



METHODOLOGY PAPER

Choice Heatmap

April 2023

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Chapter 1 - Introduction

This paper outlines the methodology that APRA has used to produce the Choice Heatmap ('the heatmap'). The heatmap provides comparable information on the investment returns and fees and costs of a segment of the Choice industry within the superannuation sector.

It highlights areas of poor outcomes for members and enables like-for-like comparisons between different Choice offerings. The heatmap also indicates where there may be concerns regarding the sustainability of member outcomes within a Registrable Superannuation Entity ('RSE').

APRA expects RSE licensees to manage investments in the best financial interests of members. The heatmap is planned to be published annually to improve transparency, hold trustees accountable for outcomes they deliver to members, and to foster a culture of continuous improvement across the superannuation industry. The primary users of the heatmap are RSE licensees, although it provides insights that benefit a wide range of stakeholders including policymakers and advisers. APRA also uses the heatmap as part of its supervision activities to ensure RSE licensees are focussed on member outcomes.

The heatmap does not provide information on all the relevant factors that should be considered when assessing the outcomes or appropriateness of a particular Choice offering. It should not be used in isolation to inform decisions regarding choice of a superannuation product.¹

¹ Useful information for consumers seeking to better understand superannuation can be found on the Australian Securities and Investments Commission's [MoneySmart](#) website.

Chapter 2 - Scope for the Choice heatmap

There is a wide variety of products in the Choice sector with significant variability across access method, investment option strategies, and fees and costs. This leads to greater complexity when compared to MySuper products, which offer a single investment option² and are designed to be simple, generic, low-cost products. In the Choice sector, RSE licensees may offer multiple products that incorporate multiple investment menus, which may include:

- **A wide range of investment options**, including Multi Sector options (such as balanced, growth or conservative), Single Sector options (such as Australian equities or cash) and direct investments (such as shares or term deposits), to suit the different needs and risk profile of members.
- **Additional features and services**, including additional online website functionality, member reporting, and other member tools.

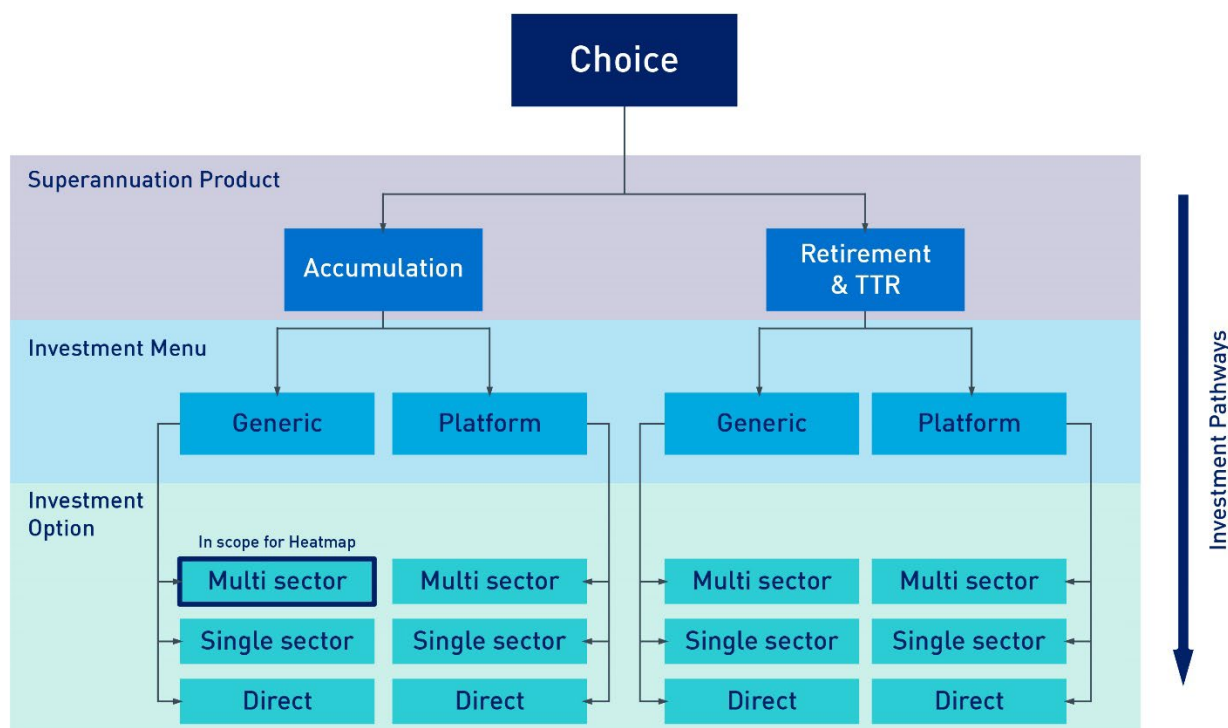
Superannuation members access Choice investment options through different superannuation products and investment menus that may involve different fee and cost structures and, potentially, different return outcomes³. The terminology “investment pathway” is used in the heatmap to describe each of these unique combinations of superannuation product, investment menu and investment option. Investment metrics and fees and costs metrics in the heatmap have been calculated for each investment pathway to reflect member experience depending on the route taken to access a Choice investment option.

The Superannuation Data Transformation (‘SDT’) project has made this analysis possible given that the relevant data is collected at the investment pathway level. The investment pathway structure for the Choice sector is outlined in Figure 1.

² MySuper products may offer a single, diversified investment strategy or a lifecycle investment strategy, which adjusts its asset allocation based on factors including age, as their investment option.

³ [SRS 605.0 RSE Structure](#) also allows for different Fees And Costs Arrangements to apply to members. The heatmap selects the “Standard” Fees and Costs Arrangement Type for each investment pathway. Adjustments are made where entities have reported more than one Fees And Costs Arrangement Type as Standard. APRA has chosen the lowest quarterly net investment return reported among the multiple arrangements for investment metrics, and the arrangement that results in the highest total fees and costs disclosed for a \$50,000 balance for fees and costs metrics.

