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Deputy Chair Karen Chester
Commissioner Angela MacRae
Productivity Commission

Dear

Re: How to assess the competitiveness and efficiency of the superannuation system

Challenger Limited is a top 100 ASX listed company, Australia's largest provider of annuities and seventh largest funds manager. Challenger's vision is to provide our customers with financial security for retirement.

This submission responds to the Draft Report and focuses specifically on issues relating to the competitiveness and efficiency of the retirement or pension phase of the superannuation system.

Executive summary

Retirement is different

The retirement or pension phase of superannuation is different to the accumulation phase. Not only is there a shift in emphasis from building retirees' account balances to providing sustainable retirement income but there is also a significant change in the nature of the risks faced by retirees. The principal additional retirement risks are longevity, sequencing and inflation risk which are described more fully below. Retirees tolerance for and capacity to recover from adverse events is substantially reduced compared to those investing in the accumulation phase.

Objectives of the superannuation system

The system level objectives for superannuation provided in the Draft Report against which the assessment criteria will be designed are too general. While they are explicit for the accumulation phase, "to maximise net returns on contributions", they do not specifically address the distinctly different risks and objectives of the retirement or pension phase. We propose that the objectives be amended to deal explicitly with the retirement or pension phase. This will support the Government's objective of superannuation "to provide income in retirement to substitute or supplement the Age Pension."

Criteria for assessing the retirement or pension phase of the superannuation system

The Draft Report proposes a multi-faceted approach to benchmarking the efficiency and competitiveness of the superannuation system. The retirement or pension phase of the superannuation system could be assessed against the following four criteria:

1. Efficiency, defined as the proportion of superannuation balances converted to retirement income;
2. Reliability, defined as the probability of achieving retirement income targets to at least life expectancy (LE);
3. Success, defined as achieving targeted incomes until death; and
4. Goodness of Fit, (GOFI), defined as how well the profile of income meets retiree needs over retirement, given that not all needs may be met.

Metrics for assessing performance against the criteria

This submission presents four specific metrics for assessing the performance of the retirement or pension phase of the superannuation system against these four criteria. These metrics, which were developed to be applied to specific income streams, are capable of being applied across the whole retirement or pension phase of the superannuation system, by assessing the system in segments and then combining the results.

Composite products

There is a need for composite products, consisting of an Account Based Pension (ABP) and a lifetime annuity to better meet retirement income needs and to properly manage the principal additional risks in retirement: longevity risk; sequencing risk; and inflation risk. The Government recognised this need for composite products when it responded to the Financial System Inquiry (FSI) with its decision to consult on how to facilitate superannuation trustees offering their members Comprehensive Income Products for Retirement (CIPRs). The superannuation industry is starting to make composite retirement solutions available to members and to educate financial advisers on the benefits of composite retirement solutions and partial annuitisation.

Barriers to a competitive and efficient superannuation system

The Draft Report discusses a number of possible barriers to a competitive and efficient superannuation system. This submission identifies two; the lack of specific trustee responsibilities for managing the principal additional risks in retirement, longevity, sequencing and inflation risks, and a lack of education standards for advisers on managing retirement risk. These are significant barriers to the efficiency of the retirement or pension phase of the superannuation system.

Contestability

The Draft Report discusses the relatively small size of the annuity segment of the superannuation pension market in Australia and the narrow range of providers operating in it. However, there are a large number of domestic and international life offices currently operating in Australia which have the capital, scale and technical capability to offer annuities should they choose to do so. The annuity segment of the market is therefore contestable.

Size as a barrier to upstream investments

The Draft Report asks whether there are limitations on the access of some superannuation funds to upstream investment markets. A similar question should be asked about whether all superannuation funds can provide their members with efficient longevity protection. Superannuation funds which do not have the scale, capital or technical capability to provide pooled longevity products can competitively purchase longevity protection for their members from an APRA regulated life company.

