse the population of direct interest. We are interested in people who have a superannuation balance and are older than 19 years of age. This differs from the working population used in our initial analysis of contributions concessions.

In looking at tax expenditures we often are worried whether a group has their fair share. To look at shares we split the population into deciles of taxable income.

These are the percentile boundaries for the Taxable Income deciles. The 10th percentile ($13,771) is the top of the first decile.

Percentile										
10	20	30	40	50	60	70	80	90	95	99
$13,771	$23,965	$33,606	$42,788	$52,061	$62,437	$75,712	$93,594	$126,288	$168,669	$344,681

Table C1: Estimates of combined tax expenditure aggregates in millions of dollars by taxable income decile and gender for the population 20 and over with a balance.

Taxable Income 2019-20	Gender		All
	male	**female**	
	Combined tax concessions 2019-20	**Combined tax concessions 2019-20**	**Combined tax concessions 2019-20**
	Sum	**Sum**	**Sum**
	$m	$m	$m
Decile1	$662	$459	$1,121
Decile2	$707	$727	$1,434
Decile3	$1,025	$1,322	$2,347
Decile4	$1,247	$1,562	$2,809
Decile5	$1,542	$1,819	$3,361
Decile6	$1,970	$1,964	$3,934
Decile7	$2,438	$2,144	$4,582
Decile8	$3,713	$2,801	$6,513
Decile9	$5,730	$3,446	$9,176
Decile 10	$11,751	$4,488	$16,240
All	$30,785	$20,731	$51,516

Looking at the total row and column first.
- Males are estimated to have $30.8 billion in combined tax concessions, women $20.7 billion.
- Concessions rise strongly up the deciles because of higher balances, higher contributions and more favourable tax breaks.

Comparing the male and female columns:
- Women have lower concessions in deciles 1 and 6 to 10.

Table C2: Estimates of the number of people by Taxable Income decile and gender for the population 20 and over with a balance.

Taxable Income 2019-20	Gender		All
	male	female	
	Combined tax concessions 2019-20	Combined tax concessions 2019-20	Combined tax concessions 2019-20
	Number of People	Number of People	Number of People
Decile1	545,992	761,229	1,307,220
Decile2	555,524	751,482	1,307,006
Decile3	532,228	774,564	1,306,792
Decile4	545,028	762,192	1,307,220
Decile5	596,119	710,833	1,306,952
Decile6	664,723	642,444	1,307,167
Decile7	723,954	582,998	1,306,952
Decile8	770,654	536,405	1,307,059
Decile9	839,311	467,694	1,307,006
Decile 10	956,061	350,998	1,307,059
All	6,729,594	6,340,840	13,070,434

Table C2 shows that women out-number men in deciles 1 to 5 but have lower numbers in the tax file overall (presumably because of lower labour force participation).

Table C3 is Table C2 done as shares.

Table 3: Estimates of the shares of people by taxable income decile and gender for the population 20 and over with a balance.

Taxable Income 2019-20	Gender		All
	male	female	
	Combined tax concessions 2019-20	Combined tax concessions 2019-20	Combined tax concessions 2019-20
	SHARE of Total	SHARE of Total	SHARE of Total
Decile1	4.2%	5.8%	10.0%
Decile2	4.3%	5.7%	10.0%
Decile3	4.1%	5.9%	10.0%
Decile4	4.2%	5.8%	10.0%
Decile5	4.6%	5.4%	10.0%
Decile6	5.1%	4.9%	10.0%
Decile7	5.5%	4.5%	10.0%
Decile8	5.9%	4.1%	10.0%
Decile9	6.4%	3.6%	10.0%
Decile 10	7.3%	2.7%	10.0%
All	51.5%	48.5%	100.0%

Table C3 shows that women are over-represented in the lower balance deciles.

Table C4 is Table 1 done as shares.

Table C4: Estimates of contribution tax expenditure aggregate SHARES by taxable income decile and gender for the population 20 and over with a balance

	Gender		All
	male	female	
	Combined tax concessions 2019-20	Combined tax concessions 2019-20	Combined tax concessions 2019-20
	Sum	Sum	Sum
Taxable Income 2019-20	SHARE of Total	SHARE of Total	SHARE of Total
Decile1	1.3%	0.9%	2.2%
Decile2	1.4%	1.4%	2.8%
Decile3	2.0%	2.6%	4.6%
Decile4	2.4%	3.0%	5.5%
Decile5	3.0%	3.5%	6.5%
Decile6	3.8%	3.8%	7.6%
Decile7	4.7%	4.2%	8.9%
Decile8	7.2%	5.4%	12.6%
Decile9	11.1%	6.7%	17.8%
Decile 10	22.8%	8.7%	31.5%
All	59.8%	40.2%	100.0%

Table C4 along with Table C3 show that:

- Men are 51.5% of taxpayers with a balance, but they get 59.8% of the combined tax concessions;
- Women are 48.5% of taxpayers with a balance, but they get 40.2% of the combined tax concessions;
- The top 10% of taxpayers get 31.5% of the concessions, with men getting 22.8% and women 8.7%;
- The top 20% of taxpayers get 49.3% of the combined tax concessions, with women in the top 20% getting 15.4%;
- The bottom 50% of taxpayers get 21.5% of the combined tax concessions.