Figure 1. Investment Pathway Structure



As highlighted in Figure 1, APRA's area of focus for the heatmap covers investment pathways that:

- **are available through accumulation products.** Retirement and transition-to-retirement ('TTR') products and product phases (including account-based pension products and annuity style products and investment options) are excluded - these often have different objectives to accumulation products, including the provision of an income stream to members;
- **are available through generic investment menus** rather than platform investment menus. Investment options only available through platform investment menus are excluded; and
- **are ultimately invested in Multi Sector investment options** as reported in [SRS 605.0 RSE Structure](#). Single Sector and Direct investment options are excluded.

The heatmap covers investment pathways offered by APRA-regulated RSEs with more than six members.

The heatmap includes investment pathways that are:

- open to new members; and
- closed to new members (but have existing members) whether closed at the product level, investment menu level and/or investment option level.

The 2021 Choice Heatmap was created from a different data source and only included products/options that were open to new members. It may therefore have limited comparability to subsequent heatmaps.

Investment pathways with the following elements are out of scope for the heatmap:

- **Custom fee arrangements.** The pathways selected all correspond to a 'Standard Fees And Costs Arrangement Type' as reported in *SRS 605.0*. Return outcomes and fees and costs metrics may differ for otherwise identical pathways that are subject to a 'Custom Fees and Costs Arrangement Type', which are not offered to the general membership of the fund (for example, a discount arrangement for a large participating employer).
- **MySuper products (including MySuper Product options that are available through a Choice investment pathway).** These include single strategy products and lifecycle stages⁴, as the outcomes delivered by these products are assessed in the MySuper Product Heatmap.
- **Defined benefit products and product phases, and investment options with contractual returns.** Investment returns do not directly impact or fully account for the return outcomes experienced by members in these pathways. For defined benefit interests, employers generally bear the investment risk. A small number of investment options that remain identified as 'accumulation' in *SRS 605.0* have been excluded given returns are largely dependent on contractual arrangements (e.g. insurance-type products) rather than the return on an underlying investment portfolio.

⁴ Lifecycle stages which are fully invested in an investment option that is offered to MySuper members have been excluded from the heatmap.

Chapter 3 - Heatmap elements and presentation

3.1 The heatmap metrics

The heatmap provides information on relative outcomes for members, in particular poor outcomes, of the in-scope investment pathways in the Choice sector. The heatmap's expanded view metrics include:

- **investment return metrics** over three, five and eight-year time horizons;
- **administration and total fees and costs metrics** covering representative member account balances of \$10,000, \$25,000, \$50,000, \$100,000 and \$250,000; and
- **sustainability of member outcomes metrics**, including member account and net cash flow measures (calculated at the RSE level) that provide an insight into the ability for an RSE licensee to provide sound member outcomes into the future.

3.2 Data sources and coverage of investment pathways

The heatmap uses data collected under the reporting standards developed through the SDT project for investment metrics and fees and costs metrics. This data is primarily collected at the investment pathway level and, as noted above, is also presented at the investment pathway level in the heatmap. The key reporting standards are [SRS 605.0 RSE Structure](#), [SRS 705.1 Investment Performance and Objectives](#), [SRS 550.0 Asset Allocation](#) and [SRS 706.0 Fees and Costs](#).

The initial Choice Heatmap published in 2021 was created from a different data source (SuperRatings) primarily at an investment option level, which may limit its comparability against subsequent Choice Heatmaps.

3.3 Displaying the metrics

The heatmap is presented with a colour overlay that provides stakeholders with a visual illustration of the outcomes provided by investment pathways relative to peers and appropriate benchmarks. The colour overlay focuses on investment pathways that are delivering poorer outcomes relative to other investment pathways or the selected benchmarks.

The colour overlay has a continuous colour gradient so that the heatmap emphasises areas of materially poor outcomes and is not categorising investment pathways as 'good' or 'bad' overall. The heatmap metrics have been mapped to the 'heat' colour scale using thresholds that best reflect each individual metric. Further detail on these scales is outlined in each of the chapters on investment returns, fees and costs, and sustainability of member outcomes.

3.4 Viewing the heatmap

The heatmap has two views, a concise view and an expanded view. The concise view of the heatmap shows ten key metrics that APRA considers particularly important for assessing member outcomes based on underlying analysis of the data. APRA will review these metrics periodically to ensure the most relevant and important measures of member outcomes are highlighted.

Table 1. Concise view metrics

Area	Concise View Metric
Investment return	8 year net investment return (NIR)
	8 year NIR relative to strategic asset allocation (SAA) benchmark portfolio
	5 year NIR
	5 year NIR relative to SAA benchmark portfolio
Fees and costs	Administration fees on a \$50,000 representative balance
	Administration fees on a \$100,000 representative balance
	Total fees on a \$50,000 representative balance
	Total fees on a \$100,000 representative balance
Sustainability of member outcomes	3 year average adjusted total accounts growth rate
	3 year average net cash flow ratio

The heatmap in its expanded view shows 22 metrics that APRA uses to evaluate the outcomes of each of the investment pathways. The expanded view provides stakeholders with broader insights into investment returns and the impact of fees for different member account balances, as well as the sustainability of RSE licensees.

Table 2. Expanded view metrics

Area	Expanded View Metrics
Investment Returns	3, 5 and 8 year NIR
	3, 5 and 8 year NIR relative to the SAA benchmark portfolio
	3, 5 and 8 year NIR relative to a simple reference portfolio
Fees and costs	Administration fees on all representative balances (\$10,000, \$25,000, \$50,000, \$100,000 and \$250,000)
	Total fees on all representative balances (\$10,000, \$25,000, \$50,000, \$100,000 and \$250,000)

Area	Expanded View Metrics
Sustainability of member outcomes	3 year average adjusted total accounts growth rate
	3 year average net cash flow ratio
	3 year average net rollover ratio

An interactive version of the heatmap is hosted on the APRA website, which provides a user-friendly interface to view the performance of investment pathways, including filtering and sorting functionality.

3.5 Choice of growth asset allocation categories

The heatmap displays information for a large number of investment pathways. Choice products typically offer investment menus that contain a range of multi-sector investment options. The investment options that underlie the investment pathways have different risk profiles with different allocations to growth asset classes.

