

19 April 2024

The Treasury
Superannuation Efficiency and Performance Unit
Retirement, Advice, and Investment Division

By email: YFYS@treasury.gov.au

Re: Submission for the Consultation paper: Annual Superannuation Performance Test – design options

I welcome the opportunity to respond to the Treasury's Consultation Paper on the design options for the Annual Superannuation Performance Test.

Introduction:

I have completed a Masters by Research (Finance) from The University of South Australia (UniSA), where I also work as a sessional University lecturer. I am also a Certified Financial Planner® with 24 years of practitioner experience, specialising in superannuation advice. My interest in superannuation research is a result of interacting directly with individuals who are attempting to navigate the compulsory, yet complex, superannuation environment.

The responses to the consultation paper questions provided in this submission are based on the findings from my Masters by Research thesis titled: *'To what extent does the MySuper dashboard representative member represent all individual members' (2024)*.

The focus of the research was to uncover if the MySuper Dashboard representative member (with a \$50,000 account balance) investment return is illustrative of what members of that superannuation fund actually earn. The research utilised a 'personal rate of investment return' calculation, specifically the Extended Internal Rate of Return (XIRR) formula. This approach cast light on the range of investment returns that individual members receive whilst they are invested in the same MySuper product (i.e., with identical asset allocations).

As the data was sourced directly from a superannuation fund (53.770 individual member accounts), the content is valid, and the analysis outputs provide reliable representations of the actual investment returns earned by the individual superannuation fund members.

Please note that the views presented in this submission do not represent any organisation or stakeholder group.

Key Point

1. The current time-weighted cash-flow methodology for the Annual Superannuation Performance Test is calculating the performance of the superannuation fund, rather than the performance of an individual member's account. However, the consultation paper constantly refers to 'improving member outcomes'. If improving member outcomes is a goal of the annual performance test, then it needs to include a performance calculation at the individual member level.

Focus of submission:

This submission is focused on a preferable recommendation for one option, otherwise improvements to either two other options:

Preferable

Option 3.b Multi-metric framework

Include a metric based on the calculation of individual members personal rates of investment returns.

Improvements

Option 1. Status quo with the following change

Option 3.a Multi-metric framework with the following change

Cease using a single account balance for the Representative Administration Fees and Expenses (RAFE) or 'representative member'. Specifically, use the differing account balances as per the APRA Heatmap.

Benefits of the proposed recommendations:

From my research and professional experience, the inclusion of individual personal rates of return performance calculations or using representative member fees at differing account balance amounts will assist with the relevancy and transparency of the Annual Superannuation Performance Test. It will also result in a beneficial improvement to other related elements of the superannuation system regulatory framework, such as:

- Individualised performance calculation in annual statements – see Appendix C
- MySuper Product Dashboards by providing relevant comparisons
- Member Outcome assessments by display the actual outcomes of member cohorts invested in the superannuation fund
- Target Market Determinations (TMD's) by clearly identifying cohorts or account characteristics that an investment option is or is not suited to
- Impact of personal insurance in the superannuation system
- Enhance the sophistication of Treasury's Australian Retirement Incomes and Assets (MARIA) model by using a dynamic, cohort based investment earnings assumptions instead of a static rate of return
- Impact on long-term account balances for members who accessed the COVID-19 Early release of super scheme
- Justifying legislation amendments, such as the recent change to Super Guarantee Contributions (my research uncovered members who receive more frequent SG contributions had a statically significant higher personal rate of investment return)
- Legislative instruments on superannuation calculators and retirement estimates – as per my submission to ASIC's CP 351 Superannuation forecasts: Update to relief and guidance: https://download.asic.gov.au/media/rf2lufu2/20220623-cp351-submission-mark-bastiaans_redacted.pdf

Responses to Consultation Paper questions

Option 1. Status quo – SAA Benchmark Portfolio

Options to improve the current methodology

The Consultation questions for Option 1 (questions 2 to 8) do not specifically ask for responses in relation to the calculation of a product's Representative Administration Fees and Expenses (RAFE). However, the consultation paper suggests that the assumption of the \$50,000 member balance could be set at a different amount.

Based on my research findings, I would recommend that the RAFE be calculated at differing member balances. Specifically, the balances used in the APRA Heatmap (i.e., \$10,000, \$20,000, \$50,000, \$100,000, and \$250,000).

Option 3. Multi-metric framework

3a. Alignment with the APRA heatmap

Consultation Question

15. Would greater alignment to the APRA heatmaps improve the sophistication of the test?

As uncovered in my research, account balance has a statistically significant impact on personal rates of return. Therefore, if the Annual Superannuation Performance Test was aligned with the APRA heatmap, incorporating differing account balances would enhance the sophistication of the test by uncovering if all members in the investment option are passing the test.

3b. Targeted three-metric test

Consultation Question

24. Are these the right measures of performance or are there other more important indicators of performance that should be measured in addition to or instead of those outlined?
What metric should be used to assess these indicators?

I agree with the stakeholders who argue that the Annual Superannuation Performance Test should calculate the absolute return of the product, incorporating the actual fees charged to members. This recommendation is based on meetings with my financial planning clients whose primary concern is the actual performance of their own account.

As identified by stakeholders during the Your Future, Your Super Review, I recommend a performance test metric that is calculated at the individual member account level, with actual returns, and real costs is incorporated into the Annual Superannuation Performance Test.

A worked example of an actual super fund member account demonstrating the personal rate of return performance calculation is included in Appendix A (all transactions for a single year) & Appendix B (1, 5, 10 year comparisons between the fund declared investment return and the members personal rate of return).

Broader considerations for reform

Products to consider in an expanded test

Consultation Question

32. Do you agree that retirement phase, single-sector and externally-managed products are suitable for testing? Why or why not?