Adverse selection

The Draft Report notes that adverse selection is a factor affecting the pricing of lifetime annuities in the Australian market. Compulsory annuitisation was considered by both the Henry and Murray Reviews as a

potential solution to this problem but it was rejected by both. The Henry Review said that compulsion would result in unfair pricing for ethnic and demographic groups with higher mortality. The same argument is valid with regard to any form of community rating for lifetime annuities. This submission provides an actuarial investigation showing the kinds of pricing benefits which could be offered to identifiable groups with shorter life expectancies. Community rating would remove the possibility of any competition to provide those with shorter life expectancies better annuity rates. Community rating would also introduce new forms of adverse selection and interfere with the capacity of life offices to properly price the risks they are taking.

Development of the market for lifetime annuities

The Draft Report notes that about a decade ago lifetime annuities almost vanished from the Australian market. This submission provides a more complete account of the rebuilding of that market.

Retirement is different

The most important part of the superannuation system is the payment of income to retirees. Although superannuation has been compulsory for 24 years, the low levels of initial contributions mean the pension phase is yet to reach maturity. With an ageing population accumulation arrangements need to be matched by pension arrangements that are competitive and efficient.

Retirees face additional risks to those they faced in the accumulation phase and have a more complex set of objectives. The key differences are:

- The absence of regular wage, salary or business income so the retiree must draw down on their superannuation savings or other investments to fund consumption.
- The sustainability of retirement income becomes the critical factor. This has two dimensions: the probability of success of the retirement plan (in terms of the desired or expected level of income and its duration) and the range of potential outcomes based on market returns and longevity that deviate from long term averages;
- There are additional risks to those experienced in the accumulation phase and these must be managed:
    1) Longevity risk, which has two components; idiosyncratic risk which is the variation between the length of lives in the population or an insured pool of lives; and systemic risk which is the likelihood that the population as a whole, or all lives within the insured pool, will live longer than previously expected.
    2) Sequencing risk, where the order of returns can be more important than the average rate of return, because the retiree has limited capacity to recover from adverse market events.
    3) Inflation risk, recognising the need to maintain purchasing power over a very long period.
- Retirees' aversion to loss is greatly increased, see AARP (2007);
- Information deficits, in addition to uncertainty about future market events, retirees do not know how long they will live and so how much income they can reliably draw from their superannuation; and
- Retirees have their own circumstances and preferences which determine their needs and goals. Any discussion of superannuation system competitiveness and efficiency needs to recognise the wide variation in individual and household needs and requirements.

Objectives of superannuation

The Draft Report makes a distinction between the Government's objective for superannuation, "providing income in retirement to substitute or supplement the Age Pension", and the Productivity Commission's (PC) distillation of the objectives of superannuation for the purposes of evaluating competitiveness and efficiency. The latter excludes factors such as the Age Pension which are outside the influence of the superannuation system. The Draft Report notes that the Government's superannuation objective deals with superannuation as a component of the retirement income system. However, the competitiveness and efficiency of the retirement or pension phase of the superannuation system are central to achieving the Government's objective.

The system level objectives for superannuation provided in the Draft Report for the purposes of evaluating competitiveness and efficiency are too general. They are explicit for the accumulation phase, which is primarily an exercise in wealth accumulation. They do not specifically address the distinctly different risks and objectives of the retirement or pension phase which is primarily an exercise in delivering reliable income over retirement. This submission proposes that the objectives be amended to deal explicitly with the retirement or pension phase.

The first PC objective; "The superannuation system maximises net returns on contributions and balances over the long term" is too narrowly focussed on investment outcomes. It should also make specific reference to both the efficiency with which retirement income solutions convert superannuation balances to retirement income and the reliability of delivering targeted retirement income outcomes.

The second PC objective; "The superannuation system meets member preferences and needs, in relation to information, products and risk management, over the member's lifetime" should be strengthened by specific reference to properly managing the principal additional risks in retirement, being; longevity, sequencing and inflation risk; as well as addressing the issues of cognitive decline and the vulnerability of retirees.

