

Challenger Guided Choice Retirement Solutions

May 2021

Designing
Retirement Solutions
in the Best Interests
of Members

Executive summary

Trustees will have an opportunity to implement guided choice to improve outcomes for their members in retirement.

Retirement is the new frontier of super. The pool of savings in retirement is growing, and there is a need to think more about the retirement offering to members. Now, more than ever, getting retirement right can lead to the ongoing sustainability of a fund. Guided choice identifies a way for trustees to implement a meaningful and sustainable retirement offer with the best interests of members front of mind. Challenger's new cohorting framework identifies a way for trustees to analyse their member base and test product combinations for use with guided choice or whatever other member engagement approach they choose.

What is guided choice in the context of this paper?

Guided choice was an expression used in the final report of the 2020 Retirement Income Review (RIR) to describe how trustees will simplify retirement income decisions for members. The report referenced submissions that had used the expression to describe a framework that operated as a 'soft default' where people were nudged towards a certain path but have to consent to that option.¹

The guided choice concept was used by the RIR in the context of the introduction of the retirement income covenant (RIC) which the Government has recently confirmed as commencing on 1 July 2022. What this means is that the time for super funds to be seriously thinking about guided choice (or their preferred alternative engagement solution) is now.

This paper is intended as a thought-provoker around how a fund should think about cohorting its members in preparation for the introduction of the RIC. It is not intended to be legal, tax or financial product advice. Even so, there is no time to waste. Readers will see from even leafing through this paper, that there are many things to think about.

Understandably, this paper is not about financial advice, nor the legalities involved. Rather, it invites funds to start thinking about how they are going to cohort their members in anticipation of the commencement of the RIC and guided choice.

A cohorting framework

Retirees cannot, on their own, be expected to understand what combination of products and investments will likely be suitable for them in retirement. The length of retirement is a key uncertainty for retirees, and this makes many fear running out of money. A trustee can ease some of this burden from the member by providing guidance at a cohort level to assist members in making their choice of retirement solution, for example through guided choice.

Trustees can utilise the characteristics known about members such as age, gender and balance, to develop retirement solutions that will meet the needs of different cohorts of members. The cohorting framework we have in this paper shows how a trustee can use financial modelling to identify those retirement solutions by understanding (among other things) the retirement income and bequest outcomes for each cohort of members.

The framework includes sensitivity analysis and the need to understand the trade-offs experienced by members. Tailoring to an appropriate cohort will allow the member's choice to be informed by the retirement solution determined as most suitable for the cohort that they are identified with. Building the cohort solutions will inform the development of member engagement material. It will also help raise any red flags necessary to help ensure members don't choose an inappropriate solution.

Currently, the usual option offered to most members at retirement is an account-based pension (**ABP**), which does not always provide a better outcome for all cohorts of members. In this paper, trustees are encouraged to consider a range of retirement solutions, such as a blended retirement product which offers longevity protection and an ABP. Financial modelling explained in this paper has shown that a broad cohort of retirees might be better off with a blended retirement product vs an ABP alone.

¹ The Australian Government the Treasury, July 2020, 'Retirement Income Review Final Report', footnote 317 on page 458, accessed 18 May 2021, <https://treasury.gov.au/sites/default/files/2021-02/p2020-100554-udcomplete-report.pdf>

1. Introduction

Trustees need a fit for purpose offer to meet their retiring members' needs. To do this efficiently, scale and quality outcomes across all members is required. This paper considers outcomes of recent Challenger research that explored how trustees might be able to help members transitioning from accumulation to retirement.

Our research considered two hypotheses:

- That a trustee could identify cohorts of members for whom a particular retirement solution is likely to be in their best interests and guide members about that solution.²
- That a retirement solution that integrates the flexibility of an ABP with a lifetime income stream is likely to provide a better retirement outcome to certain cohorts of members compared to an ABP alone.

2. Thinking about retirement solutions

2.1 The time is now

While the super system continues to mature, and balances at retirement grow, many members already have significant balances at retirement. The average balance for members in the pension phase of a super fund is now \$289,000.³ Industry funds, with a relatively younger retirement population, have an average pension balance of \$326,000. Policymakers are aware of this, with the retirement income covenant due to commence in July 2022 to help members achieve a better retirement outcome.

Solutions will need to be 'mass customised' and delivered on a larger scale than what has been done to date.

Figure 1: Member needs in retirement

Identified member need	Retirement solution provides...
I want a retirement solution which is easy to understand	Simple and easy to understand
I am unsure what lump sums I may require in retirement	Flexibility and access to your money
I want to maximise my Age Pension	Boosts income from the Age Pension
I want to leave part of my super to my family	An estate value to beneficiaries
I am unsure of the impact of investment markets on my income in retirement	A level of income guaranteed for life that is protected from how markets perform
I am unsure how long I will live	Income for life / longevity protection

2 Section 52 of the Superannuation Industry (Supervision) Act 1993 now includes a duty to promote the financial interests of members. In this paper, 'best interests' should be read as including a reference to this additional duty.

3 Challenger Limited, 'How much money do super funds have in the pension phase? More than you might think.', February 2021, accessed 18 May 2021, challenger.com.au/-/media/challenger/documents/thought-leadership/pension-balances-update-february-2021.pdf

4 The Australian Government the Treasury, July 2020, 'Retirement Income Review Final Report', accessed 18 May 2021, <https://treasury.gov.au/sites/default/files/2021-02/p2020-100554-udcomplete-report.pdf>

5 Financial Security in Retirement After the Coronavirus Crisis survey, Your Life Choices 2020.

2.2 Improving member outcomes through better member guidance

The RIR noted the need for retirees to convert their super savings into income through retirement.⁴ However, complexity impacts a member's ability at the point of retirement to choose what products to invest in. This is particularly true in the absence of financial advice that considers the trade-offs and additional risks faced in retirement. Indeed, the Final Report states (p443-4):

It is almost impossible for retirees to determine an optimal retirement income strategy on their own. Very few people seek help when making decisions.

Currently, selecting a good retirement solution involves time, money and effort from the retiree. Around 24% of retirees are not confident that their current financial retirement plan will enable them to live a comfortable life, and only 37% of retirees had received advice from their super fund in the last 12 months.⁵

The RIR observed (p 431):

For the retirement phase to be more effective, people need more assistance to navigate the system and get better outcomes; for example, through guided choice and system simplification.

2.3 Meeting the needs of members

Trustees looking to design better retirement solutions are likely to engage with their members to understand their needs. Different super funds might require different retirement solutions based on their member characteristics. There are common themes that are often raised when it comes to financial needs in retirement. Six key member needs that a retirement solution should solve for are set out below.

Retirement solutions also need to be practical. Key themes can include scalability, cost and complexity of implementation and ongoing administration, legacy product risk, and potential for retention and growth.

2.4 Components of a retirement solution

It is recognised that an ABP alone does not effectively protect many retirees from the key retirement risks, such as longevity risk.⁶ Longevity risk might not be a term heard from members, but it is a function of the concerns they have about how to consume savings so income will last for life, and a fear of doing it wrong.

Trustees can also use a lifetime income stream to meet member needs. Policy initiatives, such as the Innovative Retirement Income Stream (**IRIS**) rules were designed to encourage these products. IRIS products pay an income stream for life and can be guaranteed or have payments that vary.

On their own an ABP or an IRIS might not meet all the needs of members. A blended retirement product can combine these products, benefiting from the characteristics of each to achieve the desired member outcomes.