33. Should different assessment methods be applied to different cohorts of products?

I agree with the stakeholders that have advocated for the test to apply to all APRA-regulated superannuation products. Further, I believe all superannuation funds should undertake a form of individual account performance measurement to assess the member outcomes being achieved. I strongly believe that members in all products have the right to be afforded the same transparency and protection from underperformance as those currently covered by the test.

Communicating a personal rate of return will inform the member their actual investment return, after all fees and charges. The member can then decide if they 'value' the benefits and services of more complex arrangements.

Fees

I agree with the stakeholders that have raised various concerns with the way fees are assessed under the current test.

Investment fees

The issue of accurate reporting of investment fees was identified in the Productivity Commission's inquiry: 'Among the most egregious [transgression] is serial under-reporting and non-reporting of indirect investment costs' (Productivity Commission 2018, p. 616).

As a personal rate of return method incorporates the actual transactions that have occurred within a members account, all investment fees (both disclosed and non-disclosed) have been deducted, thereby reflecting the products genuine cost.

Representative member balance

Consultation Questions

38. Are the current assumptions made in comparing fees acceptable? For example, should the \$50,000 representative member balance be adjusted based on the median member balance for a product cohort?

Based on the findings of my research, I support the views of the stakeholders that have raised concerns that the current \$50,000 representative member balance is not fit-for-purpose. I therefore support the option to amend the representative member balance used within the performance test to better represent members within different product cohorts, and as the market shifts over time.

Increased administrative burden on trustees

Additional data collection cannot be avoided if a more transparent and sophisticated performance measurement test regime is to be implemented.

While a personal rate of return performance metric will involve additional data collection from super fund trustees, the upside benefits to the government, stakeholders, and members understanding how the superannuation system is delivering member outcomes is certainly worth the effort and expense. The additional data collection can be incorporated in APRA's existing Superannuation Data Transformation (SDT) project. In particular, Phase 2 – Membership & Insurance of the STD Collections roadmap.

Research supporting submission:

The motivation to undertake the research evolved from a finding in the final report of the Productivity Commission's inquiry, *Superannuation: Assessing Efficiency and Competitiveness*:

Super has been a large and compulsory public policy endeavour, yet there is remarkably little publicly available data on the outcomes that individual members are actually experiencing — in terms of the returns they earn, the fees they pay, the insurance they hold and the outcomes they receive over time. (Productivity Commission 2018, p. 27)

The aim of the study was to look more closely into this lack of transparency by calculating and analysing individual superannuation fund member's investment performance outcomes. Knowing what members, or cohorts' actual outcomes are helps trustees to evaluate if they are delivering the best financial outcomes for their members.

The literature review revealed the presence of cash-flows (contributions and deductions) is a critical element when calculating investment performance. Specifically, there are two investment performance return calculation methods associated with the treatment of cash-flows, time-weighted and money-weighted rates of return. In comparing the difference between the two methodologies, Davies & Spaulding (2011) suggested that:

Time-weighted returns are useful to compare investment managers and to understand how a manager performed. Money-weighted returns are useful to show investors how their money performed. (Davies & Spaulding 2011, p. 6)

The study used de-identified, confidential, member-level data (consisting of transaction dates and categorised amounts) and Microsoft Excel's 'Extended Internal Rate of Return' (XIRR) formula to calculate a money-weighted personal rate of return for 53,770 members invested exclusively in the MySuper product of a single superannuation fund between 1 July 2018 and 30 June 2019. As a result of the Protecting Your Super (PYS) legislation, members with an account balance below \$6,000 were excluded from the study. Since all members in the study were invested in the same MySuper investment option, differences in personal rates of return were not attributable to variances in investment risk allocation.

For this research, primary data was obtained from the superannuation fund's ATO Member Contributions Statement (MCS) – now the Member Account Attributes Service (MAAS) and Member Account Transaction Service (MATS) – and their fund administration system. The data was provided via Excel.CSV comma delimited data format.

The data collected included demographic and geographic information about their members, dated and categorised transactions, opening and closing account balances, and annual salary (if held, generally for insurance policy provision).

XIRR formula calculation

Microsoft's XIRR function – a function is a piece of code that executes a predefined calculation in the Excel program application – was used to calculate the money-weighted, annualised, personal rate of return. The XIRR function arguments incorporate the daily value of the investment based on the specific date that each cash flow (contributions and deductions) occurs. The Microsoft Excel syntax for the XIRR function is:

```
=XIRR (values, dates, [guess])
```

The Arguments include:
Values: Array of cells that contain cash flows
Dates: Dates that correspond to the cash flows
Guess: [optional] An estimate for expected IRR
If the guess is not provided the default is 0.1 (or 10%)
(Microsoft 2018).

The [guess] argument was not entered in the study as the function was able to arrive at the XIRR result within the fixed number of iterations built into the function. If it was not possible to calculate an accurate rate, the #NUM error would have been returned, which did not occur in this study.

Cash flow sign convention

Cash flow sign convention (i.e., positive or negative numbers) is used by financial calculators and spreadsheet functions like XIRR to indicate the direction of the cash flow (i.e., addition or withdrawal from the investment). In accordance with the XIRR function requirements, the series of values must contain at least one positive and one negative value. In this study, the opening balance was assigned a positive (+) value and the closing balance a negative value (-). As this research assesses the investment performance from the member's perspective (i.e., not the superannuation fund's performance), contributions have been assigned as inflows (+) and deductions as outflows (-).