Criteria for assessing the retirement or pension phase of the superannuation system and metrics for assessing performance against the criteria

Efficiency in converting superannuation balances to retirement income

As the primary objective of superannuation is to provide income in retirement, a critical component of measuring the efficiency of the superannuation system is measuring the efficiency of converting superannuation balances to retirement income. Since Yaari (1965) the academic literature has recognised the efficiency of transforming capital into income over a lifetime through annuitisation, in the absence of a bequest motive. In practice this does not occur, as a result of a phenomenon Franco Modigliani referred to in his 1985 Nobel acceptance speech as the 'annuitisation puzzle'. More recent work, such as Benartzi et al. (2011) highlights many informational and behavioural reasons why people do not annuitise. Benartzi et al attempted to explain and offer solutions to these issues which could increase voluntary annuitisation.

The Australian Government Actuary (AGA), in his paper, *Towards more efficient retirement income products*, prepared for the FSI, discussed efficiency in terms of the proportion of superannuation savings converted to retirement income.

The AGA noted that the dominant retirement income product in Australia is the ABP. The FSI found these in fact comprised 94% of retirement income streams. An ABP is an investment account, drawn down progressively, subject only to a set of age-based minimum drawdown factors prescribed in the pension rules for eligibility for a tax exemption. These drawdown factors were set to allow a reasonably level income in real terms over a long retirement. (4.1)

Most ABPs are drawn at the minimum permissible rate. The AGA noted that this strategy minimises both the risk of outliving retirement savings and living standards during retirement. There is a statistical expectation

that some money will be left over in the account on death. Faster rates of drawdown increase the risk that a retiree will outlive their superannuation savings. (4.5, 4.6, 4.7)

The AGA examined the effect of a 65 year old male drawing down a $400,000 superannuation balance at the minimum rate. Based on the assumptions adopted, the AGA estimated that around 31 per cent of the initial balance (in net present value terms) would be left over on death on average. This means only about 69 per cent of the initial balance is actually used for retirement income purposes. (4.11)

The AGA explored three retirement strategies that would be more efficient in terms of converting retirement savings to income:

1. Drawing an ABP down at a 40% higher rate with the target of exhausting the balance at life expectancy (LE). The consequences of that is bequests in the case of the 50% of retirees dying earlier than LE, with bequests that do not go to superannuation dependents not being converted to retirement income. For the 50% of retirees living longer than LE, their superannuation savings would be exhausted before death.
2. Group Self Annuitisation (GSA), pooling of a group of lives within a fund to manage idiosyncratic longevity risk. On the assumptions used, the GSA would provide an income 40% higher than an ABP without any increase in the risk of outliving savings. Income from the GSA would be expected to be higher than from a lifetime annuity but would fluctuate and may be higher or lower depending on actual mortality and investment experience.
3. A lifetime annuity which guarantees retirement income by transferring all longevity, investment and inflation risk to a life office which holds a capital reserve against those risks. The lifetime annuity manages both idiosyncratic and systemic longevity risk so, unlike a GSA, provides protection against population increases in life expectancy.

ABPs, GSAs, lifetime annuities and combinations or composites of these products convert superannuation balances to retirement income with different rates of efficiency. These rates of efficiency are capable of being measured using stochastic techniques, as used by the AGA. Assessments of the efficiency of all market segments could be combined to determine the efficiency of the superannuation system in converting superannuation savings to retirement income.

Reliability

ABPs, lifetime annuities, deferred lifetime annuities (DLAs), Group Self Annuities (GSAs), and combinations or composites of these products have different levels of reliability for providing income. Pension types and composites can be stochastically modelled to determine the probability that they will meet an income target at LE. This is one of the features of the most advanced adviser tools available today, allowing retirees to see the relative reliability of the types of income streams available to them. Comparisons between no and partial annuitisation, including Age Pension entitlements, are based on drawing the same sustainable level of income, with the same allocation between growth and defensive assets.