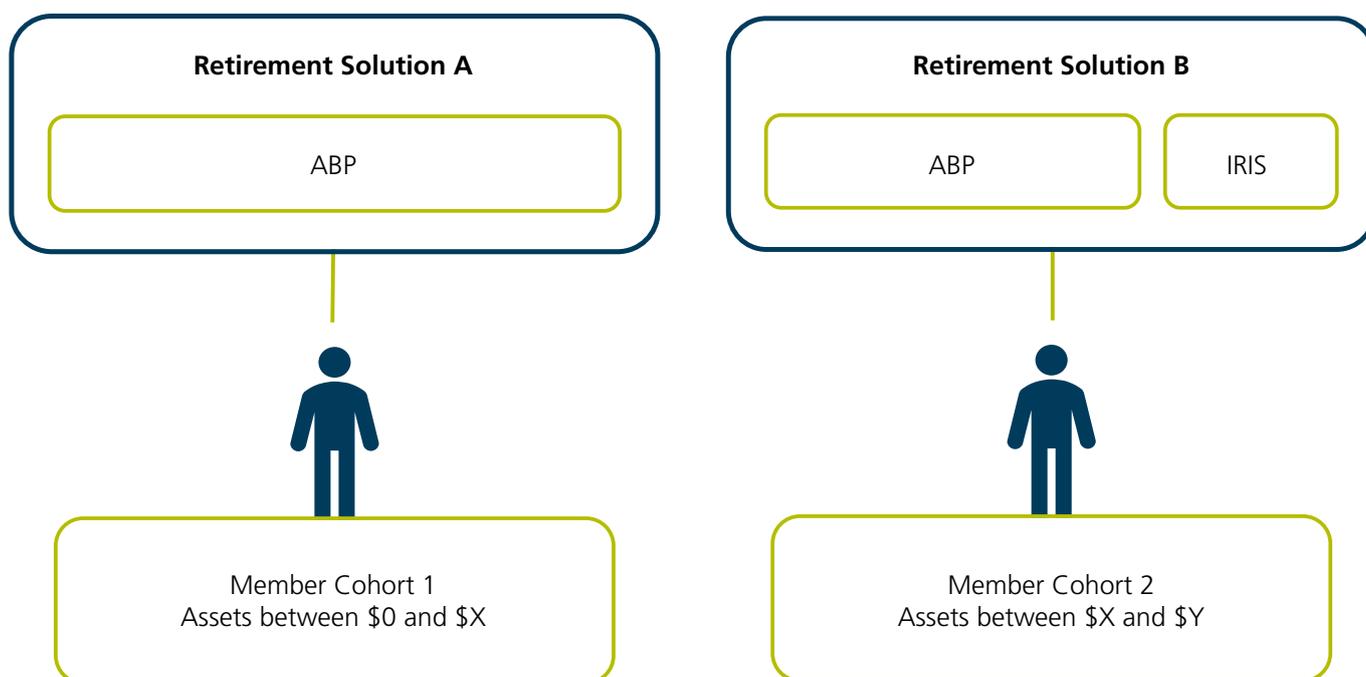
3. Implementing guided choice

Guided choice is a cohorting approach where the trustee undertakes financial modelling to identify cohorts of members and the retirement products that appear to suit the common characteristics of each cohort. On the approach to, and upon retirement, the super fund positions to members the retirement solutions suited to each cohort, to help guide and inform them with their choice of retirement solution. This is likely to improve retirement outcomes for members who do not get personal financial advice and who are looking for guidance from their super fund. Appendix A sets out some considerations for implementing guided choice.

3.1 The pathway

Guided choice is based on the trustee acting in the best interests of members as a whole. Using member cohorts identifies similar members who would benefit from a retirement solution targeted at that cohort. There is no expectation this this would be the absolute best solution for every member. A trustee can look at the expected retirement outcomes for a cohort to find a mix of ABP and IRIS to meet member needs. A solution would include an IRIS where the expected outcome for members of the cohort is better than in an alternative solution.

Figure 2: Example of Guided Choice retirement solutions



6 The Australian Government the Treasury, May 2018, 'Retirement Income Covenant Position Paper', <https://treasury.gov.au/sites/default/files/2019-03/c2018-t285219-position-paper-1.pdf>

Each guided choice retirement solution should include a set of red flags, warning when it might not be right for a member with particular characteristics.

It is up to the trustee to decide where a retirement solution will serve the best interests of members, and different trustees can reach different conclusions on their member cohorts and retirement solutions offered. The key is the process undertaken by the trustee to determine whether a retirement solution is in the best interests of a cohort of member. This paper sets out a framework a trustee could apply to assist in meeting these requirements.

3.2 The engagement strategy

Guided choice is not designed as a default outcome for a member. Members will still need to choose their retirement solution.

It will be up to each individual super fund to decide on its preferred engagement strategy for guided choice. The ultimate shape of the RIC rules, including specific amendments to the advice regime to facilitate the RIC will need to be considered. Every fund is likely to have its own preferences. Care needs to be exercised in the formulation, implementation and monitoring of any engagement strategy.

4. Designing member cohorts

4.1 The goal

To design member cohorts for guided choice, a trustee can identify where a particular solution is likely to be in the best interests, on average, of members in that cohort. The number of cohorts and retirement solutions that the trustee ultimately positions will be driven by the process to identify the solutions offered to each member cohort.

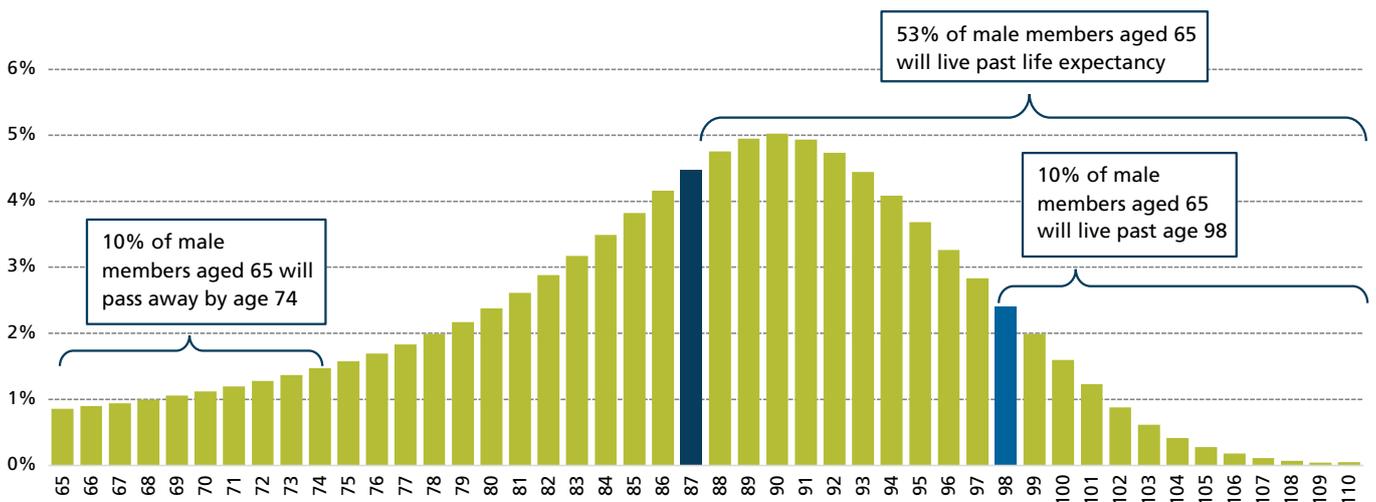
A trustee might aim to create simple broad member cohorts or more detailed member cohorts. This goal might be influenced by the member experience, administrative complexity, and simplicity of the retirement offering the trustee is looking to achieve.

4.2 Expected outcomes

Designing member cohorts should include a quantitative risk-based assessment of what retirement solution meets the needs of members in the cohort. For example, the trustee could consider the expected retirement outcomes for a particular cohort. The preferred solution need not be optimal for every member, but it should be expected to provide better outcomes to alternative solutions for the member on average.

Each member's lifespan is unknown and, at an individual member level, there is great uncertainty about how long someone will live. Figure 3 illustrates the significance of the deviation of outcomes from the mean.

Figure 3: Likelihood of dying at each age for a male currently aged 65⁷



7 Australian Government Actuary 2015-17 mortality rates with 25-year mortality improvement factors

The Actuaries Institute provides guidance on how to calculate life expectancies for retirees. It recommends the use of the latest Australian life tables allowing for future improvements in mortality.⁸ On this basis, a male retiree aged 65 has a life expectancy of around age 87. However, as Figure 3 shows, over half of members of this cohort are likely to live past their life expectancy. Indeed, 10 out of every 100 members of this cohort might live past age 98, but 10 out of every 100 will die before age 74.

In determining the average or expected outcome for a cohort, trustees need to consider the retirement outcomes for members who die at each possible future age, rather than just the average, such as life expectancy. Not focusing on this, is a very common oversight.

4.3 Comparing retirement solutions

To identify which retirement solution is likely to be in the best financial interests of members of a cohort on average, the trustee needs to compare member outcomes under a range of retirement solutions and scenarios.

Net investment return is a recognised assessment for the accumulation phase. There is no standardised or common approach for comparing retirement solutions. Further, metrics focused solely on fund investment performance would not be sufficient to assess the performance of a solution in retirement. Returns achieved are only part of the equation in respect to assessing retirement outcomes, a more holistic metric is required.

A holistic metric is one that places a value on a member's overall retirement outcomes. The primary purpose of super is to provide retirement income. However, the amount paid to beneficiaries on death is still an important consideration for many members, as identified in section 2.3. For example, in the event of an early death, a member might be concerned that their spouse is looked after financially. A holistic metric could balance the objectives of providing income for life for those who live a long time, with paying a bequest for those who do not live as long.

Considerable work has been done on utility models that identify optimal retirement solutions at the individual level. However, for the purposes of guided choice, trustees will often be operating on limited information, such as age, gender and super balance of a member. This requires a metric for comparison of cohort outcomes, rather than individual optimisation.

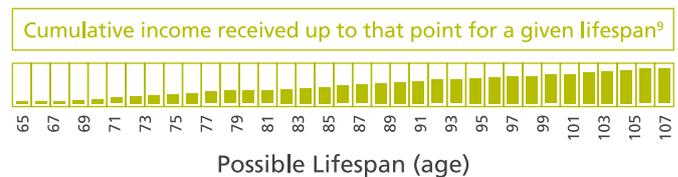
4.4 The present value measure

A present value measure is proposed as the primary metric to weigh up the range of income and estate value outcomes, to produce a single measure of value for a member of a cohort.

This present value based approach is illustrated below:⁹

- Total income received over the lifetime, for a given lifespan.

(e.g. a female member aged 65 today who dies at age 70 will receive around 5 years of retirement income, including Age Pension)



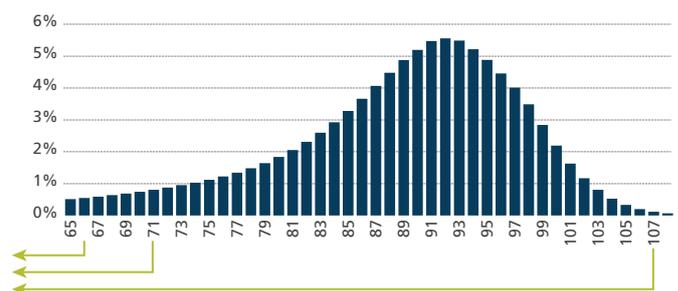
- The estate value on death for a given lifespan.