To enable comparisons between different investment pathways of a similar risk profile, APRA has categorised the underlying Choice investment options into six "Strategic Growth Asset Allocation categories": 0-40%, 40-60%, 60-75%, 75-90%, 90-100% and ">100%". There is a column in the heatmap to allow users to filter to categories of interest based on this criterion.

3.6 Anonymised display of member accounts and assets to protect privacy

To protect the privacy of individual members, APRA has anonymised certain data by publishing a value of '<20' for member accounts and a '*' for member assets for any investment pathways with less than 20 member accounts. The member accounts column in the heatmap has been rounded to the nearest 10 to ensure the privacy of individual members is protected. APRA confirms that these measures do not have a material impact on the heatmap methodology, the heatmap tool, or the results generated.

Chapter 4 - Investment returns

APRA has analysed a number of different investment metrics to assess returns on a risk-adjusted basis and to consider an RSE licensee's returns relative to peers. For the Choice Heatmap, APRA has utilised the same investment return metrics and methodology as the MySuper Product Heatmap, except that a net return is not presented since net return data for Choice products is not reported directly to APRA. Investment return metrics are presented at the investment pathway level and are most heavily affected by the underlying investment option, rather than the product or investment menu.

The heatmap measures investment returns over three, five and eight-year time horizons, where this history exists. These time horizons have been selected to align with the MySuper Product Heatmap time horizons. APRA notes that the long-term investment return is a critical driver of outcomes for members, and that returns over different time periods provide insights into the sustainability and consistency of investment returns over time. As APRA builds its time series of investment returns, future releases of the heatmap are expected to include longer time horizons (e.g. ten years).

4.1 Benchmark portfolio metrics

APRA has constructed benchmark portfolios as part of the analysis to provide risk-adjusted insights into the returns of each investment pathway. The Net Investment Return (NIR) of each investment pathway has been measured against a Simple Reference Portfolio (SRP) and a Strategic Asset Allocation (SAA) benchmark portfolio; both portfolios are specific and tailored to reflect the investment strategy and level of risk of the underlying investment option for each investment pathway.

Reference and benchmark portfolios are the primary measures that APRA uses to evaluate the investment returns of investment pathways. These measures provide objective insights into an RSE licensee's ability to add value for its members. Where an RSE licensee's investment process utilises active management, positions portfolio asset allocation differently to strategic asset allocation, or invests in illiquid or complex assets, it is expected to be able to demonstrate the value-add (after fees, costs, and taxes) from these activities over time.

Appendix A provides the formulas used to calculate the returns for the SRP and SAA benchmark portfolio. Appendix B provides detail on the indices used to construct the SRP and SAA benchmark portfolios.

4.2 Simple Reference Portfolio

The SRP is a notional, "a priori" portfolio of passive, low-cost, liquid investments. The purpose of the SRP is to measure the value an RSE licensee has generated for its members through its value-adding activities, such as its strategic asset allocation decisions and investment implementation decisions. A bespoke SRP is created for each investment pathway to appropriately reflect its own risk profile.

The SRP consists of a growth portfolio and a defensive portfolio utilising only equities, bonds and cash (refer Table 3 below). The risk profile of each investment pathway has been established by applying a consistent definition of growth and defensive assets to the asset allocation data of the underlying investment option, as outlined in Table 4 below.

Table 3. Growth and Defensive Portfolio (Asset breakdown)

Growth Portfolio	%	Defensive Portfolio	%
Australian equity	50	Australian fixed interest	40
International equity (hedged)	25	International fixed interest	40
International equity (unhedged)	25	Australian Cash	20

Table 4. Growth/Defensive Classification

SAA Asset Class	Growth / Defensive classification
Equity, Listed Property, Listed Infrastructure	100% Growth
Unlisted Property, Unlisted Infrastructure	75% Growth, 25% Defensive
Alternatives	50% Growth, 50% Defensive
Fixed Interest (including Credit), Cash	100% Defensive

A return is calculated for both the growth portfolio and the defensive portfolio by applying index returns (see Appendix B for details of indices used) for each asset class and the weightings in Table 3. This provides a benchmark against which the ability of an RSE licensee to develop and implement an effective investment strategy can be measured. The SRP is not intended to be an indicator of how an RSE licensee should invest; rather, it provides a benchmark to assess returns suitable for the long-term horizon of superannuation and is based on the underlying investment option's target risk-return expectations.

The returns on the growth and defensive portfolios are then combined to determine the benchmark return for each investment pathway using the specific growth / defensive asset allocation for the investment option underlying each investment pathway.

The NIR for each investment pathway is then compared to the return on its bespoke SRP to determine the return of the investment pathway relative to the SRP over the period (i.e. whether it under/outperformed the benchmark).

4.2.1 SAA benchmark portfolio

The purpose of the SAA benchmark portfolio is to assess the value generated through an RSE licensee's implementation of its investment strategy. The SAA benchmark portfolio has been created using the reported SAA for the investment option underlying each investment pathway. The benchmark portfolio assumes investment in listed passive benchmarks for each asset class, with the exception of additional unlisted benchmarks for unlisted property

and infrastructure. The asset class benchmarks adopted match the indices used in the annual performance test in 2022.