Treatment of specific transactions

Investment fees

As previously stated, the issue of accurate reporting of investment fees was identified in the Productivity Commission's inquiry. As the study incorporates the actual amount credited to member accounts, it is expected that all investment fees (both disclosed and non-disclosed) have been deducted, thereby reflecting their genuine cost.

Fund taxes

Contributions tax and investment earnings are taxed at a rate of up to a maximum of 15%. However, the actual (effective) rate of tax paid is quite different as superannuation funds can utilise tax deductions from operational expenses and the impact of franking credits and capital gains discounts.

As the contributions tax is figure is known and included in the transaction list provided by the super fund, the XIRR function will use an effective 'net of tax' contribution rate.

The MySuper dashboard requires investment performance to be reported after tax. As investment returns are credited to member accounts' net of tax, it is expected that all investment earnings taxes have been incorporated into the investment returns.

Insurance premiums

Members of the participating super fund are provided with default and optional Life, Total and Permanent Disablement (TPD) and Income Protection insurance policies. While insurance premiums provide a conditional supplementary benefit – a quantifiable amount to be payable in the event of death, disability, or loss of income to the member or their Estate, the payments diminish the amount of investable funds available to generate investment returns (e.g., like an administration fee). The data set included insurance premiums as an outflow with a negative (-) cash flow sign. If retained in the cash flow [Values] array of the XIRR function, the insurance premium transaction would be treated as though it was a return of capital to the member (i.e., a dividend or interest payment, increasing the calculated investment return). However, this is not accurate as the member does not receive a return of capital; it is, in fact, an expense that reduces the amount of capital available for investment.

Formula precedence

Validation of the XIRR formula is provided by precedents established by the Chartered Financial Analyst (CFA) Institute and Canadian government regulations.

Chartered Financial Analyst (CFA) Institute

In 1995, the Chartered Financial Analyst (CFA) Institute – the global association of investment management professionals – sponsored and funded the Global Investment Performance Standards (GIPS) committee to develop what has now been accepted as the global best practice standard for calculating and presenting investment performance returns. In establishing the GIPS to develop standards for investment performance calculations, the CFA Institute, in reference to the treatment of investor-directed cash flows, stated 'investment managers should not be rewarded or penalised for investment decisions outside of their control' (CFA Institute 2020a, p. 60).

Prior to 2020, the GIPS required a time-weighted rate of return because it removed the effects of client (not fund) initiated cash flows. The stated view was that a time-weighted rate of return 'best reflects the investment firm's ability to manage the portfolios according to a specified mandate, objective, or strategy, and is the basis for the comparability of composite returns among firms on a global basis' (CFA Institute 2010, p. 1). However, an inclusion in the 2020 GIPS offered the choice for investment managers to use a money-weighted return. This came as a result of the CFA Institute statement that this 'gives firms flexibility to choose the returns calculation methodology most appropriate for the type of account' (CFA Institute 2019, p. 1). Where a money-weighted return methodology is used by an investment manager, Section 2 of the 2020 GIPS Explanation of the Provisions, states that 'many investment companies use Microsoft Excel's XIRR function to calculate money-weighted returns as the formula calculates an annualised Internal Rate of Return' (CFA Institute 2020b, p. 17).

Canadian Securities Administrators (CSA)

International precedence for calculating personal rates of return using a money-weighted formula is in evidence with the Canadian Securities Administrators (CSA). Amendments to National Instrument 31-103 (NI 31-103) came into force on 15 July 2013, establishing the 'Client Relationship Model Phase 2' (or CRM2) report (The Mutual Fund Dealers Association of Canada (MFDA) 2018). The CSA's intention for the CRM2 report was to provide greater transparency about the cost and performance of client accounts 'since each investor has a different combination of deposits and withdrawals, each investor could have a different personal rate of return' (The Investment Funds Institute of Canada (IFIC) 2017, p. 1).

Following consultation, members of the Investment Funds Institute of Canada (IFIC) supported the use of the IRR formula to calculate the money-weighted rate of return (2016). Additionally, in a CSA Frequently Asked Questions publication on the implementation of the CRM2 reporting standards, it was stated that while the National Instrument 31-103 (NI 31-103) did not prescribe any particular calculation method, it acknowledged that an investment firm may provide performance reports calculated using Microsoft Excel's XIRR function (Ontario Securities Commission 2016).

Study results

The research found that 84.2 per cent of the participating members received a personal rate of return below that of the time-weighted methodology MySuper Dashboard 'representative member' (of between 7.00% and 7.10% - the actual figure was not disclosed to ensure that the participating super fund remained anonymous). The mean XIRR for the study sample was 5.93%, while the median was 6.6%. The dispersion of XIRR results is displayed in the scatterplot in Figure 1:

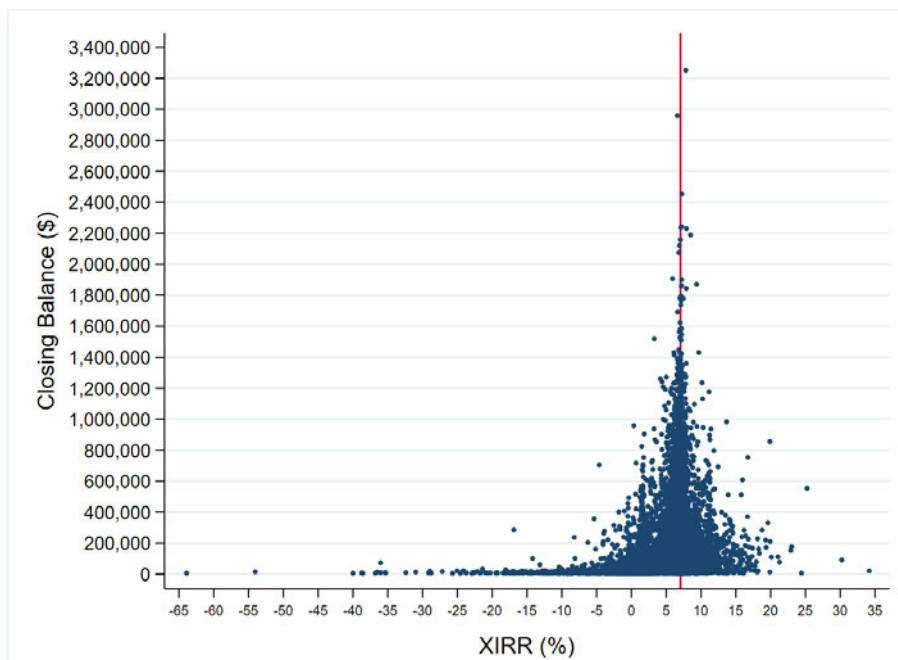


Figure 1: Scatterplot distribution of members XIRR, by closing account balance. The red line plots the MySuper Dashboard 'representative member' investment return.

The median XIRR for the \$6,000 to \$10,000 closing account balance group was approximately 46% of the stated MySuper Benchmark investment return. This increases to approximately 96% for members with a closing account balance above \$100,000 (see Table 1).

Closing Balance Groups	Frequency	Mean XIRR (%)	Median XIRR (%)	Median XIRR as percentage of MySuper Benchmark (%)
\$6,000 - \$10,000	2,837	2.431	3.219	45.660
\$10,001 - \$15,000	2,728	3.542	4.358	61.816
\$15,001 - \$20,000	2,278	4.309	5.010	71.064
\$20,001 - \$30,000	3,591	5.038	5.477	77.688
\$30,001 - \$40,000	2,865	5.589	5.844	82.894
\$40,001 - \$50,000	2,507	5.911	6.065	86.028
\$50,001 - \$100,000	9,718	6.271	6.406	90.865
\$100,001 - \$500,000	24,834	6.679	6.754	95.801
\$500,001 - \$1,000,000	2,186	6.866	6.898	97.844
Above \$1,000,001	226	6.968	7.003	99.333

Table 1: XIRR by closing account balance groups

Impact of transactions

The study's regression analysis uncovered that transactions have a statistically significant impact on personal rate of return.

No transactions recorded

In the study, only 6% of members recorded no transactions during the financial year – that is, they only had an opening and closing balance recorded (see Table 2).

Transactions received	Frequency	%
No	3,228	6
Yes (>=1)	50,542	94
Total	53,770	100

Table 2: Frequency of members' transaction received status

If there are no transactions, then both the time-weighted and money-weighted rate of return calculation methods will deliver similar results, as cash flows are not relevant in the formula (see Figure 2).

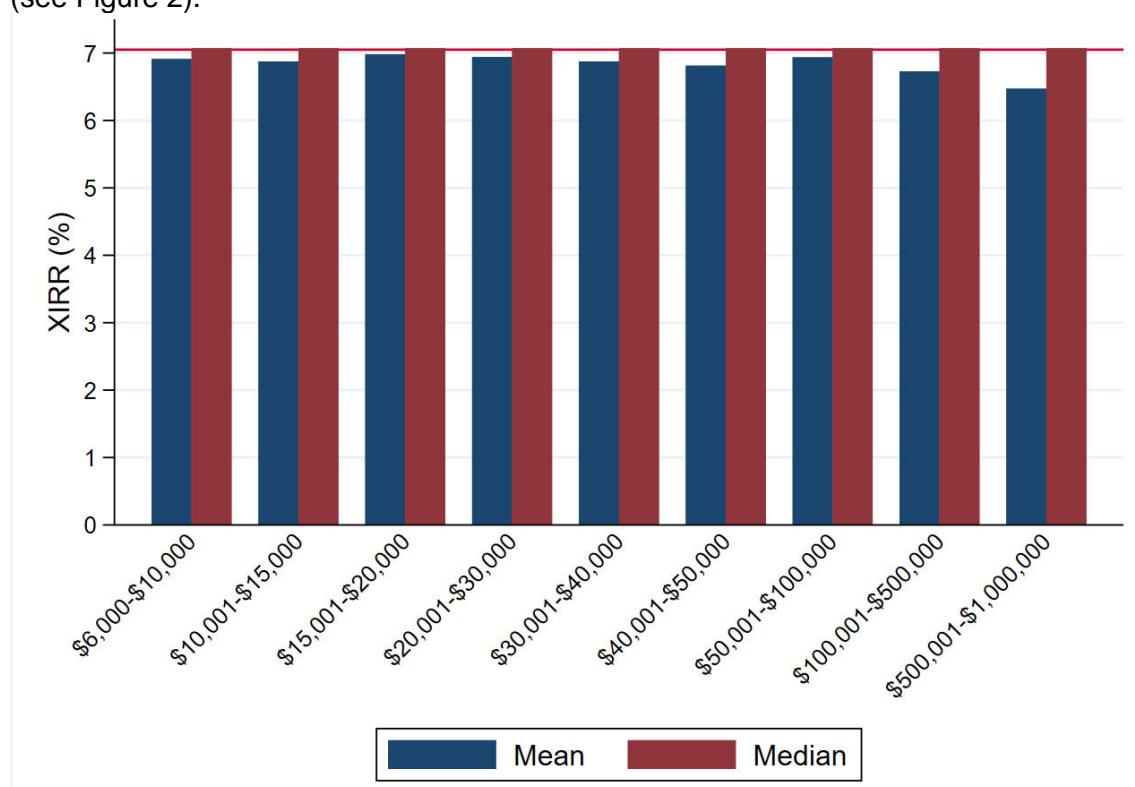


Figure 2: XIRR for members with no transactions by closing balance groups. The red line plots the MySuper Dashboard 'representative member' investment return.