(e.g. a female member aged 65 today who dies at age 70 will have a death benefit equal to any remaining ABP balance, plus any death benefit paid from a lifetime income stream)



- Range of lifespans possible, and their respective likelihoods.

(e.g. of every 10,000 female members around 75 will die aged 70, and so the value at age 70 has a 0.75% weighting when calculating the expected benefit for the cohort)



- Discount values to allow for the time value of money.

This would utilise a stochastic model of investment returns and inflation, use relevant mortality rates such as 2015-17 Australian Life Tables with 25-year improvements. It would represent an estimate of the 'expected' or 'average' value of a retirement solution for a member of a cohort.

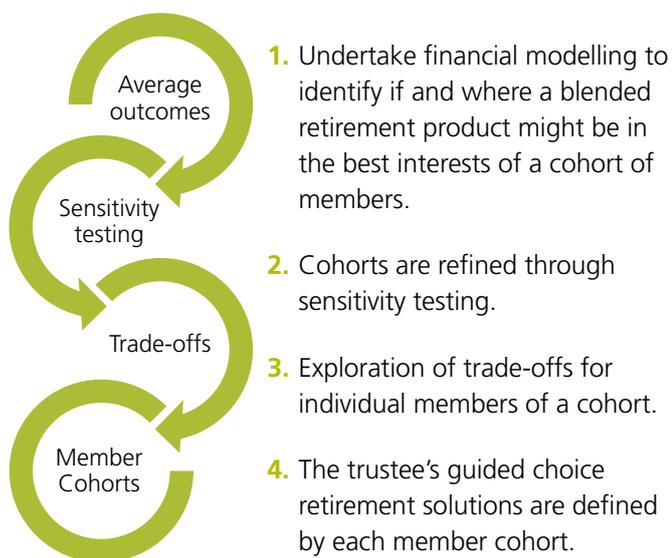
8 Hennington, J 2020, Actuaries Institute, 2020, 'The Importance of Accurate Life Expectancy Calculations in Retirement Advice', accessed 17 May 2021, <https://actuaries.asn.au/Library/Miscellaneous/2020/RNLifeExpectancy.pdf>

9 These visuals are illustrative only and are not to scale.

4.5 Framework for determining member cohorts

Below is a framework that could be utilised by a trustee to determine the member cohorts.

There are four key steps in the framework to determine the member cohorts and prepare supporting evidence for the retirement solutions selected as the guided choice solution for each cohort:



The **first step** is to consider the average outcomes for members with different characteristics. The present value metric can narrow down the consideration set of retirement products to those suitable for members of a cohort.

A solution is preferred for a cohort and eligible as a guided choice solution where the below requirements are met:

The **'member is better off on average'** – the present value of a solution is the same or exceeds that of other solutions for a cohort

AND

'Most members will be better off' – the proportion of members in a cohort who receive total income and estate value outcomes the same or higher than alternative solutions is greater than 50%.

The present value metric can be calculated for a range of retirement solutions and cohorting characteristics such as age, gender and asset levels. Results can be presented in a 'heatmap' style identifying the solutions with higher present values for a given asset level, age and gender.

The **second step** recognises that a trustee will look for solutions and cohorts that are robust and not overly sensitive to the assumptions and inputs used.

Sensitivities are explored to identify outliers and uncertainties that require an adjustment to the cohorts. Items that could be tested in this step include:

- Market performance, discount rate on present value, mortality basis.
- Spending rate of members in retirement (e.g. high spending, minimum drawdowns) and testing volatility of income outcomes if a spending rate other than a target rate is tested.
- Relationship status, homeowner status, age, and other assets or income outside the super fund.
- Tolerance for outcomes (e.g. lower weighting on estate values).

Thirdly the trade-offs experienced within a cohort are explored. This is important because averages do not illustrate the range of outcomes that individual members might experience. Retirement should not be a gamble. The framework explores the experience received if a member dies at different ages to ensure the magnitude and likelihood of those experiences are understood and are acceptable to the trustee.

This process will also help articulate any red flags for a member cohort to indicate to a member that the guided solution might not suit their circumstances. These characteristics can be highlighted within the engagement strategy to help members understand if the guided choice solution is right for them.

The **fourth step** of the Framework is to articulate the set of member cohorts that will be implemented as part of the trustee's guided choice framework for retirement.

4.6 Key assumptions and inputs from the Trustee

The trustee would identify the characteristics it has available (such as age, gender and balance) for cohorting members, potentially the risk profile for retirees, and the retirement products to be considered for the guided choice solutions.

The trustee will also need an assumption for how members will spend their savings. The trustee should model any spending rules associated with their retirement products (e.g. minimum pension drawdowns) and consider the overall retirement spending strategy of members. For example, a strategy aligned with member needs might be assuming a member spends in retirement at a level that will keep pace with inflation and has a high likelihood of lasting for life, or at a specific replacement ratio if disposable income is known or estimated.

In summary, the trustee would identify base case assumptions for the initial average outcome analysis, at minimum:

- risk profile and fees;
- drawdown strategy;
- market returns and inflation assumptions, and;
- typical retirement age and homeownership status of members.

The trustee can tailor this base case using knowledge of their retiring members. For example, if the typical retirement age of members was age 65 then that might be the age at which initial analysis is completed for designing member cohorts, with a range of ages around that retirement age considered as part of sensitivity testing.

To address the risks faced by members in retirement effectively, it is recommended that the modelling undertaken allows for the range of outcomes a member might experience in respect to lifespans, market returns and inflation, and the means tested outcomes of the Age Pension.

5. Example application and results

The framework below has been applied to a hypothetical super fund to illustrate how a trustee could design guided choice retirement solutions for member cohorts. Results are illustrative only. The application of the framework tailored to a specific fund could include a more detailed set of scenarios, tailored assumptions, inputs and sensitivities, and might yield different results.

5.1 Setting up the financial modelling

Consider an APRA-regulated super fund that, after examining members and trustee needs, has decided to

implement guided choice and broaden the retirement solutions available to members to include a blended retirement product. The fund is looking to define member cohorts for a 65% growth, 35% defensive risk profile.

Based on member needs, the blended retirement product will use a lifetime income stream which has a death benefit and withdrawal value. It has payments guaranteed for life, which increase annually with inflation. Immediate payments, as well as payments deferred for 5 and 10 years, are considered.

The trustee knows a member's age, gender and balance at retirement. They would like to design simple member cohorts based on account balance and identify if there are cohorts where the Blended Retirement Product is expected to be in the best interest of cohorts of both genders at retirement age compared to an ABP alone. Super balances between \$100,000 and \$1.6m are considered.

Based on their membership, the trustee selects a base case for the financial modelling of retirees who are homeowners aged 65 spending at a sensible rate. This means a level of annual spending that keeps pace with price inflation and has a high chance of lasting for life.

Utilising Challenger's retirement income model, 2,000 simulations of retirement are modelled for each retirement solution using asset class returns and inflation assumptions from Willis Towers Watson's Global Asset Model and allowing for the means tested Age Pension. The 'member better off on average' test is based on the average of the present value metric calculated for each simulation. The 'most members are better off' test is based on the 50th percentile outcome across the 2,000 simulations for total income and estate value at each future age. All results are in today's dollars.

See Appendix B for further information on the methodology and inputs.

5.2 Step 1 results

The heatmap below summarises the outcome of the first step of the cohorting framework:

Retirees aged 65		Superannuation Balance													
Blended Retirement Product	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000	\$1,200,000	\$1,400,000	\$1,600,000	
75% ABP + 25% Lifetime	No deferral	Blue	Green	Green	Green	Green									
80% ABP + 20% Lifetime	No deferral	Blue	Green	Green	Green	Green									
85% ABP + 15% Lifetime	No deferral	Blue	Green	Green	Green	Green									
75% ABP + 25% Lifetime	Defer 5 years	Blue	Blue	Green	Green	Green	Green								
80% ABP + 20% Lifetime	Defer 5 years	Blue	Blue	Green	Green	Green	Green								
85% ABP + 15% Lifetime	Defer 5 years	Blue	Blue	Green	Green	Green	Green								
75% ABP + 25% Lifetime	Defer 10 years	Blue	Blue	Blue	Blue	Green	Green	Green	Green	Green	Green	Green	Green	Green	
80% ABP + 20% Lifetime	Defer 10 years	Blue	Blue	Blue	Blue	Green	Green	Green	Green	Green	Green	Green	Green	Green	
85% ABP + 15% Lifetime	Defer 10 years	Blue	Blue	Blue	Blue	Green	Green	Green	Green	Green	Green	Green	Green	Green	

Green indicates where a blended retirement product is in the best interests of the cohort compared to an ABP alone. That is, the average outcome for a member of the cohort is higher (an uplift in present value) and most members will be better off (most members have higher median total income and estate value when they die).¹⁰ Results for males and females are overlaid so only account balances where the result was 'green' for both males and females are rated as green. Conversely, blue indicates where the blended retirement solution was not 'green' for the cohort and so the ABP alone is preferred. Detail on the results underlying this heatmap can be found in Appendix C.