For example compare the reliability of three pairs of income streams with starting balances of $800,000, $1 million and $1.2 million. In each pair, one income stream is an ABP, the other is a composite retirement solution comprising an ABP and a lifetime annuity.

Each income stream has a 40/60 allocation to defensive/growth assets. In the cases of the composite retirement income streams, each has a 30% allocation to a lifetime annuity. The modelling assumes 65 year old, homeowner, couples, with $30,000 of personal assets and $50,000 of financial assets, equal amounts of superannuation assets, taking an ASFA comfortable benchmark income of $59,000pa. Of course, the lower the starting balance the more likely the income stream will not deliver the target income of $59,000 out to the couple's joint life expectancy.

Table1: Comparison of Reliability of Income Stream solutions

		Reliability	
Starting Balance	**ABP**	**Composite**	**Difference**
Table text	Table text	Table text	
$800,000	44%	70%	25%
$1,000,000	84%	96%	12%
$1,200,000	97%	99%	2%

Source: Challenger

Using this approach to assess the reliability of the pension phase for the superannuation system would require using standard sustainable benchmark drawdowns by age and starting balance. Those benchmarks would also provide a basis for considering the implications of actual drawdown behaviour, the dispersion of lower and higher drawdowns, on achieving the objectives of the superannuation system. The Monash CSIRO Superannuation Research Alliance has now published two more papers shedding light on the full range of drawdown behaviours which may be useful for such an analysis. These are listed with the references at Attachment A of this submission..

Towers Watson methodology for assessing success and goodness of fit

As part of its FSI submission Challenger commissioned Towers Watson to investigate the performance of various types of income streams, alone (except for DLAs) and in combination, to determine which have the necessary characteristics to deliver target income with adequate reliability to be considered as candidates for use as a default post-retirement strategy. This provided methodologies for measuring the success and goodness of fit of the retirement or pension phase of the superannuation system. A copy of their report is at Attachment B of this submission.

Strategies Evaluated

The following strategies were evaluated:

Strategy 1: 100% invested in an ABP;
Strategy 2: 30% invested in an immediate lifetime annuity and 70% invested in an ABP;
Strategy 3: 100% used to purchase an immediate lifetime annuity;
Strategy 4: 10% used to purchase a 20 year deferred lifetime annuity and 90% invested in an ABP;
Strategy 5: 50% invested in a group self-insured annuity (GSA) and 50% invested in an ABP; and
Strategy 6: 100% invested in a GSA.

In each strategy where an account based pension is included, the account is assumed to be invested in 70% 'growth assets' and 30% 'defensive assets', with annual rebalancing.

The income and account balance results in this report are expressed as a percentage of an initial superannuation account balance of $400,000.

The retiree's Age Pension entitlements are not included in the modelling, so the results are substantially the same for any account size. The absence from the modelling of the Age Pension means test provides a clearer evaluation of each strategy's underlying relative performance.

GSA

Only one GSA with limited longevity pooling has currently been brought to market in Australia. There are a large range of other GSA designs possible. For the purposes of its analysis Towers Watson developed the following relatively simple product specification for a GSA:

- The retiree invests in a pooled group of assets with other participating members;
- As members of the pool die, their share of the pool is divided amongst the surviving members. This additional return to the surviving members is a 'mortality credit'.
- The GSA distributes mortality credits to surviving participants annually, as an additional lump sum, credit to the account. In all other respects, the GSA operates in the same way as an ABP.
- The modelling assumes every participant in the pool (including the model retiree) is the same age, has the same initial account balance, invests in the same way and draws down the same dollar amount from the GSA each year, so that the exposure of each surviving participant in the GSA in any year is the same as the model retiree.

