

Submission to Productivity Commission Assessment of the Efficiency and Competitiveness of the Australian Superannuation System

Comments on the Draft Report

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I congratulate the Productivity Commission (PC) on their excellent Draft Report, and the manner in which they are conducting the review. Most of the recommendations appear to be sensible, and should act as a catalyst for change for the better. My submission provides comments on four matters:

1. *Importance of stewardship, especially in the default segment* – context for other comments
2. *Proposal for 'best-in-class' method of allocating members to default funds* – general impressions, and a few suggestions
3. *Investment performance benchmarking* – some ideas on how this might be improved, and a warning
4. *Modelling of lifecycle products* – developing the analysis, including to look 'through retirement'

This submission represents my personal views, informed by both my own research and a number of years in the investment industry. It should not be read as an official position by the Australian National University.

1. Stewardship

Many default members struggle with financial concepts; and evidence exists that they are seeking direction on what to do with their superannuation, and/or are looking for somebody to take care of it for them.¹ It is questionable whether most default members can ever build the personal capacity for informed choice; although some will, and efforts to enhance the capability to make better choices are worthwhile. This situation has two implications. First, default members may never be able to drive effective competition. Essentially, the risk of market failure exists due to intractable information asymmetries. Second, default members are seeking some kind of fiduciary relationship. Against this background, my opinion is that it is more important to place emphasis on ensuring the agents in the system who act for default members play the role of trusted stewards, rather than treating default superannuation as a product sale and relying on competition by itself to generate good outcomes.

Fortunately, the proposed recommendations in the Draft Report cover both angles. The idea of having a panel choose a set of best-in-class funds will inject an informed player that can act as a steward for default members at the fund selection stage. Meanwhile, proposals related to governance and oversight by the regulators are focused to an extent on ensuring the funds that manage member balances are looking after member interests. ***My main suggestion is that the PC place a keen focus on identifying where market mechanisms may fail when generating its Final Report.*** Many of my comments in the next section relate to this concept.

2. Allocating Default Members

The idea of appointing a panel to select the 'best-in-class' funds has many merits. In addition to placing the selection of default funds likely be used by many members in the hands of an informed steward, I see the other main benefits as related to spurring competition in the market for fund selection, and providing a mechanism for addressing multiple accounts.

¹ This concept arose in the public hearings on 20th June 2018, including the testimonies by Susan Thorp and Choice. It also emerged from research in which both Susan and I were involved, see: Butt, A., Donald, M.S., Foster, F.D., Thorp, S. and Warren, G.J. (2018), "One Size Fits All: Tailoring Retirement Plan Defaults", *Journal of Economic Behavior and Organization*, 145: 546-566.

While agreeing on the merits of the proposal, I have some suggestions. First, the best-in-class proposal should be firmed up. A keener job needs to be done to establish the cost-benefit versus the alternative of 'cleaning up the tail' of poor performing funds, given that the proposal would amount to a major disruption, and problems seem to be limited to certain aspects of the industry design and certain players rather than ubiquitous. Second, I suggest that the PC puts effort into firming up its recommendations on the constitution of the panel, and not attempt to be too prescriptive over the criteria that the panel uses in selecting funds. Finally, an explicit attempt should be made to identify potential unintended consequences as part of the process.

Cleaning Up the Tail as the Main Alternative

The performance benchmarking analysis is notable for revealing what appears to be a tail of poorly performing funds. It is not clear that the remainder of the industry is delivering anything different from random variation around their benchmarks. (I discuss this issue further below). Some of the PC's proposals will reinforce other regulatory developments currently underway to raise the bar for all default funds. These relate to the outcomes test, MySuper registration, governance, facilitating and encouraging mergers, and so on. Meanwhile, anointing a handful of funds has risks and as well as benefits, related to the difficulty of identifying the 'best' funds, and the possibility of unintended consequences. I discuss both of these matters below. ***I recommend that the proposal that a panel be appointed to select a set of best-in-class funds be evaluated against the alternative of relying on other measures to clean up the tail of underperformers.***

Unintended Consequences

Any major policy change brings the possibility of unintended consequences. ***I suggest that the PC formally engages with key stakeholders (possibly including a workshop) with a view to identifying potential unintended consequences of appointing a panel to select best-in-class funds, and offer recommendations on how problems might be mitigated.*** Below are a few possibilities that come to mind.