4.2.2 Reference/benchmarking portfolio assumptions

To ensure an appropriate comparison can be made between the returns of investment pathways to the reference and benchmark portfolios, APRA has incorporated adjustments in areas such as taxes and fees into the calculations of reference and benchmark portfolio returns. In particular:

- Each asset class benchmark has been adjusted to consider long-term assumptions for actual and accrued tax, based on respective income and capital components (and franking credits for the Australian equity benchmark). See Appendix B for the tax assumptions used in this analysis.
- Where available, APRA has selected global indices that are adjusted to reflect the withholding taxes applicable for an Australian institutional investor, to remove any potential understatement of index returns arising from the presence of double taxation treaties. APRA considers the use of these benchmarks to be good practice, particularly where there are wider implications such as the payment of performance-based fees and remuneration.
- Fee assumptions have been incorporated into the index returns to reflect the fees that would be payable by an institutional investor investing passively. Estimates were derived using relevant exchange traded funds (ETFs) as a reference point. See Appendix B for the fee assumptions used in this analysis.
- Fully hedged benchmarks have been used by APRA for international property, infrastructure, and fixed interest, where industry practice is that hedging is close to 100%.
- APRA has used the reported currency hedging ratios for the International Equities asset class, where available, to calculate the split between hedged and unhedged international equity for the SAA reference portfolio. Where currency exposure is instead reported at the investment option level in *SRS 550.0*, then asset class hedging level for International Equities is assumed to equal the total strategic currency exposure divided by the total strategic allocation to international assets.
- Where available, SAA data reported at the subsector level has been used instead of sector level data to ensure the most representative SAA data is used.
- The returns on both the SRP and the SAA benchmark portfolio have been calculated using the historical SAA data sources noted above. APRA has made assumptions on how strategic sectors and subsectors captured in *SRS 550.0* are mapped to the asset classes used for the heatmap (which match the covered asset classes used in the annual performance test in 2022).
- Where asset domicile for a particular asset class is not reported, a benchmark of 50% Australian and 50% International has been used.

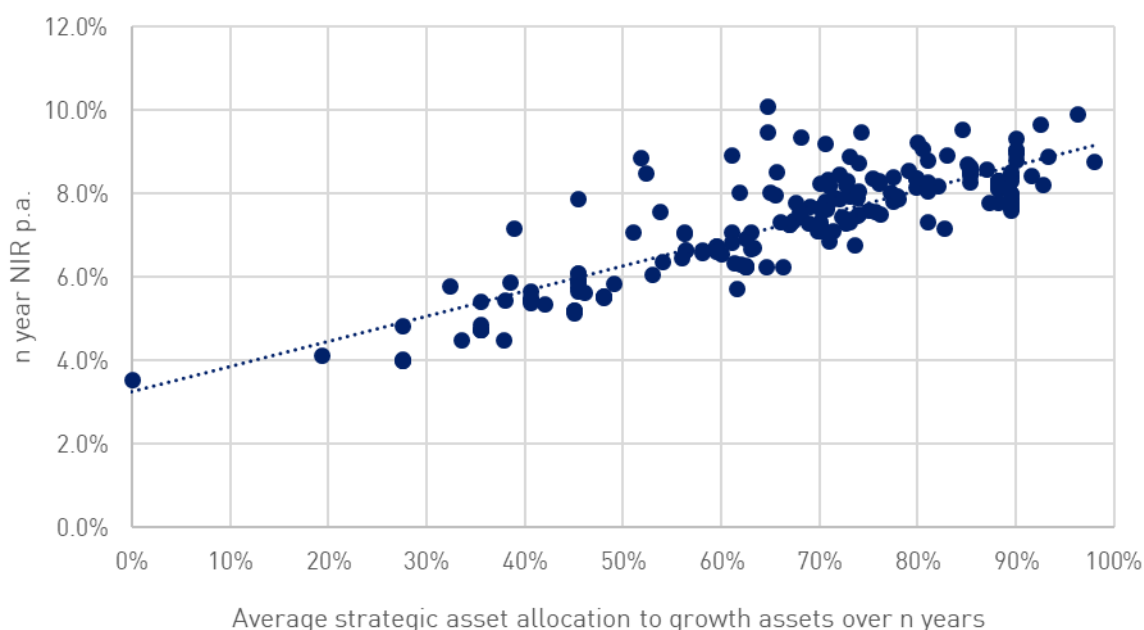
- Where listing type is not reported, allocations to property and infrastructure are assumed to be 50% listed and 50% unlisted.

4.2.3 Net investment return metrics

The comparison of returns across investment pathways should consider the investment objectives and level of risk to enable a like-for-like assessment of returns. To reflect the varying risk profiles in the industry, the colours in the heatmap indicate the return of each investment pathway relative to the returns of its peers based on its underlying growth asset allocation. Given that investment returns of investment pathways are primarily driven by the underlying investment option, the peer comparison is calculated using data at the investment option level.

To do this, the return of each underlying investment option⁵ has been compared against its average allocation to growth assets over the appropriate timeframe, to derive a peer-based trend line (see a sample NIR vs growth asset allocation chart below). The relative return of each investment pathway is measured based on the difference between its return and the appropriate reference point on the trend line. This provides a method of comparing the return of each investment pathway in the industry on a risk-adjusted basis.

Figure 2. Sample NIR peer comparison on a risk-adjusted basis



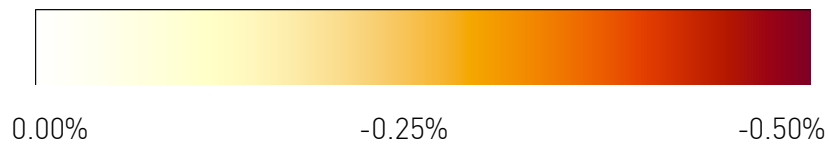
4.3 Colour overlay

The colour scale displayed in the heatmap is based on the return of the investment pathway relative to different metrics. The method for colouring each metric is as follows:

⁵ In the rare cases where net investment returns differ across investment pathways to the same investment option, a simple average of net investment return across the investment pathways has been used.

- NIR: NIR relative to the appropriate reference point in the NIR / growth asset allocation trend line of the underlying investment option.
- SRP: NIR relative to the SRP.
- SAA benchmark portfolio: NIR relative to the SAA benchmark portfolio.

Colours are applied based on the level of relative return and in line with the colour scale below:



The highest concentration of colour is applied to the investment pathways that are delivering returns more than 0.50% below the corresponding reference point. The colour overlay is consistent with the scale applied in the MySuper Product Heatmap.

Chapter 5 - Fees and costs

The heatmap provides insights into investment pathway fees and costs structures, and their impact on outcomes for members. APRA has analysed the administration fees, and total fees and costs disclosed to members with different representative account balances, and expects that these metrics will provide suitable benchmarks to RSE licensees when assessing outcomes being delivered to members. Fees and costs metrics are presented in the heatmap at the investment pathway level.

