the conexus INSTITUTE

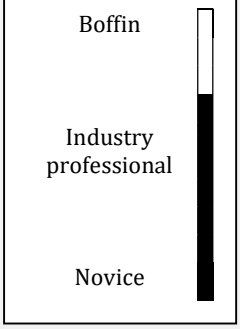
Retirement explainer series

Income objectives

Edition 2
Updated April 2024

David Bell & Geoff Warren

Technical rating



Brief synopsis: We consider the framing of income objectives for members under the retirement income covenant. Two 'book-end' income objectives are outlined denoted '*income target*' and '*income optimisation'*, plus *hybrid objectives* that combine a baseline income target with an aspirational income component. We discuss how these income objectives have differing implications for how income risk manifests, design and implementation of retirement solutions, and measuring success and failure. We offer thoughts on how fund trustees might establish the income preferences of individual members. Our main message is that trustees should be aiming to cater for a range of income objectives.

Questions addressed:

1. What are the various types of income objectives?
2. How do differing income objectives relate to income risks for members?
3. What challenges exist in implementing various income objectives?
4. What are the implications for retirement solution design?
5. How might retirement solutions be assessed under various income objectives?
6. How might trustees establish the objective that is appropriate for a member?

Key terms: Retirement income covenant; income targets; income optimisation, income risk; retirement solution design; identifying member needs and wants

Who should be interested? Retirement specialists, retirement leads, retirement modellers (e.g. actuaries), product designers, financial advisers, regulators; people who want a career in the retirement income space.

Introduction

Explainer #1 discussed the three objectives in the retirement income covenant (RIC). We finished by proposing that the needs and wants of members should be first identified, before proceeding to assess whether they are being met through the lens of the three RIC objectives. This second explainer looks at how member objectives in relation to their income needs and wants might be framed. We start by outlining two 'book-end' income objectives that we call 'income target' and 'income optimisation'. We then discuss hybrids of these two objectives whereby a baseline income target – the spending that a member needs – is combined with a more aspirational income component. We finish with some thoughts on how the income objectives of individual members might be identified in practice.

Income target

An income target objective assumes that a member desires a specific level of income. Success under this objective requires a retirement solution to deliver at least the targeted income for as long as the member remains alive. The motivation behind the income

target is that there exists a desired standard of living, which could be specified in three ways:

(a) **Income replacement rates** – The income target references some percentage of income prior to retirement, with 70% being a typical choice. Replacement rates rest on the concept of maintaining a similar standard of living during retirement to what was enjoyed prior to retirement, while acknowledging that cost of living typically declines in retirement for reasons such as no further need for work-related expenses or superannuation (super) fund contributions. Treasury's Retirement Income Review[1] of 2020 used replacement rates as their main benchmark for evaluating income adequacy.

(b) **Budget-based targets** – This form of income target reflects the cost of purchasing a basket of goods and services required for a certain standard of living. The ASFA retirement standards[2] are the prominent application of budget-based targets in Australia. In particular, ASFA comfortable is often used as a benchmark for the income required for a 'dignified' retirement experience.

(c) **Peer benchmarks** – Another possibility is to base the income target around what other people in similar circumstances spend. Super Consumers Australia compiles retirement targets of this type for low, average and high spending groups based on data from the Australian Bureau of Statistics[3].

Income target objectives give rise to a range of issues and implications:

- **Delivers income stability … but only up to a point** – Income target objectives hold out the promise of income stability. However, this only applies up to the point where assets are exhausted, after which income falls to the level underpinned by the Age Pension and any other 'guaranteed' income streams.
- **Sustainability challenges** – The Achilles heel of income targets is that the target may not be sustainable if the member survives to older ages. The degree to which the target is sustainable depends in part on investment returns, and in part on how readily achievable it is given available assets (see next point). Drawing a fixed amount also amplifies sustainability risks through sequence-of-return effects: If poor returns are experienced earlier in retirement, assets are run down at a faster rate as a greater proportion of the remaining balance needs to be drawn in order to meet the income target.
- **Targets should be consistent with available assets to be coherent** – Any income target should be consistent with the assets available to support the target over a meaningful period to be coherent. There is no point in targeting (say) income of $50,000 with a balance of only $100,000, as assets and hence income will soon be exhausted. Thought might be given to setting a plausible target, rather than simply applying a target based on aspiration for a certain standard of living. Consideration might also be given to creating a mechanism to adjust the target if it gets out of kilter with available assets, e.g. if delivering the targeted income is challenged by reduced assets through very poor returns or a decision to draw a lump sum from the account.
- **Static versus time-varying targets** – (Real) income targets need not be static but could vary with age. Whether the target should decline with age is an area of debate. One argument is that targets should increase in real terms so that retirees keep up with community standards. This stance underpins the way that ASFA calculates its standards for required retirement savings, and the linking of the Age Pension to average weekly earnings. The alternative argument is that a declining income target aligns with evidence that real spending falls later in retirement, which in turn is partly due to the desire to spend less at older ages[4]. A static real target cuts a middle path between these two views.
- **Implementation challenges for super funds** – Specifying an income target requires knowledge of not only individual spending needs or wants, but also ***all*** assets and income streams a member has available to support that spending. This sets a demanding requirement for personal information that may make an income target quite challenging for super fund trustees to implement. For instance, aiming to deliver ASFA comfortable solely from savings within super is tenuous without knowing that this is an appropriate target

[1] https://treasury.gov.au/publication/p2020-100554
[2] https://www.superannuation.asn.au/resources/retirement-standard
[3] https://www.superconsumers.com.au/retirement-targets
[4] For US-based evidence, see Rohwedder, S., Hurd, M.D. and Hudomiet, P. (2022), "Explanations for the Decline in Spending at Older Ages", *NBER Working Papers*, w30460. For Australian evidence of declining spending during retirement is provided by Minney A. (2018) "Household spending patterns in retirement", *Australasian Journal of Applied Finance*, (1),18-27; and Milliman (see https://au.milliman.com/en/insight/analysis-retirees-spending-falls-faster-than-expected-into-old-age).

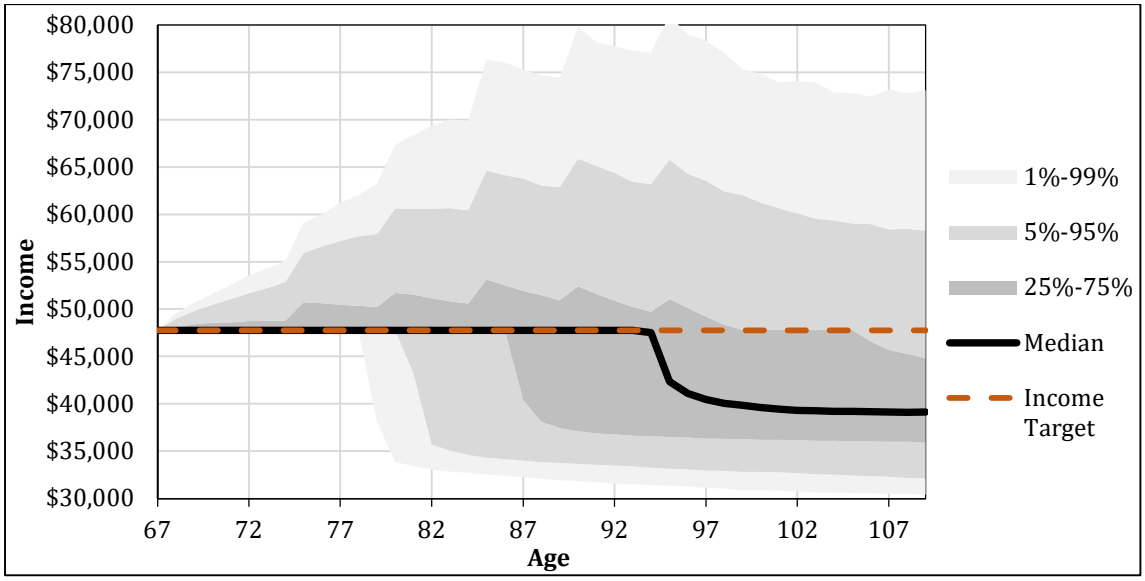
for the member, or whether the member has assets outside of super to also help them attain the assumed target. Income targets hence may be more readily applied through financial advice and member self-choice.