- *There could remain a tail of underperforming funds* – My comments take a longer-term view, thinking what could happen 10 or 20 years down the track. The best-in-class proposal should be most effective if all funds engage in the program by competing to be on the list, or otherwise exiting. There is some risk that this does not happen, with a class of funds developing that do not compete vigorously. This might occur because some funds consider pursuing a position on the list as entailing too much cost and effort, given the probability of success. For instance, funds with a mediocre history of performance may view themselves as unlikely to be selected, but yet are not poor enough to justify deregistration. Funds in this situation could decide to 'milk' their existing members, stop innovating, and may move into rundown – leading to lackluster performance. There are also dangers in the assumption that a 'best' fund for now is a place to be for life, noting that once assigned, many default members will not willingly switch funds. Good funds may become poor funds over time for variety of reasons, e.g. change in management for the worse, or a change in behavior if they become a fund that 'once was' on the best-in-class list. The aim should be to build in mechanisms that incentivise all funds to keep trying, and cull those that do not. Raising the bar for MySuper registration will play an important role. This can act as a stick that accompanies the carrot of being selected for the list, and provides one means for weeding out poor performers. Encouraging mergers may also play an important role, given that it is more likely that some funds will give up trying if they are one of very large group competing for a limited number of spots.
- *Impacts from product-based competition* – The 'best-in-class' proposal will have the effect of positioning both panel members and default members as customers to be won over. This is not so much of an issue at the panel level, providing it is well constituted (discussed below). However, it might cause issues at the member level, where funds who are selected will be aiming to get default members to choose them out of a list of names. One consequence is that these funds might ramp up their brand marketing, or even offer incentives for selection. Another risk is that positioning default funds as a product to be sold runs counter to the notion that default members need stewardship, rather than just being viewed as customers. Some funds currently have an element of alignment and connection with members, and this would become lost over time. While some of these consequences are unavoidable, the basis of competition can be strengthened through the type of information that is made available to members when making their selection (as the PC recognises). One additional idea is to make reports² on the funds available, so that members at least have access to rich information.

² Reports might be generated by the panel, or sourced from research houses.

- *Behavioural responses* – A best-in-class system might elicit some behavioural responses from funds, the panel and members that could have adverse effects. For instance, funds may be incentivised to take too much risk, or alternatively become unwilling to take appropriate risks and/or start herding, with a view to either getting on the list or securing their position. (I make comments on how benchmarks could act as anchors further below.) The panel may focus on managing its own reputation in the way it selects funds, making conservative choices that in turn hamper innovation and act as a disincentive to non-mainstream operators and new entrants. Related to this is the risk that the panel chases performance, which only works if persistence exists, and can be dangerous under mean reversion. How members actually respond in the face of choice is also a moot point. While the PC has done some useful choice experiments, they might want to investigate this angle further and extend it to considering potential behavioural responses from the funds and the panel.

Identifying Best-in-Class Funds and Constitution of the Panel

The task that any panel will need to undertake is similar to the selection of investment managers as currently conducted by asset owners like the superannuation funds themselves, asset consultants and research houses. In addition, superannuation research houses and tender consultants have been conducting tenders in the corporate superannuation segment over the years. As I will describe below, the selection task should be viewed as inherently subjective. It largely relies on judgement, and is only vaguely informed by historical performance and other quantitative metrics. Picking the ‘best’ funds going forward is, quite frankly, hard.