To allow for comparisons to MySuper products, and for the higher average account balance of Choice members, the heatmap shows fees and costs metrics for members with account balances of: \$10,000; \$25,000; \$50,000; \$100,000 and \$250,000, for each investment pathway.

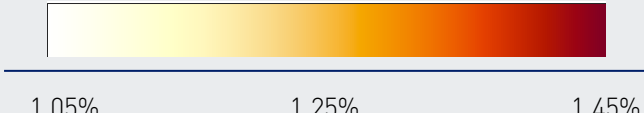
Investment pathways have varying fees and costs structures which include flat charges and percentage-based charges, tiering arrangements, fee caps, and rebates. These have been accounted for in the calculation of the fees and costs metrics. See Appendix A for further details on the fees and costs metrics.

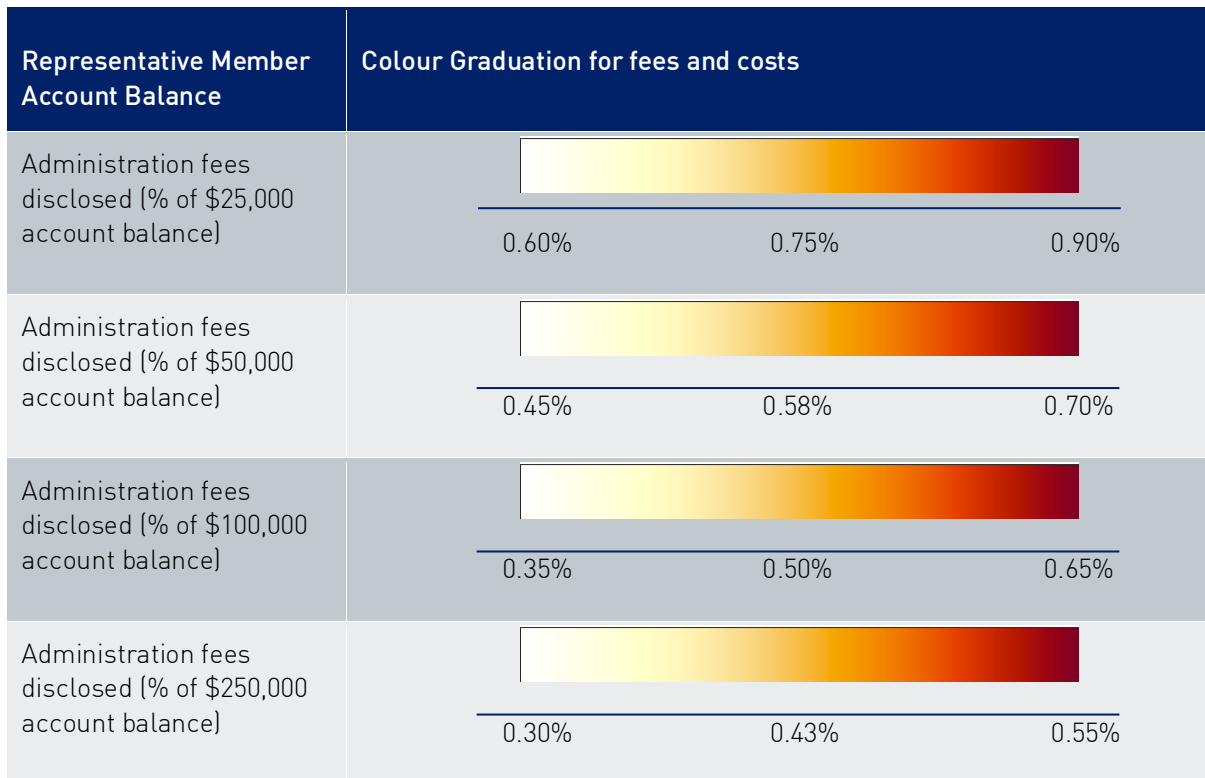
ASIC released its update to [Regulatory Guide 97: Disclosing fees and costs in PDSs and periodic statements](#) (RG97) on September 2020, which included transitional arrangements for RSE licensees. From 30 September 2022 all RSE licensees are required to comply with these requirements where applicable. The heatmap designates investment pathways that are compliant with the 2020 version of RG97.

5.1 Colour overlay

The colour scale has been applied to administration fees disclosed for the representative account balances of \$10,000; \$25,000; \$50,000; \$100,000 and \$250,000 using statistical methods to define thresholds. The graduating colour scale for fees shows the relative positioning of an investment pathway's administration fees disclosed based on Median Absolute Deviations (MAD). MAD is used as the measure of variability, to reduce the impact of distortion of outlier values that impact measures such as standard deviation. The thresholds are different from the MySuper Product Heatmap but consistent with those used for the first Choice Heatmap published in 2021.

Table 5. Distributions across the representative member account balances

Representative Member Account Balance	Colour Graduation for fees and costs
Administration fees disclosed (% of \$10,000 account balance)	 1.05% 1.25% 1.45%



The current iteration of the heatmap does not provide any colour gradation for the total fees and costs disclosed (including any indirect costs) for investment pathways in recognition that these metrics may be significantly affected by investment fees and costs disclosed at the underlying investment option level. There is a wide variety of investment strategies applied by different investment options in the superannuation sector and reasonable levels of investment fees and costs may vary widely across these different types of investment strategies.

Chapter 6 - Sustainability of member outcomes

Sustainability of member outcomes refers to an RSE licensee's ability to maintain favourable member outcomes into the future and address areas requiring improvement. The sustainability metrics, in themselves, are not a direct measure of outcomes, but instead are an indicator of an RSE licensee's likely ability to continue to deliver quality member outcomes into the future. The sustainability metrics are calculated at the RSE level.

For example, an RSE that is experiencing a significant loss of members (i.e. negative accounts growth rates) may, as a consequence, see a decline in its fee revenue. As a result, the RSE licensee may have to take steps to address the loss of revenue that may impact the outcomes they are providing to its members, including changing the fee model, reducing the services provided to members, or improving efficiency.