This analysis identifies that there is likely to be a broad cohort of retirees who might be better off with a blended retirement product. For these retirees, a lifetime income stream which has payments that commence immediately or with a short deferral might be preferred. All other things being equal, the estate value for a blended retirement solution with a deferred payment option will be lower in the first part of retirement compared to an immediate payment. This is due to the need to draw more heavily on the ABP to fund spending during the deferral period. The longer the deferral, the greater the impact. However, a deferred option can provide a higher annual payment once payments commence and if a lower weighting is placed on estate value vs income, the results could change.

The exception is retirees with low balances. For these retirees, having access to all their savings might be beneficial to ensure spending and liquidity needs can be met in periods until they are eligible for Age Pension.

Initial results indicate that the trustee might have a minimum of two member-cohorts: a cohort with low balances using an ABP alone, and a broad cohort with higher balances using the blended retirement product.

5.3 Step 2 sensitivity testing

To help define the member cohorts and any red flags, modelling would be completed to understand sensitivity of the Step 1 results to some of the key assumptions. Further detail on the outcomes described below can be found in Appendix C.

- Examining the top and bottom 10th percentile of present value outcomes at each future age, we find the cohorts where a blended retirement product is preferable under the present value metric remain consistent.
- A higher real discount rate for the present value calculations sees a greater value attributed to outcomes at younger ages compared to older age and so there is a significant narrowing of the cohort where the longer deferred payment option might be preferred.
- When looking at the proportion of members better off, if the estate value for the blended retirement product was even \$1 lower than the ABP alone at any particular age, then that age fails the test. If a level of tolerance is applied to the estate value, results are consistent with Step 1.¹¹ A slightly broader cohort of members might be guided to a blended retirement product with a deferred payment lifetime income stream where the estate value was more likely to be lower in the first part of retirement.

After examining this initial information and considering their goal of a simple cohort design, the trustee might decide to focus on a blended retirement product with a 20% allocation to the lifetime income stream and the immediate and 5-year deferral payment options. As results appear broadly consistent at very high balances, the remaining sensitivity testing is conducted for super balances between \$100k and \$1million.

Below we consider a few examples of sensitivity testing a trustee could complete.

Sensitivity to higher spending rates

The spending rate determines the shape of income and estate values experienced over retirement. Where members want to spend aggressively, they might be better off with a blended retirement product. The ABP alone might sustain the higher level of spending a couple of years longer than with a blended retirement product, but then the member is left to rely solely on the Age Pension. Under the blended retirement product, the member might be able to afford slightly fewer years of higher spending, but then have a higher income for the remainder of life.

¹⁰ At least 60% of members better off is dark green, greater than 50% but less than 60% is light green.

¹¹ If members had a stronger preference for income vs estate value, a trustee could adjust the 'proportion of members better off' measure to consider ages where estate value is lower but within a tolerance of the ABP alone solution (eg within 5%), but total income is the same or higher than an ABP alone, still as 'better off'.

Under a higher spending strategy, fewer members will be better off with a blended retirement product, and the blended retirement product might be less preferable for cohorts with lower levels of savings.

The income experience within a cohort under a higher spending strategy might not be preferable. Early in retirement, members spending more achieve a better standard of living than under a sensible spending strategy. But, for the majority, savings will run out while the member is still alive and so will fall back to a much lower standard of living for the rest of retirement. This is compared to a sensible spender who is likely to achieve their spending for life – a more stable retirement income experience.

Sensitivity to member retirement age

The age at which a member retires can have a material impact on their retirement outcomes. An early retirement means less time working and saving, and a longer retirement on average. Where a member is not yet eligible for the Age Pension because of their age, the member will need to 'self-fund' the first period of their retirement. A combination of lower savings and early retirement can be particularly devastating to the retirement lifestyle a member can sustainably afford. For these members, the results suggest a blended retirement product might not be preferable. They face a risk of falling short and running out of savings prior to becoming eligible to the Age Pension, and spending should be carefully managed in this period. The impact is more pronounced with a deferred payment lifetime income stream as the member is receiving no income from the Age Pension, but also no income from the lifetime income stream in this critical period.

For members already of Age Pension age at retirement, results indicate that the benefit of the blended retirement product to the very wealthy cohorts reduces. However, members with low balances could potentially be better off with a Blended Retirement Solution.

Sensitivity to unknown member characteristics

The trustee will not have knowledge of some member characteristics which might impact retirement outcomes. These include homeownership, assets outside super, and marital status. The sensitivity analysis provides comfort to the trustee that the guided choice solutions, within reason, are robust to these key characteristics.

For example, results indicate that for non-homeowners the cohorts guided to a blended retirement product would be consistent with Step 1.

We have found that factors that are consistent across either retirement solution, or are not directly impacted by the choice of retirement solution, might not have as material an impact on the cohorts as trustees might have thought.

Red flags

The trustee might see the range of sensitivity outcomes not as a barrier to a retirement solution, but as a red flag that the solution might not be right for a member of the cohort with that characteristic. The results might also highlight opportunities for the super fund to engage further with members to assist them with their retirement.

For example, in response to the sensitivity results above our hypothetical trustee might:

- Offer an online tool to help members understand if a desired level of spending is likely to be sustainable.
- Utilise age as a red flag for members with lower super balances and engage with these members to help them with their early retirement challenges using an ABP alone.
- Plan to re-engage with members who retired early about the guided choice solutions when they attain Age Pension age based on their level of retirement savings at that time.

5.4 Step 3 Trade-off analysis

No one retirement solution will deliver the best outcome for all members at every future age. The trade-off analysis is about understanding the expected retirement outcomes at each age at which a member might die. The trustee can identify the ages at which a member might receive better retirement outcomes while ensuring the trade-offs members might experience if they die at other ages are acceptable.

Our hypothetical trustee requests to understand the trade-offs for the cohort of male retirees with \$300,000. The ABP-alone solution is compared to a blended retirement product, which has 20% invested in an immediate lifetime income stream and 80% invested in an ABP.

- The trustee would invest \$60,000 of the retirement product into the immediate lifetime income stream, and this will pay an income for life (increasing annually with CPI) of approximately \$2,390 p.a.
- The remaining \$240,000 would be invested in an ABP with an asset mix of 81% growth and 19% defensive.

For this 65-yr-old male, there is a chance that he will die at each age into the future, but he doesn't know what age that will be. From the Step 1 results, on average, a member of this cohort is expected to be better off with the blended retirement product. There is a 67% chance of a higher total income and estate values when a member of this cohort dies compared to a 33% chance with an ABP alone.

The 'sensible' spending rate is likely to remain sustainable past life expectancy. The chart in Figure 4 below illustrates the trade-offs for a member of this cohort, based on the median outcomes if they die at each future age.

There is a 9% chance that a member of this cohort will die in the first 9 years of retirement. In this timeframe, they will typically receive the same total income irrespective of whether they had an ABP alone or the blended retirement product. However, they could expect a higher estate value to be paid to beneficiaries with the blended retirement product, due to the death benefit being 100% of the initial investment in the lifetime income stream, plus the remaining ABP balance.

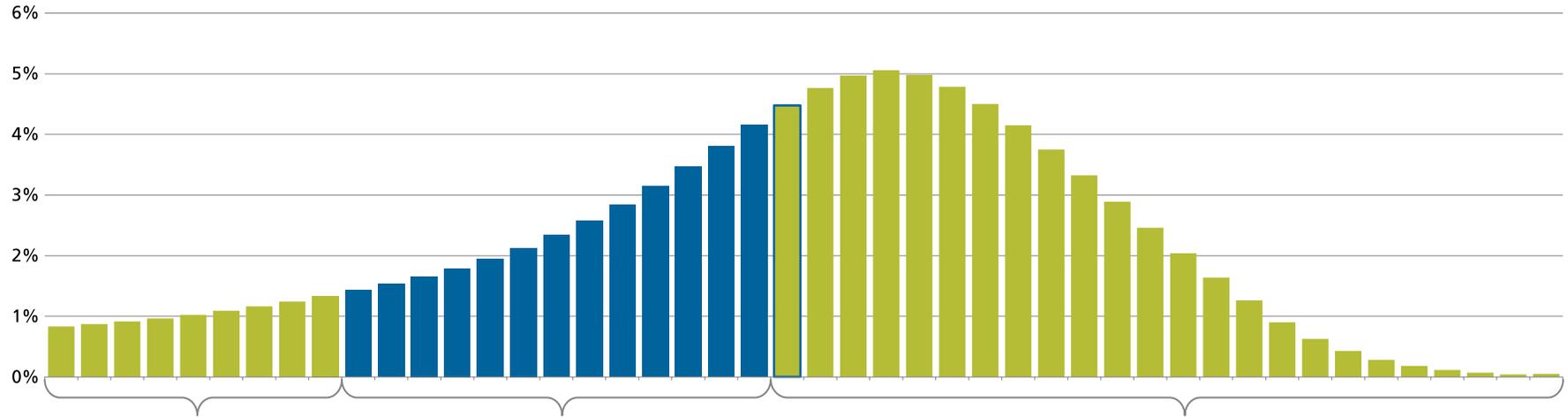
There is a 33% chance that a member of this cohort will die between ages 74 and 86. They will typically receive the same total income under each retirement solution. However, the estate value paid to beneficiaries is typically lower than under the ABP alone. This is primarily driven by the capital access schedule applying to the lifetime income stream, the death benefit in this period is driven by a formula which reduces the estate value to zero at life expectancy, even though the income stream would continue to make payments after this time.