Research on the success of the ‘craft’ of manager selection is limited. But what there is suggests no guarantee of success,³ and underlines the difficulty of the task. It also contains a strong hint that behavioral influences are at play, including the fact that chasing performance is hard to resist and may lead to adverse outcomes. Hope that a panel process will lead to default members being allocated to top-performing funds going forward could easily prove disappointing. Nevertheless, creating a panel to select funds *will* create competitive tension in the market. It should also help members to avoid poor funds. And it is better than what is currently an allocation process that is somewhat of a lucky dip. It might be justified based on all these considerations. The question is how to design the selection process to maximise the chance of better member outcomes.

How manager selection is undertaken provides helpful background. Doug Foster (now at University of Sydney) and myself have interviewed superannuation funds on how they approach the task of selecting Australian equity managers.⁴ Two key takeaways from this work are relevant in the context of the PC’s proposal. One is that manager selection is largely a *subjective* process. The aim is to establish whether an investment manager can be relied on to do the job they are assigned within a portfolio. Words like confidence, conviction, faith and trust often appeared during the interviews. Considerations related to softer issues such as the quality of people and the organisation they work for featured prominently. The other takeaway is that *past performance is considered unreliable and hence not taken at face value*. Rather, past performance tends to be evaluated and analysed in order to understand the sources of returns, and with a view to building confidence in the investment manager and understand the way that they invest. A few interviewees were even keen to point out they had sacked a manager after good performance, either because the way it was achieved raised doubts over whether it was repeatable, or due to a recognition that mean reversion exists. A tome by Stewart (2013)⁵ also outlines the art of manager selection.

In addition, the panel will need to take a much broader view than just evaluating investment capability. A ‘good’ superannuation fund provides a range of services to members beyond just generating investment returns. In accumulation, this includes aspects related to engagement with members, such as communication, advice and their systems and platforms. The superannuation industry also needs to grapple with retirement. Here investment performance is less important relative to the capability to craft appropriate strategies for differing members. ***How the best-in-class model dovetails with retirement is currently missing from the picture, and should be addressed by the PC in finalising its recommendations.*** One way to go might be to make provision for differing lists of best-in-class funds in the accumulation and retirement phase. Another way would be to require the panel to select funds based on their capabilities spanning both accumulation and retirement.

³ See: Goyal, A. and Wahal, S. (2008), “The selection and termination of investment management firms by plan sponsors”, *Journal of Finance*, 63(4), 1805-1847; Stewart, S, Heisler, J., Knittel, C. and Neumann, J. (2009), “Absence of value: An analysis of investment allocation decisions by institutional plan sponsors”, *Financial Analysts Journal*, 65(6), 34–51; Jenkinson, T., Jones, H. and Martinez, J.V. (2016), “Picking winners? Investment consultants’ recommendations of fund managers.” *Journal of Finance*, 71(5), 2333-2370.

⁴ Foster, F.D. and Warren, G.J. (2016), “Interviews with institutional investors: The how and why of active investing”, *Journal of Behavioral Finance*, 17(1), 60-84.

⁵ Stewart, S. D. (2013), “Manager selection”, *Research Foundation of the CFA Institute*.

Another would be to state that the best-in-class lists is solely intended for new accumulation members, kicking the retirement issue can down the road. In any event, such aspects should be considered in how the brief of the panel is framed, and hence what the panel might take into account when selecting funds.

Against the above background, the PC needs to substantially enhance the direction it gives on the constitution of the panel. Meanwhile, they should shy away from attempting to provide specific guidance on the criteria used by the panel to select funds, other than scoping its brief and objectives. The prime aim should be to ensure that the panel itself is effective, and let them work it out. Section 12.4 of the draft report is a good start, but I have a few additional suggestions:

- *Mandate an appropriate mix of expertise* – While a mix of skills and personalities is desirable, the panel should have expertise in three key areas: manager (fund) selection, the investment management process from an asset owner context, and understanding of the superannuation industry and the needs of members.
- *The Chair* – This is the key appointment. Consideration should be given to having a Chair that is clearly independent from players in the superannuation industry, and not aligned with any political party or interest group. An appropriate Chair might be sought by executive search, and possibly come from outside of the superannuation or perhaps even finance industry.
- *Tenure* – The aim should be to strike the right balance between the need for renewal, and retention of knowledge. Short and strictly limited tenures can also chip away at the incentive to take a longer-term view, which would be encouraged if the potential exists to be associated with decisions for some time to come. The PC has suggested ‘no more than one-third’ of the panel carry-over. This contains a hint of over-emphasising renewal. A better approach may be to structure the panel so that (say) 50% of the panel stays for a second term, but with a two-term limit. Four year terms seem about right.
- *Research capability* – Basing decisions on ‘pitches’ from a ‘beauty parade’ of funds may lead to poor outcomes. Rather, identifying appropriate funds for the list should be seen as a process requiring a research capability. The panel needs to be able to extract the information it needs, and follow lines of inquiry. Research should ideally be performed by the secretariat with oversight and involvement by panel members, but might outsourced in part to independent research houses.
- *Resourcing* – The panel should be properly resourced, including having its own secretariat. The PC suggests that the Australian Government Actuary may house the secretariat. I question whether the AGA is the right body to assist in a subjective evaluation of the mechanics of how superannuation funds as organisations actually make investment decisions and meet member needs.

3. Investment Performance Benchmarking

The analysis comparing fund performance versus tailored benchmarks is very revealing, and appears to ‘do the trick’ of teasing out potential problem areas. In particular, the kink down to a lower tail of underperformers is evocative. While no major problems were evident with the analysis that might undermine the broad tenor of the findings, I have some suggestions to tighten up what is a solid piece of work. These suggestions relate to statistical testing, and tweaking of the benchmarks. I also warn against relying too heavily on using performance versus benchmark in evaluating funds.

Statistical Testing

The analysis of fund performance could be strengthened through statistical analysis, with two aims. The first would be to establish whether the distribution of performance differs from what is expected under random variation. The second aim would be to generate a better-founded estimate of the cut-off for poor performance than the notional -0.25% currently being used. Below I offer some general guidance, but the PC might like to seek further input from statisticians.

The underlying concept is that investment positions are essentially a ‘bet’ aimed at increasing the odds of a better outcome, but with no guarantee that the bet will pay off. The objective in evaluating investment performance is to distinguish skill from luck. This amounts to trying to ascertain whether a fund has the ability to identify and access sensible bets, allowing for that fact that (good and bad) luck arises from the vagaries of markets and inability to know the future. The PC’s benchmarking process removes a good portion of the market effects and hence noise. What remains to be evaluated is the combined effect of two sets of active decisions. The first are positions taken within asset classes versus the asset class benchmarks. The second are variations from the asset allocation weights assumed in the benchmark, which should reflect the policy

weights for the segment being evaluated. Of the two, asset allocation decisions are likely to have the greatest impact.

An effective approach to statistical analysis under these circumstances might be to simulate a predicted distribution of fund returns versus the benchmark under the assumption of zero skill. The predicted distribution can then be compared to the observed distribution to establish if there is any meaningful difference.⁶ The predicted distributions would also deliver significance cut-offs, simply by taking the xth percentile of the predicted distribution as appropriate.

The PC appears to have established the mechanics for the simulation in conducting the stochastic analysis reported in Technical Supplement 4 (TS4). Extending this analysis to generate a predicted distribution should not be too difficult. I suggest doing this by simulating from the historical data series through the following steps:

- (a) For each asset class, randomly draw an active return. This can be done by assuming a mean equal to the benchmark return, and a standard deviation reflecting a typical 'tracking error' versus the benchmark.
- (b) Randomly draw an asset allocation that deviates from the benchmark asset weights. This analysis would piggy back off the simulation analysis presented in TS4, although it may be appropriate to adjust the approach to forming the asset weights (see footnote 7).
- (c) Estimate a return for each period based on the asset class returns adjusted for the active returns from step (a), and the asset weights from step (b). *Note:* Basing the analysis on yearly data will probably suffice.
- (d) Simulate the compound return over the analysis period by accumulating estimated returns for each period.
- (e) Repeat as many times as required to adequately characterise the predicted distribution.

The observed distribution of accumulated returns over the analysis period can then be compared with the predicted distribution, and significant cut-offs extracted.