Since 94% of members recorded at least one transaction, the no transaction cohort is not representative of the study sample. It would also be expected that it is not representative of the entire superannuation system due to the significant efforts that have been deployed by the government to reduce the number of inactive accounts, particularly duplicate accounts via the 'stapling' measures in the *Your Future, Your Super* reforms. (Australian Taxation Office 2020).

Transactions recorded

When assessing investment performance, transactions play a critical function because the addition or deduction of funds changes the amount of capital available to earn interest. As calculated in Figure 3, transactions have a significant impact on accounts with lower balances. For the members with transactions cohort, the mean XIRR was 5.868% and the median XIRR was 6.553%, representing 1% and 0.5% lower return respectively, than the no transaction cohort. When considering the \$6,000 to \$10,000 closing account balance group, the median XIRR was approximately 35% of the stated MySuper Benchmark, which is plotted by the red line (Figure 3).

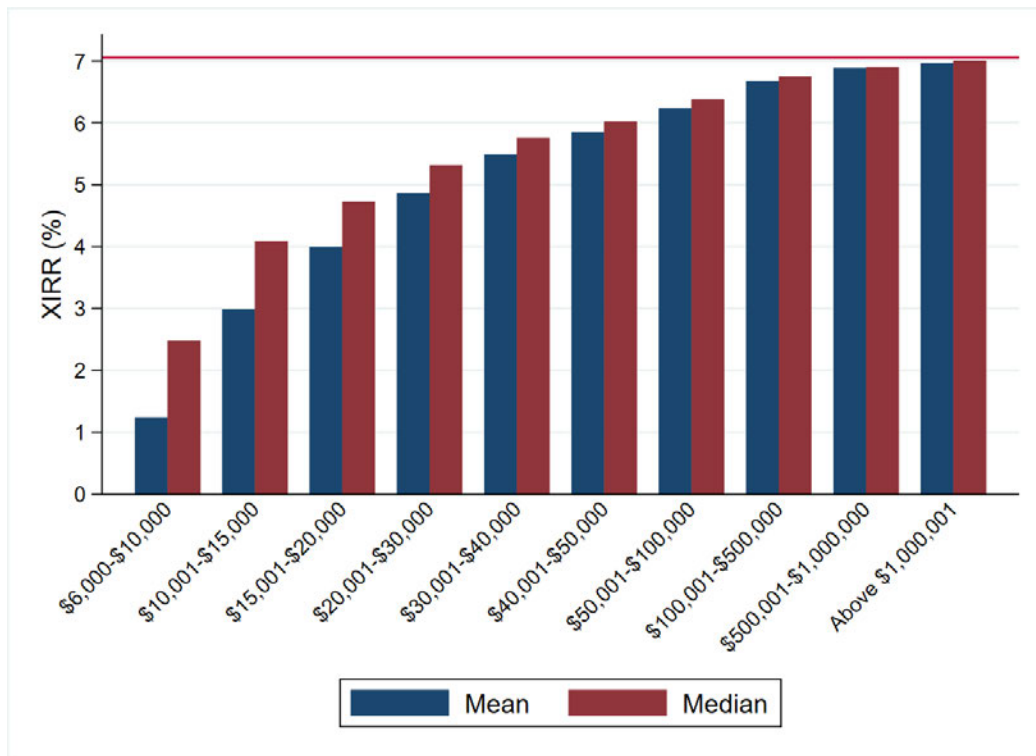


Figure 3: XIRR for members with transactions by closing balance groups. The red line plots the MySuper Dashboard 'representative member' investment return.

While this analysis provides evidence that the time-weighted investment performance calculation method is justified for providing superannuation fund performance disclosures when no transactions take place, it is not reflective of members who have had transactions during the period, particularly members with an account balance below \$100,000.

Account characteristics that impact personal rates of return

An important element of the study was to examine which identifiable individual and account characteristics had a statistically significant effect on the personal rates of return.

Descriptive research was deployed via non-parametric statistics on the cross-sectional data to analyse the individual member and cohort demographics (age, gender, salary, location) and account characteristics personal returns against the MySuper representative member investment return as a benchmark.

The study's regression analysis found that higher opening account balances, not paying insurance premiums, and more frequent contributions, have a statistically significant positive effect on personal rates of return (i.e., a higher personal rate of return). While being female, paying insurance premiums, having a higher salary (subsequent higher insurance premiums and paying division 293 tax), receiving less frequent SGC, and Hardship payments have a statistically significant negative effect on personal rates of return (i.e., a lower personal rate of return).

Final comment:

The inclusion of a personal rate of return performance metric in the Annual Superannuation Performance Test can increase the extent of superannuation funds covered, as well as improve the transparency and sophistication of the test in the long-term.

I appreciate consideration of this submission in Treasury's review of the Annual Superannuation Performance Test.