6.1 Scale as a driver of sustainability

The scale of an RSE can influence an RSE licensee's ability to optimise investment outcomes through access to a range of asset classes, as well as its ability to spread fixed costs across a broader member base. Accordingly, APRA has used two representative scale measures (outlined below) to provide a baseline for considering how trend metrics may hinder the ability of an RSE licensee to continue to deliver quality member outcomes in the longer term.

- The **net assets available for members' benefits** includes defined contribution member balances in both the Accumulation and Pension phases, defined benefit entitlements and reserves.
- The **total number of member accounts**, as the number of member accounts will have a material impact on an RSE licensee's ability to spread its fixed costs, affecting its operating efficiency and the appropriateness (or otherwise) of its ongoing fee structure.

6.2 Rolling three-year trend metrics

The heatmap contains the following rolling three-year trend metrics – Total Accounts Growth Rate, Net Cash Flow Ratio and Net Rollover Ratio. These three metrics provide insights into trends that are likely to impact sustainability of member outcomes, particularly when considering scale. As such, for funds that appear on both the Choice Heatmap and MySuper Product Heatmap, the metrics and colour thresholds are identical. To provide more reliable indications of underlying trends, adjustments have been applied to these metrics for specific RSEs that consolidated with other RSEs during the three-year window.

The trend metrics are presented on a three-year rolling average basis to limit the impact of the data from a single abnormal year and the influence of past data, which may no longer have a bearing on the future direction of the RSE.

6.2.1 Adjusted Total Accounts Growth Rate

The Adjusted Total Accounts Growth Rate metric provides a measure of the member growth rate of an RSE over the preceding three years.

6.2.2 Net Cash Flow Ratio

The Net Cash Flow Ratio metric is a measure of an RSE's overall growth in member benefits, which is based on data relating primarily to member personal contributions, superannuation guarantee contributions, and benefit payments.⁶ The metric provides an understanding of how the total assets of an RSE are growing (or reducing) due to underlying member cashflows.

6.2.3 Net Rollover Ratio

Rollovers represent amounts transferred between different RSEs (excluding SFTs). The Net Rollover Ratio metric provides a measure of net member benefit flows due to active decisions made by members to transfer into, or out of, the RSE. It is an indicator of the ability of the RSE to attract and retain members.

6.3 Colour overlay

A solid binary 'heat' colour is shown on the heatmap for each of the sustainability trend metrics when an RSE meets any of the combined threshold levels shown below. These threshold levels are established using both the current scale measure and accompanying trend. Refer to Tables 6, 7 and 8.

Table 6. Net assets in billions (bn) – Net Cash Flow Ratio

Net assets available for members' benefits	Net Cash Flow Ratio
> \$5bn	<-10%
\$2bn - \$5bn	<-7.5%
\$1bn - \$2bn	<-5%
<\$1bn	<0%

For example, an RSE with net assets of \$40 billion with a Net Cash Flow Ratio of -16% on average over the last three years would receive an amber flag.

⁶ The Net Cash Flow Ratio metric does not capture investment return or fees and costs, as these are already assessed under the investment return and fees and costs sections of the heatmap.

Table 7. Net assets – Net Rollover Ratio

Net assets available for members' benefits	Net Rollover Ratio
> \$5bn	<-10%
\$2bn - \$5bn	<-7.5%
\$1bn - \$2bn	<-5%
<\$1bn	<0%

For example, an RSE with net assets of \$4 billion with a Net Rollover Ratio of -8% on average over the last three years would receive an amber flag.

Table 8. Total Member Accounts – Total Accounts Growth Rate

Total Member Accounts	Adjusted Total Account Growth Rate
>20,000	<-10%
15,000 – 20,000	<-7.5%
10,000 – 15,000	<-5%
<10,000	<0%

For example, an RSE with 9,000 accounts with an average annual adjusted total account growth rate of -1% over the last three years would receive an amber flag.

Appendix A – Heatmap metrics

Metric	Formula	Purpose
<p>Investment Return Metrics</p> <p>Net investment return data is sourced from SRS 705.1 Investment Performance and Objectives. Historical strategic asset allocations on a quarterly basis are sourced at the underlying investment option level from SRS 550.0 Asset Allocation and are used to calculate SRP and SAA benchmarks. These allocations are mapped to the covered asset class definitions used for the annual performance test primarily using strategic subsector level data where available or otherwise using strategic sector level data. Net returns (net of all fees and costs including those related to administration) are not collected for investment pathways in <i>SRS 705.1</i> and have not been included in this iteration of the heatmap.</p> <p>Where an investment pathway began on a day that is not the start of a quarter, or if the exact start date within the initial quarter for which data has been provided is not clear, then return metrics have been calculated based on the first full quarter of data that is clearly available.</p> <p>Net investment returns and SRP and SAA benchmarks are calculated for periods to 30 June 2022.</p>		
Net investment return p.a.	Net investment return p.a. (over 3, 5 and 8 years). The <i>comparison return (%)</i> from <i>SRS 705.1</i> is used.	Return of the investment pathway after investment-related fees, costs and taxes have been deducted.
Net investment return relative to SRP p.a.	<p><i>Performance relative to simple reference portfolio</i> $= n \text{ year NIR p.a.} - n \text{ year Simple Reference Portfolio return p.a.}$ where $n \text{ year Simple Reference Portfolio return p.a.}$</p> $= \left\{ \prod_{t=1}^{4n} [1 + (W_{G,t-1} \times R_{G,t}) + (W_{D,t-1} \times R_{D,t})] \right\}^{\frac{1}{n}} - 1$ <p>$W_{G,t-1}$ and $W_{D,t-1}$ are the investment pathway's strategic allocation to growth and defensive assets at end of quarter t-1 (or start of quarter t); $R_{G,t}$ and $R_{D,t}$ is the quarterly index return of the growth and defensive portion of the SRP (adjusted for fees and taxes) to time t; n is either 3 years, 5 years or 8 years</p> <p><i>The SRP assumes rebalancing on a quarterly basis.</i></p> <p><i>The return on the growth portfolio is calculated as:</i></p> $R_{G,t} = \sum_{l=1}^3 \left\{ \frac{(1 + Index_{l,t})}{(1 + Fee_l)^{0.25}} - 1 \right\} \times (1 - ETR_l) \times w_{G,l}$ <p>$Index_{l,t}$ is the quarterly return on the index chosen to reflect asset class l for quarter t;</p>	This metric creates a bespoke reference portfolio for the product based on its allocation to growth assets (based on a consistent definition). The reference portfolio is a notional, simple, low cost portfolio consisting only of equities, bonds and cash.