The alternative fairness measure to shares is averages.

Table C5: Estimates of the average combined tax concession by taxable income decile and gender for the population 20 and over with a balance.

Taxable Income 2019-20	Gender		All
	male	female	
	Combined tax concessions 2019-20	Combined tax concessions 2019-20	Combined tax concessions 2019-20
	Mean	Mean	Mean
Decile1	$1,212	$602	$857
Decile2	$1,273	$967	$1,097
Decile3	$1,925	$1,707	$1,796
Decile4	$2,288	$2,049	$2,149
Decile5	$2,587	$2,559	$2,572
Decile6	$2,964	$3,058	$3,010
Decile7	$3,368	$3,677	$3,506
Decile8	$4,818	$5,221	$4,983
Decile9	$6,827	$7,368	$7,020
Decile 10	$12,291	$12,788	$12,425
All	$4,575	$3,270	$3,941

Table C5 show that:
- the average combined concession for a person in decile 10 ($12,425) is 14.5 times the average concession in decile 1 ($857);
- within deciles, average concessions for men and women slightly favour men;
- but overall men have an average concession which is 42% more than women.

D Combined concessions by balance decile

Balance deciles reflect cumulative processes and are more extreme.

These are the percentile boundaries for the general balance deciles. The 10th percentile ($4,336) is the top of the first balance decile.

Percentile										
10	20	30	40	50	60	70	80	90	95	99
$4,336	$12,518	$25,207	$43,213	$66,440	$98,550	$140,831	$210,851	$384,950	$649,692	$1,642,598

Table D1: Estimates of combined tax expenditure aggregates in millions of dollars by balance decile and gender for the population 20 and over with a balance.

	Gender		All
	male	female	
	Combined tax concessions 2019-20	Combined tax concessions 2019-20	Combined tax concessions 2019-20
	Sum	Sum	Sum
Estimated Balance 2019-20	$m	$m	$m
Decile1	$176	$148	$324
Decile2	$449	$404	$853
Decile3	$662	$626	$1,288
Decile4	$915	$820	$1,735
Decile5	$1,216	$1,082	$2,297
Decile6	$1,671	$1,382	$3,052
Decile7	$2,391	$1,764	$4,155
Decile8	$3,380	$2,401	$5,781
Decile9	$5,416	$3,222	$8,638
Decile 10	$14,510	$8,883	$23,393
All	$30,785	$20,731	$51,516

Looking at the total row and column first.

- Males are estimated to have $30.8 billion in combined tax concessions, women $20.7 billion.
- Concessions rise strongly up the deciles because of higher balances, higher contributions and more favourable tax breaks.

Comparing the male and female columns:

- Women have lower concessions in all deciles.

Table D2: Estimates of the number of people by balance decile and gender for the population 20 and over with a balance.

Table D2 shows that women out-number men in deciles 1 to 6 but have lower numbers in the tax file overall (presumably because of lower labour force participation).

Table D3 is Table D2 done as shares.

Table D3: Estimates of the shares of people by balance decile and gender for the population 20 and over with a balance.

Estimated Balance 2019-20	Gender		All
	male	female	
	SHARE of People	SHARE of People	SHARE of People
Decile1	4.9%	5.1%	10.0%
Decile2	4.9%	5.1%	10.0%
Decile3	4.7%	5.3%	10.0%
Decile4	4.7%	5.3%	10.0%
Decile5	4.7%	5.3%	10.0%
Decile6	4.9%	5.1%	10.0%
Decile7	5.3%	4.7%	10.0%
Decile8	5.5%	4.5%	10.0%
Decile9	5.9%	4.1%	10.0%
Decile 10	6.0%	4.0%	10.0%
All	51.5%	48.5%	100.0%

Table 3 shows that women are over-represented in the lower balance deciles.

Table D4 is Table D1 done as shares.

Table D4: Estimates of Combined tax expenditure aggregate SHARES by balance decile and gender for the population 20 and over with a balance.

	Gender		All
	male	female	
	Combined tax concessions 2019-20	Combined tax concessions 2019-20	Combined tax concessions 2019-20
	Sum	Sum	Sum
Estimated Balance 2019-20	SHARE of Total	SHARE of Total	SHARE of Total
Decile1	0.3%	0.3%	0.6%
Decile2	0.9%	0.8%	1.7%
Decile3	1.3%	1.2%	2.5%
Decile4	1.8%	1.6%	3.4%
Decile5	2.4%	2.1%	4.5%
Decile6	3.2%	2.7%	5.9%
Decile7	4.6%	3.4%	8.1%
Decile8	6.6%	4.7%	11.2%
Decile9	10.5%	6.3%	16.8%
Decile 10	28.2%	17.2%	45.4%
All	59.8%	40.2%	100.0%

Table D4 along with Table D3 show that:

- Men are 51.5% of taxpayers with a balance, but they get 59.8% of the combined tax concessions;
- Women are 48.5% of taxpayers with a balance, but they get 40.2% of the combined tax concessions;
- The top 10% of taxpayers get 45.4% of the concessions, with men getting 28.2% and women 17.2%;
- The top 20% of taxpayers get 62.2% of the combined tax concessions, with women in the top 20% getting 23.5%;
- The bottom 50% of taxpayers get 12.6% of the combined tax concessions.