Regards

Mark Bastiaans

[REDACTED]
[REDACTED]

Appendix A. Actual client XIRR worked example for 1 financial year

To demonstrate the XIRR function, the transaction list below is for a deidentified member of a super fund for the 2022/23 Financial Year (note - the super fund used in the worked example is different to the super fund that participated in the study as the statements were not supplied with the data):

A	B	C	D	E	
1	Transaction date	Transaction type	Category	Included	Excluded
2	1/07/2022	Opening Balance	Account	\$88,947.01	
3	4/07/2022	SG Contributions	Contribution	\$ 600.00	
4	29/07/2022	Insurance premium - Income Protection	Insurance	\$ -	-\$ 164.34
5	29/07/2022	Insurance premium - TPD	Insurance	\$ -	-\$ 34.20
6	29/07/2022	Insurance premium - Death	Insurance	\$ -	-\$ 59.85
7	29/07/2022	Flat admin fee	Fee	\$ -	-\$ 11.25
8	31/07/2022	Contributions Tax	Tax	-\$ 51.24	
9	26/08/2022	Insurance premium - TPD	Insurance	\$ -	-\$ 27.36
10	26/08/2022	Insurance premium - Income Protection	Insurance	\$ -	-\$ 131.47
11	26/08/2022	Insurance premium - Death	Insurance	\$ -	-\$ 47.88
12	26/08/2022	Flat admin fee	Fee	\$ -	-\$ 9.00
13	31/08/2022	Contributions Tax Credit	Tax	\$ 31.00	\$ -
14	30/09/2022	Insurance premium - TPD	Insurance	\$ -	-\$ 34.20
15	30/09/2022	Insurance premium - Death	Insurance	\$ -	-\$ 59.85
16	30/09/2022	Insurance premium - Income Protection	Insurance	\$ -	-\$ 164.34
17	30/09/2022	Asset-based admin fee	Fee	\$ -	-\$ 6.68
18	30/09/2022	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.60
19	30/09/2022	Flat admin fee	Fee	\$ -	-\$ 6.25
20	30/09/2022	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.00
21	30/09/2022	Contributions Tax Credit	Tax	\$ 38.76	
22	26/10/2022	SG Contributions	Contribution	\$ 315.00	
23	28/10/2022	Insurance premium - Income Protection	Insurance	\$ -	-\$ 131.47
24	28/10/2022	Insurance premium - Death	Insurance	\$ -	-\$ 47.88
25	28/10/2022	Insurance premium - TPD	Insurance	\$ -	-\$ 27.36
26	28/10/2022	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.03
27	28/10/2022	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.60
28	28/10/2022	Flat admin fee	Fee	\$ -	-\$ 4.00
29	28/10/2022	Asset-based admin fee	Fee	\$ -	-\$ 6.84
30	31/10/2022	Contributions Tax	Tax	-\$ 16.25	
31	25/11/2022	Insurance premium - Income Protection	Insurance	\$ -	-\$ 131.47
32	25/11/2022	Insurance premium - Death	Insurance	\$ -	-\$ 47.88
33	25/11/2022	Insurance premium - TPD	Insurance	\$ -	-\$ 27.36
34	25/11/2022	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.05
35	25/11/2022	Asset-based admin fee	Fee	\$ -	-\$ 6.99
36	25/11/2022	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.60
37	25/11/2022	Flat admin fee	Fee	\$ -	-\$ 4.00

38	30/11/2022	Contributions Tax	Tax	\$ 31.00	
39	13/12/2022	SG Contributions	Contribution	\$ 1,314.51	
40	30/12/2022	Insurance premium - Death	Insurance	\$ -	-\$ 59.85
41	30/12/2022	Insurance premium - TPD	Insurance	\$ -	-\$ 34.20
42	30/12/2022	Insurance premium - Income Protection	Insurance	\$ -	-\$ 164.34
43	30/12/2022	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.31
44	30/12/2022	Asset-based admin fee	Fee	\$ -	-\$ 8.71
45	30/12/2022	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.75
46	30/12/2022	Flat admin fee	Fee	\$ -	-\$ 5.00
47	31/12/2022	Contributions Tax	Tax	-\$ 158.42	
48	6/01/2023	SG Contributions	Contribution	\$ 999.51	
49	27/01/2023	Insurance premium - Income Protection	Insurance	\$ -	-\$ 131.72
50	27/01/2023	Insurance premium - TPD	Insurance	\$ -	-\$ 27.47
51	27/01/2023	Insurance premium - Death	Insurance	\$ -	-\$ 47.95
52	27/01/2023	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.07
53	27/01/2023	Asset-based admin fee	Fee	\$ -	-\$ 7.16
54	27/01/2023	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.60
55	27/01/2023	Flat admin fee	Fee	\$ -	-\$ 4.00
56	31/01/2023	Contributions Tax	Tax	-\$ 118.86	
57	24/02/2023	Insurance premium - TPD	Insurance	\$ -	-\$ 30.42
58	24/02/2023	Insurance premium - Death	Insurance	\$ -	-\$ 49.78
59	24/02/2023	Insurance premium - Income Protection	Insurance	\$ -	-\$ 138.20
60	24/02/2023	Flat admin fee	Fee	\$ -	-\$ 4.00
61	24/02/2023	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.07
62	24/02/2023	Asset-based admin fee	Fee	\$ -	-\$ 7.13
63	24/02/2023	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.60
64	28/02/2023	Contributions Tax Credit	Tax	\$ 32.76	
65	7/03/2023	SG Contributions	Contribution	\$ 1,332.68	
66	31/03/2023	Insurance premium - Income Protection	Insurance	\$ -	-\$ 172.75
67	31/03/2023	Insurance premium - TPD	Insurance	\$ -	-\$ 38.02
68	31/03/2023	Insurance premium - Death	Insurance	\$ -	-\$ 62.23
69	31/03/2023	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.75
70	31/03/2023	Flat admin fee	Fee	\$ -	-\$ 5.00
71	31/03/2023	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.36
72	31/03/2023	Asset-based admin fee	Fee	\$ -	-\$ 9.08
73	31/03/2023	Contributions Tax	Tax	-\$ 158.96	
74	28/04/2023	Insurance premium - TPD	Insurance	\$ -	-\$ 30.42
75	28/04/2023	Insurance premium - Death	Insurance	\$ -	-\$ 49.78
76	28/04/2023	Insurance premium - Income Protection	Insurance	\$ -	-\$ 138.20
77	28/04/2023	Asset-based admin fee	Fee	\$ -	-\$ 7.34
78	28/04/2023	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.60
79	28/04/2023	Flat admin fee	Fee	\$ -	-\$ 4.00
80	28/04/2023	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.10
81	30/04/2023	Contributions Tax Credit	Tax	\$ 32.76	
82	2/05/2023	SG Contributions	Contribution	\$ 1,332.68	