Target income

The investigation used a "target income" framework where the retiree endeavours to draw a specified level of retirement income each year until death, drawing upon all sources available under the strategy. To the extent that a strategy is unable to deliver target income in any year (for example, once an ABP has been exhausted) the retiree draws the maximum amount available (which may be zero).

As the target income is the same across all strategies being assessed, a target income framework allows the use of metrics such as residual account balance at a given age and success in achieving target income over the retiree's lifetime.

In this investigation, target income is specified as a percentage of the initial superannuation account balance at retirement (e.g. an income of 7.5% of the initial account). The target income in each year is assumed to be indexed by the CPI to maintain its purchasing power over retirement. A flat target income effectively assumes that the retiree's desired spending level remains constant in real terms over retirement. Alternative spending patterns may also be considered. In order to investigate these, Towers Watson also modelled the following target incomes:

- "tapered" – the target income reduces when the retiree moves from the active to passive, stage of retirement and reduces again from the passive to frail stages of retirement. This shape reflects a reduced spending need as the retiree's level of activity declines.
- "U-shaped" – the target income reduces when the retiree moves from the active to passive stage of retirement, but increases when the retiree moves from the passive to frail stage of retirement. This shape reflects increased health costs incurred in the frail stage of retirement.

The modelling excluded any income provided by the Government Age Pension, and used:

- Investment returns generated using the Towers Watson Global Asset Model.
- Pricing of immediate and deferred lifetime annuities specified as a prescribed margin over prevailing swap rates.
- ABP, pension platform and administration fees in line with the FSC Superannuation Fees Report 2013 published by Rice Warner Actuaries for retail retirement income products.

Success

Given the objective of delivering target income through the retiree's lifetime, the natural metric to consider in this stochastic modelling framework is the probability of achieving "success" which in this context is achieving target income in all years of retirement up to the year of the retiree's death. The probability of success metric is defined as the proportion of all simulations that achieve success.

Probability of success is a useful summary metric for comparing different strategies. However, it does not distinguish between scenarios where the strategy just falls short of delivering a successful outcome, and where it fails comprehensively. This is addressed by the next metric.

Goodness of fit

Towers Watson developed a "Goodness of Fit Index" (GOFI) which measures how well a given product or strategy delivers retirement income in line with a pre-determined "target" income. Hence, a pre-condition to measuring GOFI is determining a target income. Towers Watson specified target income in terms of the notional purchase price (e.g. an income of 7.5% of the initial capital, indexed with CPI, continuing until death). Clearly a range of target incomes could be selected, and the relative GOFI measures of different retirement solutions will differ for different target incomes.

For a given strategy, the projected (real) cash flows and the shortfall of these cash flows relative to target income (shortfall) are determined for each projection year. Generally the projected cash flows will be dependent on a market variable. For example, income from an ABP will depend on market returns, and the income from an annuity will depend on the prevailing yield curve at the date or dates of purchase.

A set of simulated cash flows is derived stochastically, and the GOFI determined for each of the simulations up to the simulated date of death. The GOFI for the product or strategy is then taken to be the weighted average of the GOFIs across all investment market simulations.

Features of the GOFI include:

- GOFI lies between 0 and 1; 1 indicates a perfect fit to the target income, 0 indicates no income (so that the shortfall equals the target income at all times).
- GOFI takes into account how well the "shape" of income produced by a product/strategy matches target income. For example, an income producing product would have a higher GOFI than a lump sum of the same value. Other than reflecting shortfalls up to date of death only, the GOFI metric does not assume a preference for "earlier" rather than "later" cash flows, in the way a discounted cash flow metric may.
- GOFI factors in the extent to which income produced by a product or strategy falls short of delivering the target income over a lifetime. Hence a term annuity which may cease prior to an individual's death would have a lower GOFI than a life time annuity at the same income level.
- Intuitively, the GOFI can be regarded as the "average" proportion of target income delivered allowing for downside (but not upside) differences.
- GOFI reflects presumed relative risk aversion of retirees on a year by year basis. That is, a product or strategy which results in a large shortfall in a single year produces a lower GOFI than a strategy that delivers a smaller shortfall across a number of years, even if the aggregate shortfall is the same for each.