Tweaking the Benchmarks

Below is a list of possible tweaks to the benchmarking analysis of TS4. Most of the suggestions should make only marginal difference to the findings. They hence could be adopted with a view to adding a bit more precision, and pursued only if the potential benefit is worth the additional effort required.

- *World equities* – Consider using the MSCI All Country World rather than the MSCI World Index. The MSCI AWCI includes emerging markets, which are a component of the opportunity and investment set.
- *Private equity* – My understanding is that the holdings in this asset class may be more international than Australian-based, implemented via either international private equity managers or perhaps fund-of-funds. Cambridge Associates, which supplies the AVCAL index, generates a US and a world index.
- *World property and currency* – The FTSE EPRA NAREIT index might be adjusted back to unhedged by imputing the impact of hedging by comparing the hedged and unhedged MSCI world equity indices.⁸

⁶ I would anticipate that the predicted distribution would be approximately normal for which there are standard tests. However, the analysis would need to be done to see if this was actually the case.

⁷ An element of experimentation may be required to around the method of generating asset allocation weights, to ensure that the resulting distributions is reasonable. Here are some ideas:

- In TS4, the analysis appears to span the full range of weights with equal probability. Arguably, smaller weighting deviations may be more likely. This suggests that deviations might be modelled as following a normal distribution, or perhaps a more fat-tailed distribution that is also somewhat clustered around the benchmark. Weightings could be constrained by zero and the maximum observed weight, so that the distribution is truncated.
- One approach could be to simulate 'pairs' trades, going overweight and underweight two assets or asset categories (see below) selected at random. A given asset allocation could contain one pair trade, or a number of pairs trades.
- Currency decisions might be included in the simulations by treating the mix between hedged and unhedged versions of the same international asset classes (other than fixed income) as a secondary decision, with a common hedge/unhedged mix applied within each international asset class deemed subject to potential hedging.
- Another approach could be to adopt a tiered structure. In the top tier, deviations are generated versus the benchmark in the broad categories of equities, fixed income plus, and alternatives. In the second tier, deviations from the benchmark are generated within each broad, category, e.g. a choice between Australian and world equities is made. There may be call for a third tier in some instances, e.g. choice between unhedged and world equities, or listed and unlisted forms of alternative asset classes.

⁸ If a hedged total return series is unavailable (the case in Datastream), try the unhedged and hedged price series.

- *Other assets* – The use of equities as a proxy here may be an issue, as this category includes assets that are often lowly correlated with equities, such as hedge funds, commodities, resources, exotic debt, agriculture, forestry, and so on. Why not just gross up the returns estimated from observed asset classes, rather than try to form an explicit proxy?
- *Commodities* – If the PC wants to include a measure for this asset class, I suggest that use a proxy for collateralised commodity future funds (CCFs) which are the prime vehicle. (Note: CCFs are not the same as physical commodities.) One example is the Goldman Sachs Commodities Total Return Index, although this is heavily weighted to energy and other indices exist.
- *Hedge Funds* – Benchmark return data is also readily available for hedge funds. For example, EurekaHedge provides indices that are publically available. (<http://www.eurekahedge.com/Indices>)
- *Hedge ratios* – The Chant West asset allocation survey collects hedged and unhedged world equities, and would give you a time series proxy for hedge ratios. An average hedge ratio of 34% is reported by Chant, Mohankumar and Warren (2014)⁹ at December 2013, which is not greatly different from the 30% used by the PC. Nevertheless, given the noted sensitivity to the hedging assumption, it may be worth exploring this aspect further.
- *Other data sources* – The PC might consider supplementing the SuperRatings and Morningstar data with data from Chant West, in particular because they collect more granular asset weights for a subset of funds. Page 9 of Chant, Mohankumar and Warren (*op. cit.*) provides an overview. Also, Mercer produces a Fee Report that could provide an additional reference and check on the fee assumptions, including reporting fees across market segments (retail, wholesale, separate mandates).