There is a 58% chance that a member of this cohort will die aged 87 or above. This includes a sub-cohort of members between ages 87 and 94 where they will typically receive the same total income, but a higher estate value, under the blended retirement product. There is then a further sub-cohort between ages 95 and 98 where, with the ABP alone, savings will have run out and members will be relying solely on the Age Pension. In this period, the blended retirement product would provide both a higher total income and higher estate value. Then, from age 99 onwards, the ABP in the blended retirement product will also have run out, but a member falls back on a higher level of income than the Age Pension alone.

There is a trade-off under the blended retirement product that some members (33%) of the cohort could expect slightly lower estate values, the maximum difference in typical outcomes being \$9k. However, the trustees might be comfortable with this potential trade-off, considering the potential benefits for most members of the cohort (67%) in terms of higher total income or/and estate value. For example, a member could see an additional \$16k being passed to their beneficiaries if they died at age 72 compared to an ABP alone, or \$35k in extra income if the member survived to age 100.

Under this analysis, there are no red flags that would signify that the blended retirement product would be unsuitable for this member cohort. In practice, a trustee might explore the trade-off for a range of member cohorts and scenarios to really understand what is driving retirement outcomes.

Figure 4: Example trade-offs¹² for a male aged 65 with \$300,000, spending \$34,810 per annum



Age	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	
Proportion of members who will pass away	0.8%	0.9%	0.9%	1.0%	1.0%	1.1%	1.2%	1.2%	1.3%	1.4%	1.5%	1.7%	1.8%	1.9%	2.1%	2.3%	2.6%	2.8%	3.1%	3.5%	3.8%	4.1%	4.5%	4.8%	5.0%	5.1%	5.0%	4.8%	4.5%	4.1%	3.7%	3.3%	2.9%	2.5%	2.0%	1.6%	1.3%	0.9%	0.6%	0.4%	0.3%	0.2%	0.1%	0.1%	0.0%	0.1%	
Estate Value uplift (\$'000)	+1	+4	+6	+8	+10	+13	+15	+16	+5	-7	-7	-7	-7	-8	-8	-8	-9	-9	-9	-7	-6	-3	+0	+3	+6	+8	+11	+14	+17	+20	+21	+16	+9	+3	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0		
Total (cumulative) Income uplift (\$'000)	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+0	+2	+9	+19	+28	+33	+35	+38	+40	+43	+45	+47	+50	+52	+55	+57	+59	
Better off: total income and estate value	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

¹² Results based on median outcomes of the 2,000 simulations of retirement for total income, and estate value if the member dies in each future year.

5.5 Step 4 Selecting member cohorts

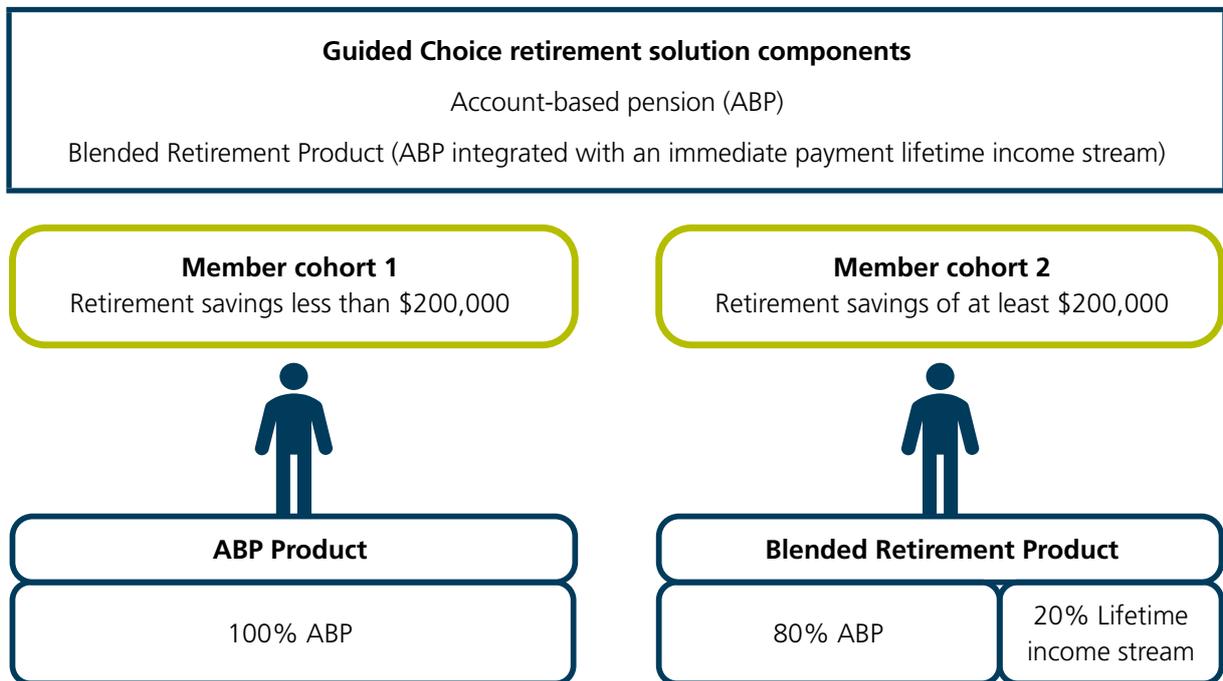
Consider the hypothetical trustee decides to implement guided choice using two member cohorts.

The results of the analysis identify that the blended retirement product with the immediate payment lifetime income stream is expected to improve outcomes for a broader cohort of members. It is also simpler to explain to members when planning for future drawdowns and carries less risk and complexity because there are no deferred payments.

For retirees with low balances, analysis showed that an ABP alone might provide additional flexibility to manage unexpected events which might require full access to their capital. For these members, the Age Pension provides a level of guaranteed income. Even for low balance members already on the full Age Pension, the trustee decides, for the same reasons, to implement an ABP alone as the guided choice solution, irrespective of age.

For retirees with higher balances, the blended retirement product is selected as the guided choice solution as it is expected to provide better outcomes on average, and a higher total income and estate value to most members.

Figure 5: Trustee Guided Choice retirement solutions for the hypothetical super fund



5.6 Value proposition for each member cohort

It is important to step back and check that the guided choice retirement solutions for each member cohort continues to align with member needs.

Member cohort 1: Members invest 100% of their super balance available for retirement into an ABP.

Identified member need	Core feature	Need met through an ABP product?
Value for money	<p>The expected (average) outcome for a member of this cohort is that they will be better off with this solution compared to the alternatives.</p> <p>Around two-thirds of members in this cohort are expected to be better off in this solution.¹³</p>	Yes
Easy to understand		Yes
Flexibility and access to money	Contribute 100% of savings to an ABP. Flexibility to access super account balance if needed for whatever reason.	Yes
Potential to boost income from the Age Pension	Member is expected to be entitled to a full Age Pension or no Age Pension for most of retirement and so little need for a solution to boost income from Age Pension.	Not required
Estate value to beneficiaries	When a member dies, any account-balance will be paid to beneficiaries.	Yes
A level of income guaranteed / peace of mind	Members are expected to receive the full Age Pension providing a level of guaranteed income for life that can be supplemented by the ABP for as long as it lasts.	Provided by Age Pension
Income for life	Depending on the drawdown rate, income from the ABP can have a high chance of lasting for life and can be supplemented by the Age Pension if the ABP runs out.	Provided by Age Pension

¹³ See Appendix C.1 and the proportion of members better off results.

Member cohort 2: Members invest in a blended retirement product, which consists of a 20% allocation to a lifetime income stream and 80% allocation to an ABP, with a growth risk profile.¹⁴

Identified member need	Core feature	Need met through the Blended Retirement Product?
Value for money	<p>The expected (average) outcome for a member of this cohort is better with this solution compared to the alternatives.</p> <p>Around two-thirds of members¹³ in this cohort are expected to be better off in this solution than with just an ABP.</p>	Yes
Easy to understand	<p>20% allocation to secure a component of protected income for life with the remainder allocated to an ABP.</p>	Yes
Flexibility and access to money	<p>Flexibility to access the ABP balance if needed for whatever reason (initially 80% of savings) with the ability to access part of the amount used to secure protected income for life within the limits permitted by law.</p>	Yes
Potential to boost income from the Age Pension	<p>Members who receive a part or no Age Pension might experience a boost in Age Pension due to the means test treatment of the lifetime income stream component.</p> <p>Members are likely to receive more Age Pension at the start of retirement, and less later on, relative to an ABP alone (as the ABP is exhausted). Receiving more Age Pension early in retirement can assist with sustaining the ABP balance for longer, improving overall retirement outcomes.</p>	Yes
Estate value to beneficiaries	<p>When a member dies, any ABP balance will be paid to beneficiaries, and on top of this:</p> <ul style="list-style-type: none"> • If they die in the first half of the statutory life expectancy, beneficiaries will receive the full initial capital allocation to the lifetime income stream. • After this period until statutory life expectancy, death benefits to beneficiaries in respect of the lifetime income stream will be governed by the capital access schedule. • Thereafter, the lifetime income stream has no estate value. 	Yes
A level of income guaranteed / peace of mind	<p>Members will always have more to spend than just the Age Pension due to income from the lifetime income stream being paid for life, irrespective of how long members live, whether Age Pension rules change, or how markets perform.</p>	Yes
Income for life	<p>This lifetime income provides piece of mind, and confidence to spend from the ABP, at above the minimum rate, for as long as it lasts.</p>	Yes

¹⁴ 81% growth, 19% defensive to maintain the overall 65% growth risk profile.