GOFI is not a simple measure (it requires a stochastic framework for it to be calculated for most strategies) and (as noted above) the GOFI measure depends among other things on a prescribed target income. However it is capable of capturing and summarising different product design aspects in a way that measures like probability of success cannot, and could therefore be a valuable tool in summarising the performance of the different segments of the retirement or pension phase of the superannuation system.

Table 2 illustrates the trade-offs associated with the various strategies Towers Watson examined. For example, investing all of the retirement account in a lifetime annuity or GSA leaves no available assets on death immediately from the date of purchase. Conversely, strategies which leave part of the capital in an ABP are more likely to keep assets available upon the retiree's death (e.g. for bequest purposes).

A GSA strategy generally improves outcomes relative to an ABP, on account of mortality credits. However, a GSA strategy leaves reduced (or no) assets on death as these are shared with remaining participants.

Table 2: Core results – 7.5% of initial balance

	Age at which available assets fall to zero		Available assets at age 85*				
Strategy	**Median**	**5th Percentile**	**5th percentile**	**Median**	**95th percentile**	**Probability of success**	**GOFI**
St 1 - Account Based Pension (ABP)	86	78	0%	14%	150%	49%	73%
St 2 - ABP + Lifetime Annuity	88	79	0%	13%	106%	51%	83%
St 3 - Lifetime Annuity	65	65	0%	0%	0%	66%	99%
St 4 - ABP + Deferred Annuity from 85	84	77	0%	0%	115%	47%	80%
St 5 - ABP + GSA	87	78	0%	6%	67%	59%	78%
St 6 – GSA	65	65	0%	0%	0%	65%	81%

* Available assets expressed as a percentage of the Initial retirement account balance

Source: Towers Watson Report: Comparing Retirement Income Strategies, August 2014

Table 3 below isolates the trade-off between exhausting assets available on death compared to the ability to achieve the best fit for target income. Towers Watson looked at this trade-off for various income sensitivities.

Strategies including ABPs produce lower GOFIs, relative to the corresponding probability of success. This follows from the fact that where an ABP falls short of target income, this indicates the account has run out and hence income falls to zero. If annuity strategies, on the other hand, fall short of target they still produce income, improving the GOFI score relative to ABPs. In this table only median 'age available assets exhausted' and GOFI are presented in order to compare the strategies using different underlying assumptions.

Table 3: Impact of Target Income Level

Target Income (% of initial balance)	7.5%		6.5%		8.5%	
Strategy	**Age at which available assets fall to zero - Median**	**GOFI**	**Age at which available assets fall to zero - Median**	**GOFI**	**Age at which available assets fall to zero - Median**	**GOFI**
St 1 - Account Based Pension (ABP)	86	73%	94	84%	82	63%
St 2 - ABP + Lifetime Annuity	88	83%	101	93%	82	71%
St 3 - Lifetime Annuity	65	99%	65	100%	65	92%
St 4 - ABP + Deferred Annuity from 85	84	80%	105	90%	80	68%
St 5 - ABP + GSA	87	78%	94	88%	83	66%
St 6 – GSA	65	81%	65	91%	65	70%

Source: Towers Watson Report: Comparing Retirement Income Strategies, August 2014

Where the target income is lower, all strategies naturally perform well, as evidenced in particular by GOFI scores of above 80% under all strategies for the low target income (6.5%). As target income increases, probability of success and GOFI scores fall fairly uniformly for all strategies except the GOFI for the 100% lifetime annuity, which falls at a lower rate than other strategies due to the fact that GOFI better captures the continuation of the annuity income stream throughout retirement even where the annuity level falls short of target income.