- **Retirement solution design**[5] – Operating under an income target objective has a number of implications for retirement solution design. First, it implies a drawdown strategy where enough income is drawn from accessible funds (e.g. an account-based pension) to reach the income target, after making allowance for other income sources such as the Age Pension and any lifetime income streams (i.e. annuities). Second, the investment strategy should be directed at sustaining the target for as long as possible, e.g. perhaps locking in the target with a lifetime income stream if the opportunity presents. Third, consideration might be given to the downside for income if the account balance is exhausted. For instance, could the Age Pension suffice; or should lifetime income streams be added into the mix to limit downside? Fourth, rules need to be set under which above-target income may be drawn, or the target adjusted, in response to developments such as high or low investment returns.
- **Measuring success and failure** – Success under an income target objective is straightforward: it amounts to sustaining (or exceeding) the target while the member remains alive. Conversely, failure is marked by inability to sustain the target. This implies that retirement solutions designed to deliver income targets should be evaluated according to both *how long* the target is likely to be sustained, and by *how much* income declines if this proves not to be the case. Risk measures should thus capture both the probability and magnitude of any *shortfall* versus the target[6].

The chart below may make these concepts more tangible and is taken from an earlier Conexus Institute piece[7]. It shows the distribution of income for a solution that invests 50% in an account-based pension and 50% in an investment-linked annuity (both with a 60/40 growth/defensive mix), coupled with a drawdown strategy where sufficient income is taken from the account-based pension to attain the target (subject to the minimum drawdown rules). Access to the Age Pension is also assumed. Examination of the output reveals that this solution has a 50/50 chance of delivering the targeted income or better to about age 94. In terms of risk, the 5th income percentile sees income fall below the target from age 80 to around $32,000-$34,000. We suggest that measures such as these suffice to summarise both expected income and income risk in a meaningful way given the assumed objective.

Income percentiles under an income target objective

50% account-based pension; 50% investment-linked annuity; drawdown to deliver the target



[5] For further discussion, see Butt, A., Khemka, G., Lim, W. and Warren, G. (2023), "Primer on Retirement Income Strategy Design and Evaluation", *Society of Actuaries Research Report*, https://www.soa.org/resources/research-reports/2023/ret-income-strat-de/.

[6] Potential metrics are discussed in Bell, D., Khemka, G. and Warren, G. (2023), "How to Approach Quantitative Assessment of Retirement Income Strategies", *Thought Pieces with The Conexus Institute*, https://theconexusinstitute.org.au/wp-content/uploads/2023/06/Quantitative-Assessement-of-RIS-Conexus-Institute-20230622.pdf

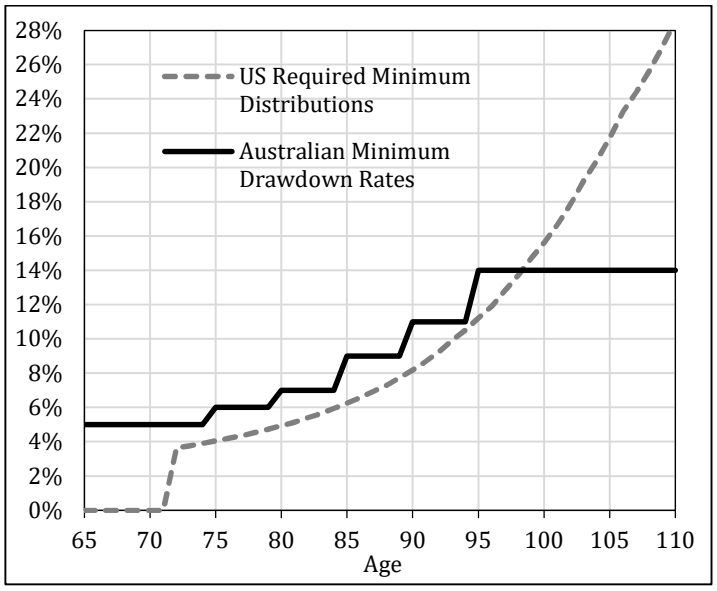
[7] Bell, Khemka and Warren, G. (2023), *op. cit.*