The alternative fairness measure to shares is averages

Table D5: Estimates of the average combined tax concession by balance decile and gender for the population 20 and over with a balance.

	Gender		All
	male	female	
	Combined tax concessions 2019-20	Combined tax concessions 2019-20	Combined tax concessions 2019-20
	Mean	Mean	Mean
Estimated Balance 2019-20			
Decile1	$273	$223	$248
Decile2	$702	$605	$652
Decile3	$1,078	$903	$985
Decile4	$1,491	$1,182	$1,327
Decile5	$1,987	$1,556	$1,758
Decile6	$2,608	$2,073	$2,335
Decile7	$3,460	$2,864	$3,179
Decile8	$4,705	$4,080	$4,423
Decile9	$6,978	$6,069	$6,609
Decile 10	$18,586	$16,879	$17,898
All	$4,575	$3,270	$3,941

Table D5 show that:

- the average combined concession for a person in decile 10 ($17,898) is 72 times the average concession in decile 1 ($248);
- within deciles, average concessions for men and women slightly favour men;
- but overall men have an average concession which is 40% more than women.

Table D6 shows average combined concession differences for the SG population (employees) versus non-employees (business owners and self-employed people and the retired).

Non-employees have 47% higher average concessions than employees eligible for the SG. This result is driven entirely by those with higher balances in decile 10 – and these will mostly be using SMSFs. Of the $23.4 billion of concessions to the top balance decile, $13.8 billion go to people who are not in the SG population. Of the $1,242 billion dollars in assets in the top asset deciles, $795 billion is held by people not eligible for the SG with an average balance of $1,14 million compared to $729,000 for the decile 10 SG eligible.

Table D6 Average combined concession differences for the SG population (employees) versus non-employees

	Whether in SG eligible population		All
	No	Yes	
	Combined tax concessions 2019-20	Combined tax concessions 2019-20	Combined tax concessions 2019-20
	Mean	Mean	Mean
Estimated Balance 2019-20			
Decile1	$66	$335	$248
Decile2	$169	$788	$652
Decile3	$303	$1,174	$985
Decile4	$517	$1,557	$1,327
Decile5	$818	$2,022	$1,758
Decile6	$1,291	$2,621	$2,335
Decile7	$2,004	$3,497	$3,179
Decile8	$3,079	$4,824	$4,423
Decile9	$4,907	$7,316	$6,609
Decile 10	$19,851	$15,689	$17,898
All	$5,149	$3,499	$3,941

Table D7: Average Balance by Balance Deciles

	Whether in SG eligible population	Whether in SG eligible population	All
	No	YES	
	Estimated Balance 2019-20	Estimated Balance 2019-20	Estimated Balance 2019-20
	Mean	Mean	Mean
Estimated Balance 2019-20			
Decile1	$1,402	$2,012	$1,814
Decile2	$8,045	$8,096	$8,085
Decile3	$18,520	$18,488	$18,495
Decile4	$33,932	$33,979	$33,969
Decile5	$54,253	$54,195	$54,208
Decile6	$81,563	$81,640	$81,623
Decile7	$118,042	$118,189	$118,158
Decile8	$173,120	$172,273	$172,468
Decile9	$284,546	$277,307	$279,431
Decile 10	$1,145,272	$729,436	$950,210
All	$298,176	$125,550	$171,844

Table D8: TOTAL Assets by balance decile and gender, 2019-20

Estimated Balance 2019-20	Whether in SG population:		All
	No	**Yes**	
	Estimated Balance 2019-20	Estimated Balance 2019-20	Estimated Balance 2019-20
	Sum	**Sum**	**Sum**
Decile1	$593,197,894	$1,778,351,966	$2,371,549,859
Decile2	$2,306,259,443	$8,260,232,211	$10,566,491,654
Decile3	$5,235,026,166	$18,939,154,430	$24,174,180,596
Decile4	$9,789,486,197	$34,608,056,785	$44,397,542,983
Decile5	$15,553,100,939	$55,299,907,987	$70,853,008,927
Decile6	$22,910,711,897	$83,776,045,817	$106,686,757,714
Decile7	$32,873,074,050	$121,559,702,827	$154,432,776,877
Decile8	$52,021,831,223	$173,403,573,532	$225,425,404,755
Decile9	$109,155,806,930	$256,077,688,322	$365,233,495,252
Decile 10	$794,715,857,003	$447,214,037,983	$1,241,929,894,986
All	$1,045,154,351,742	$1,200,916,751,861	$2,246,071,103,603