Composite products

Most retirees rely on ABPs and many of them respond to the risk of running out of money by drawing the minimum amount they are able under the Superannuation Industry Supervision (SIS) pension rules. Assuming normal market conditions this results in a reduced living standard relative to the potential income stream they could have drawn. Pooling longevity risk makes it safer to draw a higher amount. Partial annuitisation, a composite of an ABP and a lifetime annuity or DLA will improve reliability of the income stream without losing all the retiree's flexibility to access their capital.

Achieving efficiency through a layering approach

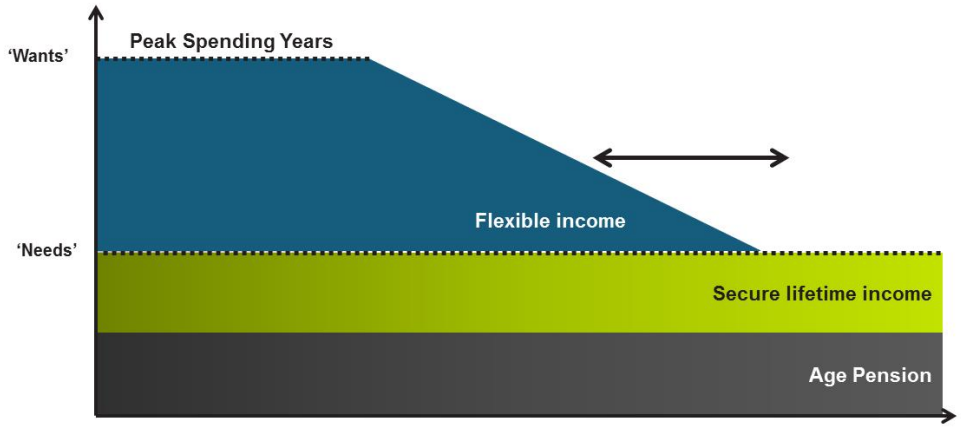
Retirees have a range of objectives that can be difficult to meet with a single product. The development of CIPRs will make it easier for retirees to achieve their multiple objectives. Some lifestyle expenditure is discretionary and more likely to occur in an early active stage of retirement. Work in the US by Blanchett (2013) on the declining consumption over retirement is broadly applicable in Australia. The main likely difference is a lower increase in health costs later in life in Australia because more costs are paid through public provision.

This pattern makes an approach such as the Retirement Income Industry Association's concept of floor and upside, (see Zwecher 2010 for an outline) suitable for many retirees. Some Australian advisers utilise the concept. In Australia it is referred to as a layering approach for retirement income.

There are three basic layers:

1. Access to the Age Pension (or other government support such as a veterans pension);
2. A layer of secure lifetime income; and
3. Flexible income through drawdown of an ABP.

Figure 1: Conceptual Representation of Layering a Composite Product



A combination of the first two layers can be used to meet essential spending needs. Additional wants can be paid for with the third layer. This flexible layer can be used more heavily earlier in retirement, in the 'peak spending years'. The timing of the decline from the peak spending period can vary as retirees enter a more passive stage at different ages. An alternative approach is for retirees to annuitise the defensive component of their asset allocation. Both approaches provide significant mitigation of sequencing risk.

This layering approach highlights a changing balance between flexible and secure income sources. It can be used to achieve efficiency of retirement income delivery.

Retirement income provision will be efficient if there is no residual to an estate, and the retiree does not run out of money for spending needs. Partial-annuitisation provides this outcome. Using a layering approach, if flexible income is exhausted by old age the retiree will be fully annuitised. These arrangements also properly address the issues of cognitive decline and retiree vulnerability.

When the recommendations of the Review of Retirement Income Streams are implemented retirees will be able to choose an alternative arrangement consisting of an ABP and a DLA. This combination will have two advantages over the current practice of using an ABP alone. The first is that the retiree will have a degree of certainty in knowing how long their ABP must last before the trigger age for the DLA, replacing the uncertainty of trying to manage it over an uncertain lifespan. The second is that a pooled longevity product such as a DLA can be purchased with a smaller amount of retirement savings for a given level of lifetime income than would be required for self-provision with a similar level of certainty.