Income optimisation

The income optimisation objective is suitable for members that desire to extract as much income as possible from their available assets while managing downside income risk, but are tolerant to shorter-term variation in income. 'Optimising' income implies a dynamic strategy whereby an 'affordable' level of income is drawn each period, with the view of taking as much income as prudent at that time while balancing the need to generate income into the future if the member remains alive. Applying 'dynamic programming' as used in the academic literature is the technically correct method for solving this problem, but is quite complex. Fortunately, the optimal strategy may be broadly approximated by (a) investing assets in line with risk tolerance, and (b) expressing drawdowns as a schedule for the percentage of assets to be taken as income at each age based on an assumed 'hurdle' rate of return[8] and remaining life expectancy.

We are not talking about a hypothetical theory with no practical applications. The Australian minimum drawdown rules and the US required minimum distributions (see chart below) are inspired by principles underpinning income optimisation[9], with both expressed as scheduled drawdown rates as a percentage of assets that increase with age as life expectancy decreases.

Minimum drawdowns in Australia and US



Income optimisation principles also underpin the new breed of investment-linked annuities emerging in the market[10]. Most of these products distribute income based on prevailing asset values with reference to assumptions about future asset returns and life expectancy (as well as mortality credits[11] accrued – a topic for a future explainer). Such products directly cater for an income optimisation objective.

Income optimisation objectives give rise to their own set of issues:

- **Managing income risk** – Income is never totally exhausted under income optimisation. However, the risk that income falls to low levels may still exist. This risk can be managed in two main ways. One is to add defensive asset exposure to reduce variability in asset values and thus the income that can arise from return fluctuations. However, this comes at the cost of lower expected returns that in turn lowers the affordable income that can be drawn, i.e. expected income is reduced. The second is to add a lifetime income stream to provide access to mortality credits, which will augment income upon surviving to older ages[12].
- **Income variability** – Retirement solutions that cater for income optimisation deliver a variable income stream over time, in a large part because the amount drawn fluctuates with assets and thus realised investment returns. This objective may thus be unsuitable for members with low tolerance for shorter-term income variability[13].
- **Implementation advantages for super funds** – An issue arising under an income target objective is that fund trustees may not know enough about member income needs or their assets outside of super to effectively implement the strategy. Having access to member information is less of a hurdle for the income optimisation objective, as the trustee is just undertaking to maximise the income that is extracted from the assets that are under their care.
- **Retirement solution design** – As noted earlier, the drawdown strategy can be expressed as a percentage of assets to be drawn at each age based on a hurdle rate of return and life

[8] Other names include "assumed interest rate" and "assumed investment return".
[9] Both might be considered sub-optimal, with higher drawdowns being affordable especially earlier in retirement.
[10] Providers include Allianz, AMP North, Australian Retirement Trust (Q-Super), Challenger and Generation Life.
[11] Mortality credits arise from 'pooling', whereby the assets of those who die are used to provide income for those who survive. It may be accommodated via either an insurance company or group pooling arrangements.
[12] Traditional annuities combine a fixed income investment with mortality credits; while investment-linked annuities combine a growth-exposed investment with mortality credits.
[13] Another possibility is to adjust the strategy to provide some income smoothing. Bucketing approaches that defer the adjustment of income until the short-term portfolio is exhausted achieve something along these lines.