Metric	Formula	Purpose
	<p>Fee_l is the annualised fee assumed for asset class l; ETR_l is the assumed effective tax rate for asset class l; w_{G,l} is the weight to asset class l in the Growth portfolio. The asset classes in Growth portfolio are Australian equities, International equities (hedged) and International equities (unhedged).</p> <p><i>The return on the defensive portfolio is calculated as:</i></p> $R_{D,t} = \sum_{l=1}^3 \left\{ \frac{(1 + Index_{l,t})}{(1 + Fee_l)^{0.25}} - 1 \right\} \times (1 - ETR_l) \times w_{D,l}$ <p>Index_{l,t} is the quarterly return on the index chosen to reflect asset class l for quarter t; Fee_l is the annualised fee assumed for asset class l; ETR_l is the assumed effective tax rate for asset class l; w_{D,l} is the weight to asset class l in the Defensive portfolio. The asset classes in Defensive portfolio are Australian fixed interest, International fixed interest (hedged) and Cash.</p>	
<p>Net Investment Return relative to SAA benchmark portfolio p.a.</p>	<p><i>Performance relative to SAA benchmark portfolio</i> = n year NIR p.a. – n year SAA benchmark portfolio return p.a.</p> <p>where</p> <p><i>n year SAA benchmark portfolio return</i></p> $p.a. = \left[\prod_{t=1}^{4n} \left(1 + \sum_{l=1}^A (SAA_{l,t-1} \times R_{l,t}) \right) \right]^{\frac{1}{n}} - 1$ <p>SAA_{l,t-1} is the strategic asset allocation to asset class l at end of quarter t - 1 (or start of quarter t); R_{l,t} is the return on the index chosen to reflect asset class l for quarter t after adjustments for the impact of fees and taxes; n is either 3 years, 5 years or 8 years; A is equal to the total number of asset classes</p> $R_{l,t} = \left\{ \frac{(1 + Index_{l,t})}{(1 + Fee_l)^{0.25}} - 1 \right\} \times (1 - ETR_l)$ <p>Index_{l,t} is the quarterly return on the index chosen to reflect asset class l for quarter t, Fee_l is the annualised fee assumed for asset class l, ETR_l is the assumed effective tax rate for asset class l</p>	<p>This metric assesses the value added through an RSE licensee's implementation of the SAA relative to asset class benchmarks.</p>

Metric	Formula	Purpose
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Fees and Costs Metrics

The components used to calculate Fees and Costs metrics are sourced from [SRS 706.0 Fees and Costs](#) as at 1 October 2022. RG97 compliance is sourced from [SRS 605.0 RSE Structure](#). Administration fees disclosed include Costs Component Activity Type for Administration and Advice in [SRS 706.0](#). Where compliance is with the 2020 version of RG97 the advice component should be zero (with intrafund advice costs included as part of the administration component) while if compliance is with the 2017 version of RG97 the advice component may include intrafund advice. All other advice costs are expected to be reported under the Costs Component Activity Types of 'Member Activity' or 'Other' and are not included in the metric.

Total fees and costs disclosed include Fees and Costs Component Activity Types across Administration, Advice, Investment and Transaction.

Any tiering of fees and costs is incorporated the calculation of metrics below.

Administration fees and costs	$\text{Minimum} \left(\text{Maximum} \left(\frac{\$ \text{ admin fee}}{\text{account balance}}, \text{charge minimum \%} \right), \text{charge maximum \%} \right)$ $+ \text{Minimum} \left(\text{Maximum} \left(\% \text{ admin fee}, \frac{\text{charge minimum \$}}{\text{account balance}} \right), \frac{\text{charge maximum \$}}{\text{account balance}} \right)$	The forward-looking impact of administration fees a member can expect to be charged on their account balance.
Total fees and costs	Administration fees (% of account balance) + Transaction costs (% of account balance) + Investment fees and costs disclosed (% of account balance).	Provides a forward-looking lens on the total fees members can expect to be charged on their account balance.

Sustainability of Member Outcomes Metrics

Sustainability metrics are calculated from data collected through the long-standing APRA D2A collection, and are presented at the level of the RSE that offers each investment pathway. Accounts data is sourced from [SRS 610.1 Changes in Membership Profile](#). Net cash flow and rollover data is sourced from [SRS 330.0 Statement of Financial Performance](#). Cashflow adjusted net assets is calculated using the same method as the [Annual fund-level superannuation statistics publication](#). Additional data adjustments have been applied to allow for consolidation activity.

All metrics are presented for the three years to 30 June 2022 (except total accounts growth rate which may alternatively be presented for the prior most recent three completed financial years for RSEs that do not have a 30 June financial year end).

Total Accounts Growth Rate	<p>3 year adjusted total account growth rate =</p> $\frac{1}{3} \sum_{t=1}^3 \left[\frac{\left(\begin{array}{l} \text{Total Accounts}_t \\ + \text{Consolidated Accounts}_t \\ - \text{SFT In}_t + \text{SFT Out}_t \end{array} \right)}{\text{Total Accounts}_{t-1} - 1} \right]$	Average inherent growth rate of total member accounts over last 3 years, adjusted for
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Metric	Formula	Purpose
		consolidations and SFTs.
Net Cash Flow Ratio	$3 \text{ year } NCF \text{ ratio} = \frac{1}{3} \sum_{t=1}^3 \left[\begin{array}{l} \text{Member benefit flows in}_t \\ + \text{Insurance related inflows}_t \\ - \text{Insurance related outflows}_t \\ - \text{Member benefit flows out}_t \end{array} \right] / \text{Cashflow adjusted net assets}_t$	Measure of an RSE's asset growth removing the impact of investment returns and fees and costs.
Net Rollover Ratio	$3 \text{ year } Net \text{ Rollover } Ratio = \frac{1}{3} \sum_{t=1}^3 \left[\frac{\text{Rollovers in}_t - \text{Rollovers out}_t}{\text{Cashflow adjusted net assets}_t} \right]$	Measure of members' preference for an RSE and level of active decisions to roll money into or out of an RSE. This measure provides additional insights into the net cash flows of an RSE.