83	26/05/2023	Insurance premium - Income Protection	Insurance	\$ -	-\$ 138.20
84	26/05/2023	Insurance premium - Death	Insurance	\$ -	-\$ 49.78
85	26/05/2023	Insurance premium - TPD	Insurance	\$ -	-\$ 30.42
86	26/05/2023	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.11
87	26/05/2023	Asset-based admin fee	Fee	\$ -	-\$ 7.41
88	26/05/2023	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.60
89	26/05/2023	Flat admin fee	Fee	\$ -	-\$ 4.00
90	31/05/2023	Contributions Tax	Tax	-\$ 167.14	
91	27/06/2023	SG Contributions	Contribution	\$ 666.34	
92	30/06/2023	Insurance premium - Income Protection	Insurance	\$ -	-\$ 172.75
93	30/06/2023	Insurance premium - TPD	Insurance	\$ -	-\$ 33.30
94	30/06/2023	Insurance premium - Death	Insurance	\$ -	-\$ 53.67
95	30/06/2023	Asset-based admin fee	Fee	\$ -	-\$ 9.36
96	30/06/2023	Flat admin fee	Fee	\$ -	-\$ 5.00
97	30/06/2023	Tax benefit - Flat admin fee	Fee	\$ -	-\$ 0.75
98	30/06/2023	Tax benefit - Asset-based admin fee	Fee	\$ -	-\$ 1.40
99	30/06/2023	Contributions Tax	Tax	-\$ 60.99	
100	30/06/2023	Closing Balance	Account	-\$99,431	
101		XIRR		4.92%	

Table 3: Transaction history for the 2022/23 financial year for an actual member.

The following formula was entered into Excel cell E101: =XIRR(E2:E100, B1:B100, [guess])

The resultant members personal rate of return of 4.92% is below the fund declared representative member investment rate of return of 8.22%, as per the extract from the members statement below:

Investment option performance

Crediting rates to 30 June 2023

Name of investment option	1 year %	
	AusSuper	Benchmark
Balanced	8.22	9.05

Appendix B. Actual client XIRR versus fund declared 1, 5 and 10 year returns

Based on the actual client in Appendix A, the individual personal rates of return for 1, 5 and 10 years to 30 June 2023 versus the super fund declared investment return is shown in table 4 below:

Period to 30 June 2023	Fund Declared (% pa)	XIRR (% pa)	Per cent of Fund Declared (% pa)
1 Year	8.22	4.92	59.85
5 Years	6.72	3.83	56.99
10 Years	8.60	5.65	65.70

Table 4: Actual member XIRR versus super fund declared.

Figure 4 below charts the annual fund declared investment returns and the actual members individual personal rate of return (XIRR) for 10 financial years to 30 June 2023, overlayed with the members closing account balance:

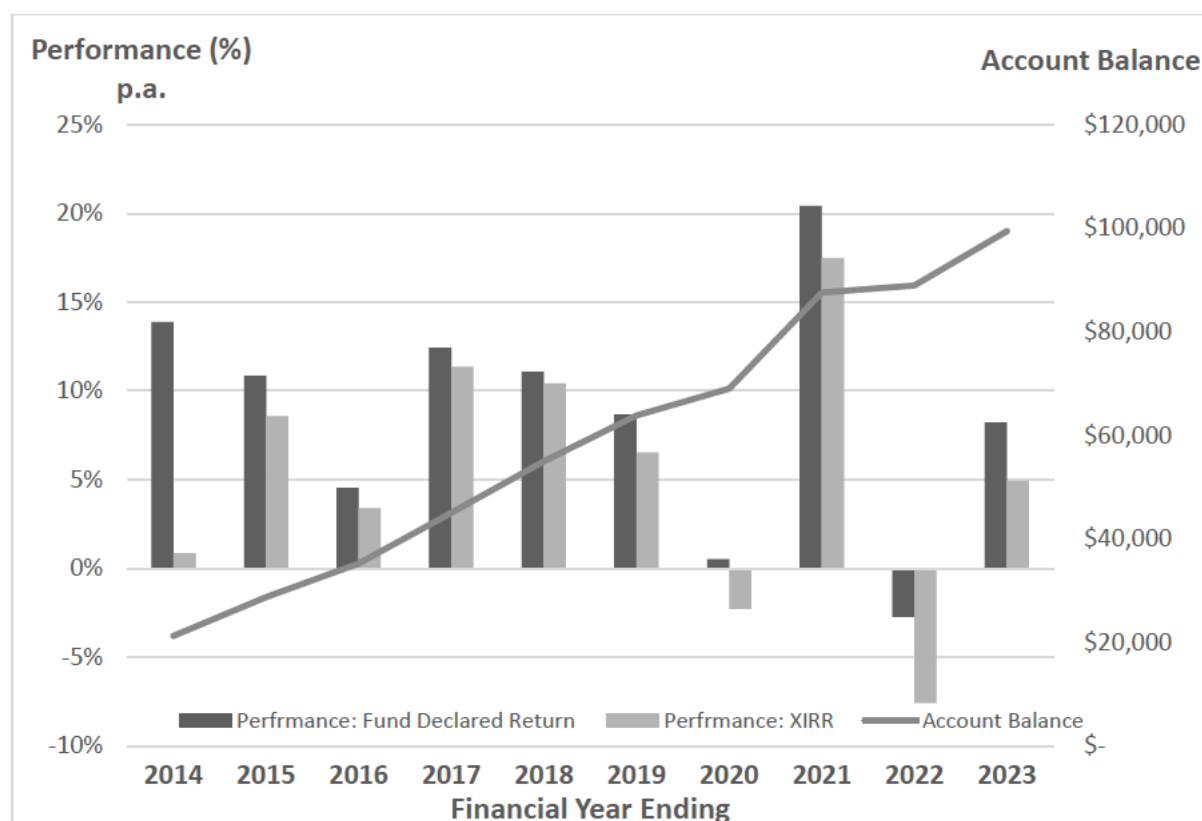


Figure 4: Example member financial year XIRR and fund declared performance for 10 financial years to 30 June 2023. The line shows the example members closing account balance.

Appendix C. Communicating actual investment returns on members Annual Statements

The money-weighted personal rate of return calculation method tested in this study could be utilised by super funds in their Annual Statements. While many sophisticated Investor Directed Portfolio Services (IDPS) platforms (such as BT Panorama, Netwealth, HUB24) produce annual statements that include a personal rate of return calculation, most industry and retail for-profit superannuation funds do not include a personal return expressed as a percentage.

To assist in understanding the current annual statement format, images sourced from an individuals deidentified annual super statement have been included here. Page 1 displays the opening and closing account balance, with a summary breakdown of the annualised totals of specific transaction types, before finally arriving at the 'Increase in balance'. The Annual statement does not attempt to calculate the increase in balance relative to the opening balance:

Your account summary

Opening balance at 1 July 2022	\$88,947.01
Plus	
Contributions from your employer(s)	\$6,560.72
Investment returns	\$7,403.46
Less	
Government taxes	-\$565.58
Fees ¹	-\$124.25
Insurance costs	-\$2,790.36
Closing balance at 30 June 2023	\$99,431.00
Increase in balance	\$10,483.99

¹ Includes administration fees and associated tax benefits and other fees that are deducted directly from your account but does not include fees and costs deducted from your investment. See Your fees and costs summary for details.

Source: Page 1 of actual client statement as at 30 June 2023. The super fund is different to the fund that participated in the study as the statements were not supplied with the data.

As noted by Feibel (2003), the preferred statistic to communicate the performance of an investment should be as a percentage, rather than the absolute dollar gain. His stated reasons for this preference include:

- A return summarises a lot of information into a single statistic. This includes data on the market value, income earned, and transactions made on all of the investments in the fund.
- Returns are ratios, and it is usually faster and easier for investors to interpret a proportion between two things than to use the underlying data.
- Returns are unaffected by the relative size of portfolios.

(Feibel 2003, pp. 17-18)

On page 2 of the same annual statement, the fund level percentage performance figures for the investment option selected by the member are provided. As noted in the highlighted text, the super fund does make it explicit that the stated returns are not the returns achieved by the member:

Investment option performance

Crediting rates to 30 June 2023

Name of investment option	1 year %		5 years % p.a.		10 years % p.a.		Since inception % p.a.
	AusSuper	Benchmark	AusSuper	Benchmark	AusSuper	Benchmark	
Balanced	8.22	9.05	6.72	5.88	8.60	7.32	9.28 (Aug 85)

Benchmarks

Balanced - SR50 Balanced (60-76) Index.

Investment option returns shown above do not reflect your personal return over the same period due to the timings of transactions on your account.

Source: Page 2 of actual client statement as at 30 June 2023.

The transaction history is then displayed on page 6 of the annual statement, as shown below. However, the annual statement does not provide the specific dates that the administration fees, insurance premiums and government taxes transactions occurred:

Your transaction summary

A summary of the transactions on your account for the period from 1 July 2022 to 30 June 2023 are provided below.

Payment period	Description	Transaction date	Employer contributions (\$)	Employer extra (\$)	Member before-tax (salary sacrifice) (\$)	Member after-tax (\$)	Total (\$)
01/07/22	Opening balance						88,947.01
01/06/22 - 30/06/22		04/07/22	600.00	0.00	0.00	0.00	600.00
01/09/22 - 30/09/22		26/10/22	315.00	0.00	0.00	0.00	315.00
01/10/22 - 30/11/22		13/12/22	1,314.51	0.00	0.00	0.00	1,314.51
01/12/22 - 31/12/22		06/01/23	999.51	0.00	0.00	0.00	999.51
01/01/23 - 28/02/23		07/03/23	1,332.68	0.00	0.00	0.00	1,332.68
01/03/23 - 30/04/23		02/05/23	1,332.68	0.00	0.00	0.00	1,332.68
01/05/23 - 31/05/23		27/06/23	666.34	0.00	0.00	0.00	666.34
	Flat administration fees ¹						-65.50
	Asset-based administration fees ²						-76.70
	Tax benefit - Flat administration fees						6.45
	Tax benefit - Asset-based administration fees						11.50
	Insurance costs						
	• Death cover						-636.38
	• TPD cover						-374.73
	• Income Protection						-1,779.25
	Government contribution tax ³						-565.58
	Investment returns						7,403.46
30/06/23	Closing balance						99,431.00

Source: Page 6 of actual client statement as at 30 June 2023.

The super fund does, however, provide detailed transactions to members if they have registered for online access (website only, not via the funds mobile App).

If the super fund acknowledges that the members individual rate of return is different, and they display a partial annual transaction history in the annual statement, a recommendation of this study would be to include the full dated transaction history and provide a personal rate of return, expressed as a percentage, and displayed on the first page of the annual statement.

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