5.7 Red flags

Application of the framework (in particular, sensitivity testing and trade-off analysis) will identify the types of members for whom a guided choice solution might not be suitable.

Some example red flags for the blended retirement product are outlined in the following table.

Characteristic	Further Description
Very poor health	Terminal illness or knowledge that lifespan will be materially shorter than life expectancy for their age and gender.
Large withdrawal requirement or aggressive desired spending rate	<p>Member expects they will need to withdraw a large proportion of their balance at or in retirement; or the member desires to spend aggressively in a way that is not likely to be sustainable for life.</p> <p>Where a member wishes to make a withdrawal to pay off debt (or for whatever reason) at retirement, the amount should be excluded from the super balance considered for the guided choice cohorting, and the remaining balance used to determine the member cohort.</p>
Receiving other forms of guaranteed income	A member is already in receipt of a lifetime income stream other than Age Pension (e.g. a defined benefit pension).
Strong bequest motive	A member has a very strong desire to leave all their savings as a bequest, not just most or some of their retirement savings.
Partner's situation is very different	A member has a much younger or older partner, or they have a materially different amount of super savings or retirement income.
Significant other assets or income	<p>A member has significant other income or financial assets outside the super fund.</p> <p>Members with significant savings might have more complex personal tax and estate planning needs and would benefit from comprehensive personal financial advice.</p>
Member retiring well before Age Pension age	Waiting until Age Pension age to enter into a blended retirement product might provide greater flexibility and access to capital during the intervening period.

Red flags could also be identified for the ABP-alone solution. One such characteristic might be a strong desire for certainty of future income for life.

6. Opportunities and next steps

Further work is required to explore the member journeys to facilitate guided choice. Trustees should consider how to make member journeys from accumulation into retirement simple and seamless. A successful engagement strategy will mean that members understand the guided choice solutions, their benefits, and trade-offs, including any red flags at retirement. The journey should incorporate off-ramps to different advice paths when the need is identified. Digital tools and member statements in the lead up to retirement present a platform for super funds to engage with members about retirement income solutions.

A key benefit of solutions that incorporate a lifetime income stream is that the longevity risk protection allows retirees to be more confident in drawing down on their balance for spending. The member knows they will always receive an amount of guaranteed income from the super fund irrespective of how markets perform, how quickly they draw down their ABP, or how long they live. Without this guaranteed income, concern about running out of savings might see retirees underspending and enjoying a lower standard of living as a result.

Having the confidence to spend, is just one part of the equation, knowing what level of spending is sustainable, is the other. Unfortunately, this is not a simple calculation. It would be interesting to explore further how trustees can assist members with digital budgeting tools that take the member's spending target and other sources of income outside the super fund, to help them set their drawdown amount from the ABP for the upcoming year.

Lastly, the work undertaken by trustees to establish member cohorts could be integrated into the super fund's advice process. There will be retirees who wish to get personal financial advice about retirement. The member cohorts could present a starting point for the fund's advisers.

7. Conclusion

Super fund trustees have an opportunity to implement guided choice by designing retirement solutions for cohorts of members that are expected to be suitable, on average, for that member cohort.

Further, a broad cohort of retirees might be better off with a blended retirement product offer that integrates a lifetime income stream with an ABP compared to an ABP alone.

For more information or to have a discussion on how Challenger can work with you on your decumulation strategy, please contact the Challenger Institutional Partnerships team at challenger.com.au/institutional

The information in this paper is current at 25 May 2021 unless otherwise specified. It is provided by Challenger Life Company Limited ABN 44 072 486 938, AFSL 234670 (Challenger) and is intended solely for holders of an Australian financial services licence or other wholesale clients (as defined in the Corporations Act 2001 (Cth)). This information is provided on a confidential basis and must not be distributed, delivered, disclosed or otherwise disseminated to other person without Challenger's express prior approval. It is intended as general information only, and is not intended to constitute legal, tax or financial product advice. It has been prepared without taking account of any person's objectives, financial situation or needs. Because of that, each person should, before acting on any such information, consider its appropriateness, having regard to their or their client's objectives, financial situation and needs and consider the relevant Product Disclosure Statement. Any examples shown are for illustrative purposes only and are not a prediction or guarantee of any particular outcome. This paper may include statements of opinion, forward looking statements, forecasts or predictions based on current expectations about future events and results. Actual results may be materially different from those shown. This is because outcomes reflect the assumptions made and may be affected by known or unknown risks and uncertainties that are not able to be presently identified. To the maximum extent permissible under law, neither Challenger nor its related entities, nor any of their directors, employees or agents, accept any liability for any loss or damage in connection with the use of or reliance on all or part of, or any omission inadequacy or inaccuracy in, the information in this paper.

Appendix A – Considerations for implementing guided choice

In implementing guided choice retirement solutions to member cohorts, we expect that trustees would seek their own legal advice.

While there is nothing preventing a super fund from rolling out retirement solutions intended to satisfy the RIC and guided choice now, the RIR did note on pages 455-56 of its final report, that there were some uncertainties around the financial advice rules and that changing them would be beneficial. The recent High Court decision in *Westpac v ASIC*, while clarifying the boundary between general and personal advice, might not have made things any easier for trustees to grasp where the boundaries are. However, the RIC proposal, as previously outlined by Treasury in its 2017 and 2018 consultation papers, has always noted the potential for the need for changes to the advice rules in Chapter 7 of the Corporations Act, potentially by creating a specially tailored limited personal advice regime or similar.

A super fund could potentially engage with members in the pre-retirement period to position the member cohorts and guided choice retirement solutions.

Each trustee will need to make their own assessment of how their implementation of guided choice falls within the scope of advice.

Appendix B – Modelling methodology and assumptions

Modelling was produced using Challenger’s retirement income model as at April 2021. The model considers the comprehensive sources of income available to a retiree including: the means tested Age Pension, ABPs, lifetime annuity, and non-super assets, and was most recently reviewed by Willis Towers Watson (WTW) in July 2019.

The methodology and assumptions used are detailed below and are split into four categories:

1. Modelling parameters – investment return assumptions, mortality rates and lifetime income stream rates.
2. Modelling assumptions – relate to spending, asset allocation and fees.
3. Other methodology assumptions – how we model retirement.
4. Modelling inputs – retiree characteristics considered.

B.1. Modelling parameters

Topic	Assumption	Comments
Investment returns	2,000 simulations sourced from Willis Towers Watson’s Global Asset Model, September 2020 release.	<p>These are ‘real world’ investment returns for each asset class based on WTW’s preferred ‘Lower for Longer’ calibration.</p> <p>The stochastic modelling approach means return assumptions are not fixed and vary year to year in each simulation, allowing for a range of possible future outcomes, correlations between asset classes, movement from short term to long term expectations, and the impact of sequencing and market risk on retirement outcomes.</p>
Growth asset portfolio	Growth asset classes used for the ABP: <ul style="list-style-type: none"> • 45% Australian equity • 20% Global equity (hedged) • 15% Global equity (unhedged) • 10% Property • 5% Emerging equity (unhedged) • 5% Global REITs (hedged) 	Based on a generic representative growth portfolio by Willis Towers Watson broadly representative of what super funds are doing with their portfolios.
Defensive asset portfolio	Defensive asset classes used for the ABP: <ul style="list-style-type: none"> • 25% Australian fixed interest • 25% Australian Index Linked • 25% Global Government (ex Australia) – Hedged • 25% Global Index Linked (ex Australia) – Hedged 	Based on a generic representative defensive portfolio by Willis Towers Watson broadly representative of what super funds are doing with their portfolios.

Mortality Rates / life expectancy	Based on Australian Government Actuary 2015-17 mortality rates with 25-year mortality improvement factors.	<p>These are Australian population mortality rates, reflecting the Actuaries Institute's suggested assumptions for calculating retirement life expectancies.¹⁵</p> <p>The probability of death in a year is based on assuming the member is of an exact age (e.g. 66)</p>
Age Pension rates & thresholds	Current at March 2021. Rates and thresholds assumed to increase annually with CPI.	<p>As a key pillar for funding a member's retirement income, the Age Pension is incorporated into the modelling.</p> <p>In practice, rates might experience an AWOTE underpin in some market outcomes which is not modelled. No allowance has been made for any future changes to the Age Pension rules.</p>
Lifetime income stream rates	Based on pricing at 5 October 2020 (for consistency with investment returns) for age 63, 65 and 67-year-old male and female retirees.	<p>Varies by product option, gender and age. Pricing is for a Challenger guaranteed annuity (Liquid lifetime) flexible income, non-reversionary, CPI indexed payments, with deferral periods:</p> <ul style="list-style-type: none"> • No deferral • 5-year deferral • 10-year deferral

B.2. Modelling assumptions

Topic	Assumption	Comments
Annual spending amount	The annual spending that achieves an 80% chance that the retiree can afford to draw that amount each year (increasing annually with inflation) to at least life expectancy if invested solely in an ABP.	<p>The amount of spending is different for each level of retirement savings considered.</p> <p>The sensible spending amount was solved for the ABP-alone solution based on the spending that was affordable to at least life expectancy in 80% (with +/-1% tolerance) of the 2,000 simulations of retirement, with spending increasing annually with CPI.</p> <p>This spending was then used for the comparison with the blended retirement product with the same level of savings in order to compare 'like for like'.</p>
Inflation	All results are shown in 'today's dollars' based on price inflation (CPI).	<p>It is assumed that members maintain their spending in line with price inflation.</p> <p>Retiree spending is sometimes assumed to increase in line with wage inflation. However, this defers the consumption of capital further into retirement, whereas most retirees reduce their spending over time. Assuming that spending increases in line with CPI reflects an appropriate middle ground.</p>