Appendix B – Indices

The following indices⁷ were used when creating the reference and benchmark portfolios:

Asset Class	Index	Fee Assumption	Assumed effective tax rate	Bloomberg Ticker
Australian Equity	S&P/ASX 300 Total Return Index	0.05%	0.00%	ASA52
International Equity (hedged)	MSCI All Country World Ex-Australia Equities Index with Special Tax (100% hedged to AUD)	0.11%	14.00%	DE725341
International Equity (unhedged)	MSCI All Country World Ex-Australia Equities Index with Special Tax (unhedged in AUD)	0.09%	14.00%	DN714533
Australian Listed Property	S&P/ASX 300 A-REIT Total Return Index	0.12%	14.00%	ASA6PROP
International Listed Property	FTSE EPRA Nareit Developed ex Aus Rental 100% Hedged to AUD Net Tax (Super) Index	0.22%	14.00%	RAHRSAH
Australian Listed Infrastructure	FTSE Developed Core Infrastructure 100% Hedged to AUD Net Tax (Super) Index	0.26%	14.00%	FDCIISAH
International Listed Infrastructure	FTSE Developed Core Infrastructure 100% Hedged to AUD Net Tax (Super) Index	0.26%	14.00%	FDCIISAH
Australian Unlisted Property	MSCI/Mercer Australia Core Wholesale Monthly Property Fund Index – NAV-Weighted Post-Fee Total Return (All Funds)	0.00%	14.00%	N/A
International Unlisted Property	MSCI/Mercer Australia Core Wholesale Monthly Property Fund Index – NAV-Weighted Post-Fee Total Return (All Funds)	0.00%	14.00%	N/A
Australian Unlisted Infrastructure	MSCI Australia Quarterly Private Infrastructure Fund Index (Unfrozen) – NAV-Weighted Post-Fee Total Return (All Funds)	0.00%	14.00%	N/A

⁷ Indices will be reviewed on a regular basis for appropriateness. Investment Strategic Sector Type from SRS 550.0 Credit is included in the relevant fixed interest asset classes by domicile and Alternatives are included in Other.

Asset Class	Index	Fee Assumption	Assumed effective tax rate	Bloomberg Ticker
International Unlisted Infrastructure	MSCI Australia Quarterly Private Infrastructure Fund Index (Unfrozen) – NAV-Weighted Post-Fee Total Return (All Funds)	0.00%	14.00%	N/A
Australian Fixed Interest	Bloomberg Ausbond Composite 0+ Index	0.10%	15.00%	BACM0
International Fixed Interest	Bloomberg Global Aggregate Index (hedged in AUD)	0.10%	15.00%	LEGATRAH
Australian Cash	Bloomberg Ausbond Bank Bill Index	0.04%	15.00%	BAUBIL
International Cash	Bloomberg Ausbond Bank Bill Index	0.04%	15.00%	BAUBIL
Other (assets categorised as Other)	25% International Equity (hedged), 25% International Equity (unhedged), 50% International Fixed Interest	As per the underlying asset classes		

The benchmarks chosen are considered to be representative of the investable market for an Australian superannuation investor. Total return indices (that is, returns inclusive of dividends as well as capital gains) have been used.

Index provider acknowledgements

Source: “Bloomberg®”, Bloomberg Ausbond Bank Bill Index, Bloomberg Ausbond Composite 0+ Index and Bloomberg Global Aggregate Index (hedged in AUD) are service marks of Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited (“BISL”), the administrator of the index (collectively, “Bloomberg”) and have been licensed for use for certain purposes by APRA. Bloomberg is not affiliated with APRA and Bloomberg does not approve, endorse, review, or recommend APRA’s heatmaps. Bloomberg does not guarantee the timeliness, accurateness, or completeness of any data or information relating to APRA’s heatmaps.

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Source: The S&P/ASX 300 Total Return Index and S&P/ASX 300 A-REIT Total Return Index are products of S&P Dow Jones Indices LLC or its affiliates (“SPDJI”) and ASX Operations Pty Ltd., and has been licensed for use by the Australian Prudential Regulation Authority (“APRA”). Standard & Poor’s® and S&P® are registered trademarks of Standard & Poor’s Financial Services LLC (“S&P”); Dow Jones® is a registered trademark of Dow Jones Trademark Holdings LLC (“Dow Jones”); ASX® are trademarks of the ASX Operations Pty Ltd. and these trademarks have been licensed for use by SPDJI and sublicensed for certain purposes by APRA. APRA’s publications are not sponsored, endorsed, sold or promoted by SPDJI, Dow Jones, S&P, their respective affiliates, or ASX Operations Pty Ltd. and none of such parties make any representation regarding the advisability of investing in such product(s) nor do they have any liability for any errors, omissions, or interruptions of the S&P/ASX 300 Index and S&P/ASX 300 A-REIT Index.

Source: The blended returns are calculated by APRA using end of reporting period index level values licensed from MSCI (“MSCI Data”). For the avoidance of doubt, MSCI is not the benchmark “administrator” for, or a “contributor”, “submitter” or “supervised contributor” to, the blended returns, and the MSCI Data is not considered a “contribution” or “submission” in relation to the blended returns, as those terms may be defined in any rules, laws, regulations, legislation or international standards. MSCI Data is provided “AS IS” without warranty or liability and no copying or distribution is permitted. MSCI does not make any representation regarding the advisability of any investment or strategy and does not sponsor, promote, issue, sell or otherwise recommend or endorse any investment or strategy, including any financial products or strategies based on, tracking or otherwise utilizing any MSCI Data, models, analytics or other materials or information.



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