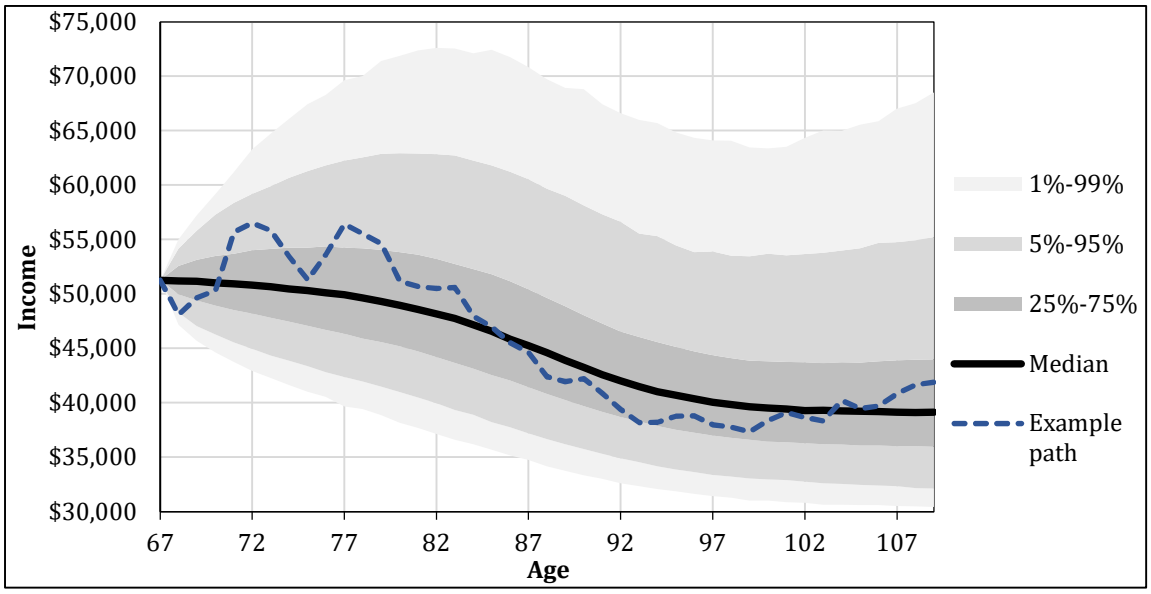
expectancy. However, retirement solutions also require a strategy for investing the assets, which in turn informs the hurdle rate of return[14]. The investment strategy should reflect the risk tolerance of the member. Lower income risk tolerance would imply a larger allocation to lifetime income streams and/or defensive assets at the cost of lower expected income. Calibrating risk tolerance and translating it into the retirement solution can be challenging.

- **Measuring success and failure** – Unlike the income target objective, no well-defined benchmark exists against which to evaluate success. Rather, what matters is the overall shape of the income distribution and how it links to member risk tolerance. An evaluation of projected income percentiles arising from a retirement solution provides a reasonably complete picture of the distribution of income and hence potential member outcomes. Focus might be placed on average or median income as a measure of expected income, and the spread of income below its expected value to gauge income risk while paying particular attention to the lower tail.

The chart below plots income percentiles for a solution formed under the income optimisation objective and is the counterpart of the earlier chart for the income target objective. It is taken from the same Conexus Institute piece,[15] although we have added one example path to illustrate how the solution delivers income variability within individual income paths. Again the solution invests 50% in an account-based pension and 50% in an investment-linked annuity (both 60/40 growth/defensive), but applies an affordable drawdown rule as described above. This drawdown strategy generates an income distribution with a quite different shape to that arising under the income target objective, including delivering a narrower income range.[16] The chart illustrates how income percentiles convey both 'expected income' through the median income and income risk through an examination of the lower tail.