¹⁵ Hennington, J 2020, Actuaries Institute, 2020, 'The Importance of Accurate Life Expectancy Calculations in Retirement Advice', accessed 17 May 2021, <https://actuaries.asn.au/Library/Miscellaneous/2020/RNLifeExpectancy.pdf>

Lifetime income stream	The lifetime income stream is assumed to be delivered by an institutional policy between Challenger and the super fund, allowing the super fund to issue the guaranteed income stream as a seamless feature within the blended retirement product.	<p>Pricing is based on Challenger's Guaranteed Annuity (liquid lifetime) flexible income, non-reversionary, CPI indexed payments.</p> <p>The assumed product meets the requirements of an IRIS and provides a death benefit and withdrawal value for the retiree aligned with the capital access schedule.</p> <p>Deferred and immediate payment annuities are considered.</p>
Risk profile	35% defensive and 65% growth.	Based on a typical ABP asset mix offered by super funds.
ABP asset mix in the blended retirement product	Growth asset allocation is set equal to 65% in the overall portfolio.	<p>The lifetime income stream is considered a defensive investment in the blended retirement product and the ABP asset mix is set to maintain the overall 65% growth, 35% defensive risk profile for the retiree.</p> <p>For example, if the blended retirement product is allocated 20% lifetime income stream and 80% ABP, then the ABP asset mix is:</p> <ul style="list-style-type: none"> • 65%/80% = 81% growth • 15%/80% = 19% defensive <p>and this allocation is maintained throughout the forecast.</p>
Fees	<p>0.85% of ABP assets p.a. plus \$74 fixed fee p.a. indexing annually with CPI.</p> <p>0% fee on the lifetime income stream.</p>	ABP fees based on ASIC MoneySmart assumptions.
Assets outside of super	Not considered (i.e. assumed none).	A trustee will not have visibility of a member's assets outside super and a guess at this information is likely to be incorrect.
Discount rate for present value	1% p.a. real (i.e. above CPI).	<p>Allow for a 'risk free' type of return to weigh up values over time and allow for the time value of money.</p> <p>A higher real discount rate of 6% p.a. was also utilised as part of the sensitivity testing.</p>

B.3. Other methodology assumptions

Topic	Assumption
Age Pension eligibility	Age Pension eligibility age and Income and Assets Tests are allowed for in the modelling. No consideration has been given for any possible future changes to Age Pension rules.
Sources of income	Annual spending is sourced from ABP minimum payments, lifetime income stream payments (if included in the solution), cash interest, and then additional drawings from the ABP and cash.
Modelling timeframe	The modelling runs using a rolling annual timeframe. It assumes that annual Age Pension entitlements and minimum drawdowns are based on the information known at the start of each modelling year. No part year adjustments are allowed for. The model considers up to 50 years of retirement.
Excess income over spending	If the statutory minimum pension payments plus Age Pension and other income exceed annual desired spending: <ul style="list-style-type: none">• The excess is saved in cash outside super• The cash balance earns interest which contributes to future annual spending
Spending drawdown priority	If the statutory minimum pension payments plus Age Pension and other income is insufficient to fund the annual spending assumption: <ul style="list-style-type: none">• An additional payment is first drawn from the ABP (if it has a balance),• Then from any accumulated cash (if ABP balance is nil).
SIS minimum pension	The pre-Covid minimum drawdown rates (i.e. without 50% reduction for 2020-21) are used. This is not thought to be material to outcomes.
Tax	No allowance has been made for tax (capital gains, personal income tax, or other) on earnings outside super, and super assets are assumed to have tax-free earnings. Typically, a retiree can have a material amount of non-super assets and income before taxation is expected to materially impact retirement outcomes.
Account based pension (ABP)	The modelling assumes the member has met a condition of release and commences an ABP that is deemed for social security purposes and has tax free earnings.
Timing of payments for the present value calculation	Deaths are assumed to occur on average halfway through a financial year: <ul style="list-style-type: none">• -Total lifetime income received is assumed to be the full year's income in each prior year plus half the year of death's annual income• The mid-year estate value in a year of death is assumed to be the average of the estate value at the start of the year of death and the start of the following year. This is likely to understate the value for the lifetime income stream in the last year of the 100% death benefit period due to the death benefit at the start of the following year dropping to the withdrawal value. <p>e.g. the total lifetime income received for a scenario where a member dies in their 2nd year of retirement is assumed to be a full year of income in year 1; plus half a year's income in year 2; plus the estimated mid-year estate value in year 2.</p>

B.4. Modelling inputs

A male and female, single, homeowner, retiring at age 65 with all their savings in super was used to produce the base case results for Step 1.

The inputs used for this base case are shown below in bold. Other inputs were tested as part of the sensitivity analysis in Step 2 and these are also shown below.

Item	Range of inputs	Why
Retirement age	63	Age 65 might represent a typical retirement age for super fund members. ¹⁶
	65	Other ages are considered as age impacts how long retirement income needs to last, the lifetime annuity pricing, and eligibility for Age Pension.
	67	
Homeownership	Yes No	Homeownership status will not be known by the trustee, but most retirees are currently homeowners. The sensitivity testing also looked at non-homeowners.
Super balance	\$100k to \$1.6m	The level of super savings was considered as a key cohorting characteristic. Savings of \$100k to \$1m were considered in \$100k increments, then also \$1.2m, \$1.4m and \$1.6m, as the base case. Sensitivity testing was completed on \$100k to \$1m cohorts.
Annual spend	Sensible Higher	Income and estate value outcomes are sensitive to a member's rate of spending, and a trustee will not know the member's desired retirement lifestyle. Sensible spending is assumed to be one that provides the member with high chance they could afford that level of spending for life. The higher spending scenario is 20% higher than the sensible spending rate.

¹⁶ <https://www.abs.gov.au/statistics/labour/employment-and-unemployment/retirement-and-retirement-intentions-australia/latest-release>

Appendix C – Modelling results

C.1 Step 1 result

In understanding the results of Step 1 of the cohorting framework below:

- Green indicates where the blended retirement product might be suitable as a guided choice solution for a cohort of members. The average outcome for a member of a cohort is higher than an ABP alone (uplift in present value) and most members will be better off compared to an ABP alone (>50% members have higher median total income and estate value when they die – at least 60% of members is dark green, greater than 50%, but less than 60% is light green) and these tests are passed for males and female retirees.
- Blue indicates where using the ABP-only solution might be suitable as the guided choice for a cohort of members, being those where the result for the blended retirement product was not green.

The ‘average present value’ results for the base case scenario of a 65-year-old retiree invested in the blended retirement product compared to an ABP-alone solution are below:

Age 65 Homeowners		Superannuation Balance												
Blended Retirement Product	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000	\$1,200,000	\$1,400,000	\$1,600,000
75% ABP + 25% Lifetime	No deferral													
80% ABP + 20% Lifetime	No deferral													
85% ABP + 15% Lifetime	No deferral													
75% ABP + 25% Lifetime	Defer 5 years													
80% ABP + 20% Lifetime	Defer 5 years													
85% ABP + 15% Lifetime	Defer 5 years													
75% ABP + 25% Lifetime	Defer 10 years													
80% ABP + 20% Lifetime	Defer 10 years													
85% ABP + 15% Lifetime	Defer 10 years													

The ‘Defer lifetime pmts’ column represents whether the lifetime income stream payments are paid immediately (age 65) or are deferred by 5 years (to age 70) or by 10 years (to age 75).

The ‘most members better off’ results for the base case scenario of a 65-year-old retiree invested in a lifetime income stream solution compared to an ABP alone solution are below:

Age 65 Homeowner		Superannuation Balance												
Blended Retirement Product	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000	\$1,200,000	\$1,400,000	\$1,600,000
75% ABP + 25% Lifetime	No deferral	35%	63%	63%	67%	67%	67%	63%	57%	53%	52%	53%	63%	67%
80% ABP + 20% Lifetime	No deferral	35%	63%	67%	67%	67%	67%	63%	57%	52%	52%	53%	63%	67%
85% ABP + 15% Lifetime	No deferral	41%	63%	67%	67%	67%	63%	63%	57%	52%	52%	53%	58%	63%
75% ABP + 25% Lifetime	Defer 5 years	19%	47%	54%	61%	63%	63%	63%	57%	50%	45%	46%	52%	56%
80% ABP + 20% Lifetime	Defer 5 years	25%	47%	53%	61%	63%	63%	63%	57%	50%	45%	45%	51%	56%
85% ABP + 15% Lifetime	Defer 5 years	26%	52%	61%	61%	63%	63%	63%	57%	50%	49%	45%	50%	55%
75% ABP + 25% Lifetime	Defer 10 years	11%	33%	45%	52%	57%	57%	56%	52%	45%	41%	37%	38%	41%
80% ABP + 20% Lifetime	Defer 10 years	14%	34%	44%	56%	57%	57%	56%	52%	45%	41%	40%	37%	42%
85% ABP + 15% Lifetime	Defer 10 years	18%	38%	49%	57%	57%	57%	57%	52%	45%	41%	41%	40%	41%

The above table illustrates the ‘lowest’ result out of the proportion of male members better off and the proportion of female members better off.