Potential Issues with Benchmarks

The PC's Draft Report seems to envisage that performance versus benchmark be established as a primary means of evaluating default funds, including notably for MySuper registration (Recommendation 4). There are a number of dangers in relying too heavily on benchmark-relative performance when it comes to system design. It would incentivise funds to manage towards their benchmark, when the primary concern should be what is best for members. Benchmarks can act as anchors,¹⁰ and may be gamed.

Benchmarks encourage investment positions that have a high chance of outperforming in the shorter term, even though they may not be the best option for members over the long term. For instance, say equity markets enter bubble territory where the sensible response might be to reduce equity weightings. Funds managing their benchmark-relative performance may shy away from making the appropriate adjustment. A converse example is that fixed income portfolios are often seen with high credit exposure because it offers higher yields and hence a good chance of near-term outperformance, while leaving the portfolio exposed to losses and illiquidity during downturns. Also, some private market investments entail initial costs with returns accruing only over the long run (the 'J-curve'). Such investments may look unattractive if the focus of concern is shorter term performance, looking towards the next review by APRA or the selection panel.

Another issue is how the benchmark will be determined. If funds are allowed to choose their own benchmarks, or have influence over benchmark design, they will aim to secure one that is easy to beat. If benchmarks are specified by an external party for a segment (e.g. 70/30 balanced funds), the potential problems related to anchoring discussed above could become an industry-wide issue, possibly with some systemic effects.

To an extent, exposure to the above problems are an unavoidable consequence of accessing the benefits of using benchmarks. The question is how to mitigate the problems. ***I suggest that the PC makes the recommendation that evaluation of default funds by both APRA and any selection panel be based on a holistic evaluation based on in-depth research.*** Evaluation of performance versus benchmark should be only one component of any evaluation, and should entail a deeper-dive to better understand the reasons for performance. My discussion above of how the panel might evaluate funds provides an indication.

⁹ Chant, W., Mohankumar, M. and Warren, G. (2014). "MySuper: A new landscape for default superannuation funds", *CIFR Research Working Paper*, No. 020/2014 (July)

¹⁰ For a discussion in the context of Australian super funds, refer Carruthers, D. (2015). "The use of active asset allocation by superannuation funds", *CIFR Working Paper*, No. 060/2015 <https://core.ac.uk/download/pdf/51343171.pdf>

4. Modelling of Lifecycle Products

The observations made by the PC in the Draft Report appear broadly correct with respect to lifecycle products as they are commonly constructed in the industry. The idea that lifecycle products can result in a lower balance at retirement for a limited reduction in risk agrees with some findings reported in the literature, and my own research. My main comment relates to the framing of the discussion and related analysis around balance at retirement. This is the perspective not only adopted by the PC in Technical Supplement 6 (TS6), but appears to have informed the development of lifecycle products in much of the industry.¹¹

Focusing on balance at retirement amounts to solving part of what is a life-time consumption and investment problem. The key issue is whether a product is effective at supporting financial outcomes (spending, and possibly a bequest) over the course of the retirement phase. Balance at retirement is just one point on an ongoing investment journey. It is only relevant from a financial outcomes perspective to the extent that it will be either spent at retirement, or used to purchase an annuity. Ideally any model aimed at evaluating an investment strategy would span the entire life-cycle. It would: look 'through retirement' rather than just 'to retirement'; take into account all assets available to support financial outcomes in retirement; consider the drawdown strategy; and incorporate member preferences including risk tolerance.

Below I offer suggestions for how the PC might develop its stochastic modelling a bit further. My premise is that the PC aims to evaluate alternative investment strategies, rather than solve the entire life-cycle problem to identify the optimal strategy.¹² **The stochastic analysis in TS6 should be extended both back and forward**, by starting at entry into the workforce, and looking through into the retirement phase including taking into account the age pension. By starting 5 years from retirement, the analysis in TS6 is unfair to lifecycle funds. This is because it does not allow for the fact that lifecycle funds are designed to hold a higher weight in growth assets earlier on, and hence may have a higher balance than achieved under a 70/30 allocation. The age pension needs to be accounted for as a valuable asset that provides a hedge against investment losses in the superannuation portfolio, especially for members with lower balances. It is also available to all Australians. Hence it is important that the age pension be included as a key component of the member 'portfolio' in evaluating investment strategies taken within the superannuation fund.