Income percentiles under an income optimisation objective

50% account-based pension; 50% investment-linked annuity; 'affordable' drawdown rule



Baseline plus aspirational income

Another class of income objective combines a baseline level of income to be delivered, if possible, with an aspirational income goal. This class of income objective might be framed in two ways:

(a) **Subsistence plus aspirational income** – This entails an income floor[17] reflecting subsistence spending for which there is zero shortfall

[14] The hurdle rate need not equal the expected return, impacting on the pattern of income. See Explainer #4 for discussion.
[15] Butt, Khemka and Warren, G. (2023), *op. cit.*
[16] The income distribution is wider under the income target objective as return sequencing effects under a fixed drawdown acts to extend both the upper and lower tails. In addition, the income optimisation strategy never exhausts assets and hence always pays some additional income on top of any guaranteed income streams.
[17] Income floors are discussed in this way by Butt, Khemka and Warren, G. (2023), *op. cit.*

tolerance, coupled with either an income target or income optimisation objective as the aspirational component. In Australia, there is less call for income floors as the Age Pension arguably covers subsistence income, at least for those who own a home.

(b) **Non-discretionary and discretionary spending** – This might be seen as a hybrid objective. Non-discretionary spending is approached as an income target to be delivered with a high level of confidence. Meanwhile, the aspirational component may be treated as an income optimisation objective on the basis that the member has flexibility to adjust discretionary spending in line with income generated. A few studies discuss this type of approach[18]; while other studies point to different behaviours with respect to non-discretionary and discretionary retirement spending[19].

This class of objective lends itself to goal-based or bucketing approaches, which accommodate addressing baseline income and aspirational income as separate goals or within different asset buckets.

Determining the appropriate income objective

While identifying the appropriate income objective for particular members will be challenging, it should be plausible. For instance, most members should be able to provide some indication of whether they prefer a given level of income or are willing to accept income that varies with what income is affordable. Perhaps the bigger challenge is framing and gauging tolerance for failing to achieve the objective, i.e. the member's degree of risk aversion or loss aversion.

One way of meeting these challenges might be to offer a menu of solutions that cater for a range of objectives and risk tolerances, and allow members (or their financial adviser) to select the solution that best suits their needs. This approach relies on members to either seek advice, or to have the willingness and capacity to successfully engage with retirement decisions for themselves.

Another path might be for fund trustees or advisers to solicit income objectives and risk tolerance from members, with a view to guiding them towards a suitable solution[20]. The type of information on personal preferences that might be sourced from members is set out in the box below in very broad terms, noting that defining risk and measuring risk tolerance in retirement is a major topic in itself.

Soliciting Income Preferences

Establishing the appropriate income objective:

- *I have a minimum income that needs to be delivered, if possible* ***(=> baseline income exists)***
- *I have aspirations for a specific level of income* ***(=> income target objective)***
- *I want to extract as much income as possible from my assets* ***(=> income optimisation objective)***

Gauging risk tolerance:

- *Do you prefer: (a) a lower, more reliable income stream or (b) higher income with downside risk*
- *Do you prefer: (a) ensuring that income is sustained if I live to an old age or (b) enjoying income earlier while I can, at some risk of running out if I reach very old age*
- *Do you: (a) need stable income or (b) have capacity to adjust spending to income if need be*

Closing comments – Our take

As members vary substantially in their retirement needs and wants, it is inappropriate to assume that all members have the same income objectives. Retirement solutions should hence cater for a range of income objectives, and ideally tolerances for failing to achieve those objectives. A mechanism is also needed to marry up members with a retirement solution that is suitable for their particular objectives and preferences. Our sense is that the super industry could do more work on scoping out potential income objectives and designing their retirement offerings accordingly.

[18] For instance, see Scott, J.S. and Watson, J.G. (2013), "The floor-leverage rule for retirement", *Financial Analysts Journal*, 69(5), 45-60; and Blanchett, D. (2023), "Redefining the Optimal Retirement Income Strategy", *Financial Analysts Journal*, 79(1), 5-16.

[19] For Australian evidence, see Minney (2018), *op. cit.* For US-evidence, see Banerjee S. (2021), "Decoding Retirement Spending", *T.Rowe Price Insights*, https://www.troweprice.com/content/dam/retirement-plan-services/pdfs/insights/research-findings/Decoding_Retiree_Spending.pdf.

[20] This path may be restricted for trustees under the current Australian rules around financial advice, given that knowledge of a member's objectives or risk tolerance amounts to possessing personal information.