The results of Step 1 collate the results above to identify where both males and females would be better off **on average** and where >50% of members will be better off:

Retirees aged 65		Superannuation Balance												
Blended Retirement Product	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000	\$1,200,000	\$1,400,000	\$1,600,000
75% ABP + 25% Lifetime	No deferral													
80% ABP + 20% Lifetime	No deferral													
85% ABP + 15% Lifetime	No deferral													
75% ABP + 25% Lifetime	Defer 5 years													
80% ABP + 20% Lifetime	Defer 5 years													
85% ABP + 15% Lifetime	Defer 5 years													
75% ABP + 25% Lifetime	Defer 10 years													
80% ABP + 20% Lifetime	Defer 10 years													
85% ABP + 15% Lifetime	Defer 10 years													

The overall results in this example are primarily driven by the ‘most members better off’ test. Results suggest that a lifetime income stream, which has payments commencing immediately or with a short deferral, might be preferred. This is consistent with the methodology that values both total retirement income and estate value received when a member dies. An immediate and deferred payment lifetime income stream provides the same death benefit at each age, in line with the capital access schedule. However, with a deferred payment option, the member is not receiving

payments in the deferral period and so needs to draw more from the ABP to fund spending (which can also introduce additional sequencing risk to the ABP). This can lead to a lower estate value, all other things equal. The longer the deferral period, the greater the number of members who will be expected to die in the deferral period with lower estate value outcomes compared to the immediate payment option.

C.2 Step 2 sensitivity testing

Detail on the sensitivity testing results discussed in section 5.3 are below.

Sensitivity to market outcomes

Summary of comparison of the PV metric outcomes for a 20% allocation to the lifetime income stream is below:

Impact of market outcomes		Superannuation balance												
PV outcomes	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000	\$1,200,000	\$1,400,000	\$1,600,000
Average	No deferral	[Bar chart showing PV outcomes for Average, No deferral across superannuation balances]												
Bottom 10th %	No deferral	[Bar chart showing PV outcomes for Bottom 10th %, No deferral across superannuation balances]												
Top 10th %	No deferral	[Bar chart showing PV outcomes for Top 10th %, No deferral across superannuation balances]												
Average	Defer 5 years	[Bar chart showing PV outcomes for Average, Defer 5 years across superannuation balances]												
Bottom 10th %	Defer 5 years	[Bar chart showing PV outcomes for Bottom 10th %, Defer 5 years across superannuation balances]												
Top 10th %	Defer 5 years	[Bar chart showing PV outcomes for Top 10th %, Defer 5 years across superannuation balances]												
Average	Defer 10 years	[Bar chart showing PV outcomes for Average, Defer 10 years across superannuation balances]												
Bottom 10th %	Defer 10 years	[Bar chart showing PV outcomes for Bottom 10th %, Defer 10 years across superannuation balances]												
Top 10th %	Defer 10 years	[Bar chart showing PV outcomes for Top 10th %, Defer 10 years across superannuation balances]												

We find that the lifetime income stream solution is a little less favourable for wealthy retirees in the bottom 10th percentile outcome, but a little more favourable for retirees with low super balances.

Sensitivity to PV metric discount rate

Summary of comparison of the PV metric outcomes for a 20% allocation to the lifetime income stream is below:

Impact of discount rate		Superannuation balance												
Discount rate	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000	\$1,200,000	\$1,400,000	\$1,600,000
1%	No deferral	[Bar chart showing PV outcomes for 1% discount rate, No deferral]												
6%	No deferral	[Bar chart showing PV outcomes for 6% discount rate, No deferral]												
1%	Defer 5 years	[Bar chart showing PV outcomes for 1% discount rate, Defer 5 years]												
6%	Defer 5 years	[Bar chart showing PV outcomes for 6% discount rate, Defer 5 years]												
1%	Defer 10 years	[Bar chart showing PV outcomes for 1% discount rate, Defer 10 years]												
6%	Defer 10 years	[Bar chart showing PV outcomes for 6% discount rate, Defer 10 years]												

The higher (6%) discount rate sees a greater value attributed to outcomes at younger ages compared to older ages. Total retirement income will be the same across each retirement solution until the ABP runs out. Since a sensible spending rate is assumed, the longevity protection provided by the lifetime income stream later in life is heavily discounted compared to estate values in the earlier years. As noted above, for lifetime income streams that have a long deferral of payment, the estate value of the ABP alone might be higher than the blended retirement product in more years than if using an immediate payment option. With the greater relative importance of the estate value in the first part of retirement under the higher discount rate, this leads to the significant narrowing of the cohort where the longer deferred payment option might be preferred.

The following outcomes are considered for a blended retirement product with a 20% allocation to an immediate payment and 5-year deferred lifetime income stream with super balances between \$100k and \$1million.

Sensitivity to relative importance of income and estate values

Results allowing for a 5% and 10% tolerance in estate values:

Impact of tolerance on estate values		Superannuation balance									
Tolerance	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000
0% tolerance	No deferral	[Bar chart showing PV outcomes for 0% tolerance, No deferral]									
5% tolerance	No deferral	[Bar chart showing PV outcomes for 5% tolerance, No deferral]									
10% tolerance	No deferral	[Bar chart showing PV outcomes for 10% tolerance, No deferral]									
0% tolerance	Defer 5 years	[Bar chart showing PV outcomes for 0% tolerance, Defer 5 years]									
5% tolerance	Defer 5 years	[Bar chart showing PV outcomes for 5% tolerance, Defer 5 years]									
10% tolerance	Defer 5 years	[Bar chart showing PV outcomes for 10% tolerance, Defer 5 years]									

As expected, a slightly broader cohort of members could be guided about a lifetime income solution, and the proportion of members better off increases. This is particularly evident for the deferred payment option, where the estate value is more likely to be lower in the first part of retirement.

Sensitivity to spending

Results under a 'higher spend' scenario using an annual spend 20% higher than the base case sensible spending rate:

Impact of spending		Superannuation balance									
Spend basis	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000
Sensible	No deferral	Blue	Green								
Higher	No deferral	Blue	Green								
Sensible	Defer 5 years	Blue	Blue	Green							
Higher	Defer 5 years	Blue	Blue	Green	Blue						

Under a higher spend strategy, fewer members will be better off with a blended retirement product. At higher spending rates, the ABP allocation within the blended retirement product might run out several years earlier than the ABP-alone solution, as capital has been allocated for the purpose of paying a lifetime income stream. This leads to extra years of the higher income with an ABP alone, however the member is then buffered by the Age Pension. This is compared to achieving the desired higher income for slightly fewer years with a lifetime income stream solution, but with the security of income above the Age Pension rate for life. The few extra years of higher income provided by the ABP-alone solution takes several years to be recouped and then overtaken by the lifetime income stream solution. This results in a present value metric result in favour of the ABP-only solution. This is more pronounced for retirees who are not part-pensioners, where the means test assessment of the lifetime income stream could help improve Age Pension outcomes and maintain the higher income for a little longer.

Sensitivity to age

Results if a member has a lower versus a higher retirement age:

Impact of age		Superannuation balance									
Age	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000
65	No deferral	Blue	Green								
63	No deferral	Blue	Green								
67	No deferral	Blue	Blue	Green	Blue						
65	Defer 5 years	Blue	Blue	Green	Blue						
63	Defer 5 years	Blue	Blue	Green	Blue						
67	Defer 5 years	Blue	Blue	Green	Blue						

At retirement ages, where the retiree is at least of the initial Age Pension eligibility age, the cohort where inclusion of a lifetime income stream could be of benefit expands at lower wealth levels, however the benefit to the very wealthy cohorts reduces.

The means test treatment of a lifetime income stream that meets the IRIS requirements can be of particular benefit for retirees who are part pensioners at some point in retirement:

- Under the assets test, 60% of the purchase price of the income stream is assessed up until age 84 (subject to minimum of 5 years), and then 30% is assessed thereafter; compared to the account balance of an ABP.
- Under the income test 60% of payments will be assessed, compared to income being 'deemed' on an ABP.

For example, a single retiree with \$300,000 in savings who is assets tested and so receiving a part Age Pension could become entitled to a higher amount of Age Pension if they entered into the blended retirement solution. The more a retiree can receive from the Age Pension, the less of their own savings are needed to fund retirement income. This is particularly beneficial where a higher amount of Age Pension is received early in retirement as it provides a level of cashflow and sequencing risk protection for the ABP, which would otherwise be drawn on to fund the level of spending not provided by the Age Pension

For retirees who are consuming their capital in retirement, even at a sensible rate, all but the wealthiest could be eligible for the Age Pension at some point.

Sensitivity to unknown member characteristics

Lastly, the trustee looks to understand the impact on results of member characteristics they do not necessarily know, but which might impact retirement outcomes.

Results where a member is a non-homeowner:

Impact of homeownership		Superannuation balance									
Homeowner	Defer lifetime pmts	\$100,000	\$200,000	\$300,000	\$400,000	\$500,000	\$600,000	\$700,000	\$800,000	\$900,000	\$1,000,000
Homeowner	No deferral										
Non-homeowner	No deferral										
Homeowner	Defer 5 years										
Non-homeowner	Defer 5 years										

Home ownership impacts a retiree's Age Pension entitlement as there are higher assets test thresholds for non-homeowners. The results indicate that the cohorts where a blended retirement product shows an improvement in the average value of retirement for a member and where most members could be better off, compared to an ABP alone, are consistent for homeowners and non-homeowners alike.