The above aspects can be incorporated by simulating strategies over a full life-cycle, and making comparisons based on financial outcomes during the retirement phase. My suggestion for developing the model in this direction is as follows:

- Start modelling at workforce entry, i.e. age 21.
- From retirement (age 67), assume that the member invests in an account based pension (ABP), on which they draw income in accordance with the minimum drawdown rates.
- Model through to some fixed target age, at which point a residual balance is recorded. The latter may be considered a bequest; although it might also be taken as representing the remaining balance available to support income beyond that point. An appropriate age may be 87, as this approximates life expectancy at age 65 (for females),¹³ and affords a 20-year period over which to evaluate the resulting retirement income.
- The investment strategy for the evaluation will need to include both a pre-retirement and post-retirement component. Below is a list of plausible strategies that a member might take under the current system. They bracket a range of options, with (b) and (c) supporting a direct comparison of applying balanced versus lifecycle strategies during accumulation by applying a common strategy post-retirement. The PC may wish to go further to examine other possibilities, perhaps 100% growth and 0% defensive for reference.
 - (a) Balanced strategy A: constant 70/30 mix in both pre-retirement and post-retirement
 - (b) Balanced strategy B: 70/30 mix pre-retirement, followed by 'typical' mix observed in ABP post-retirement. Estimates by Mercer¹⁴ in 2014 suggest 57/43, although the PC might investigate further.

¹¹ The framing around balance at retirement arises to a large extent from the MySuper regime being directed at the accumulation phase, and funds acting under some sense that their mandate relates to securing the balance at retirement by controlling the risk of member disappointment as retirement approaches. Indeed, the separation of accumulation and retirement phases under the regulatory framework is unhelpful as it creates framing that encourages sub-optimal behaviours from both funds and members.

¹² This is difficult, and will be highly dependent on assumptions related to the member. It may also be dynamic.

¹³ <https://www.aihw.gov.au/reports/life-expectancy-death/deaths-in-australia/contents/life-expectancy>

¹⁴ https://www.mercer.com.au/content/dam/mercer/attachments/asia-pacific/australia/investment/Mercer_Post-Retirement-Market-Trends-In-Australia-June2014.pdf

- (c) Life-cycle strategy C: Representative glide path from workforce entry until retirement,¹⁵ followed by typical ABP mix post-retirement.
 - (d) Life-cycle strategy D: Representative glide path from workforce entry until retirement, then retaining the asset mix at the point of retirement. Chant, Mohankumar and Warren (*op. cit.*) estimated the mix for lifecycle products at age 65-70 at 34/66 on average (median of 40/60) as at early-2014, although this may have changed since that time.
- Estimate total income as the sum of income from the ABP and the age pension, with the latter modelled with reference to the eligibility rules.
 - Evaluate the distribution of member outcomes in terms of both income and the residual ABP balance. Possible summary measures might include:
 - Average and median income, and possibly selected points on the distribution (box plot?)
 - Average and median residual ABP balance, and possibly selected points on the distribution
 - Percentage of years of shortfall versus the ASFA retirement standards (modest and comfortable)
 - Average dollar shortfall versus the ASFA retirement standards

If the existing stochastic model was developed in the direction set out above, I anticipate that the analysis would still find that de-risking under lifecycle funds as they are currently structured incurs some cost relative to a balanced fund, thus implying that the glide paths seen in the industry may be too aggressive. If this turns out the case, I would caution against using this to conclude that life-cycle investing is universally flawed. Dynamically shifting asset weights can be optimal, although the optimal path will depend on a range of assumptions. Nevertheless, it may support the conclusion that the current crop of life-cycle products is sub-optimal versus a balanced strategy for many members.

¹⁵ Data is available from the APRA quarterly MySuper statistics.