Longevity risk management

A key element of the efficiency of the mortality pooling in annuitisation is the management of longevity risk. The insurance offered by pooling mortality is the only effective way to manage the uncertainty, to the individual person, of their length of life.

This should not be confused with the issue of systematic increases in life expectancy. If everyone lives a longer life, more savings need to be generated either by saving more or working longer. At a policy level, Australia is currently addressing both of these issues through the increase in the age of eligibility for the Age Pension to 67 years and the proposed increase in superannuation contributions to 12% of wages. Both of these measures will improve overall adequacy, but neither directly manages uncertain longevity.

An example of the misalignment of longevity risk management is present in the ACFS (2015) paper for the AIST on retirement income products. By explicitly setting an age of death, the analysis ignores all longevity uncertainty. Using a target date one year longer than the female life expectancy (based on cohorts for a 65-year-old and current mortality improvements) merely assumes away the risk. This flaw is also present in the calculators on ASIC's MoneySmart website. This frames the problem incorrectly and results in 'solutions' which fail to deal properly with longevity risk which is at least as large an issue for retirement incomes as market risk. There is a wealth of other Australian academic literature that comes to the conclusion that mortality pooling is required for the efficient provision of retirement income: Creighton et al. (2005); Bateman and Piggott (2010); Chao and Sherris (2013); Iskhakov et al. (2015).

Studies on actual behaviour, such as Wu et al. (2015) highlight that retirees typically spend conservatively to stretch their funds out in case they live longer than average or for precautionary reasons to maintain a capital buffer for emergencies. These approaches produce the inefficient outcome, in terms of retirement income, of passing savings to the next generation as an unintentional bequest. The result is that many retirees are unable to enjoy the full benefit from their lifetime savings and have a correspondingly lower standard of living. Significant proportions of savings that were concessionally taxed to provide retirement income end up being used for a different purpose. This is inefficient from the perspective of the tax system.

Barriers to efficient retirement income solutions

Trustee responsibilities for retirement incomes

The Draft Report asks whether trustees are acting in the best interests of members? It notes the enhanced responsibilities of MySuper trustees but makes no mention of the lack of policy action on trustee responsibilities for post-retirement products. This lack of trustee responsibilities for managing longevity and inflation risk is a barrier to the superannuation system meeting its objectives.

Superannuation trustees should have specific obligations in relation to post-retirement.
The Cooper Review dealt with this matter in its recommendation 7.4:

"Trustees must devise a separate investment strategy for post-retirement members in MySuper products which has regard to the factors as set out in section 52(2)(f) of the SIS Act as well as inflation and longevity risk."

This recommendation was never enacted. It should be implemented to apply to post-retirement products generally.

Education standards for advisers and trustees managing retirement risk

In the last decade financial advice has been the subject of an extensive reform process referred to as the Future of Financial Advice. So far this has focussed on removing conflicted remuneration and introducing a best interests duty with the purpose of aligning the advice given with the interest of the client. The next phase of these reforms will establish a standard setting body for financial advisers.

Over the course of these processes there has been no review of the regulatory guidance on the actual content of financial advice. A scheduled review by ASIC of RG146 did not proceed while the various structural arrangements were being implemented and the content of advice will shortly become the responsibility of the yet to be legislated standard setting body.

In the intervening period a substantial gap has opened up between the regulatory guidance and best practice in the area of managing retirement risk. In 2014 UNSW Business School introduced a course ACTL5401 Retirement Planning. This is an elective course, delivered in face-to-face mode in the Certificate, Diploma and Master of Financial Planning programs and may be taken as an elective in postgraduate coursework degrees offered by UNSW Business School. It is designed to supplement the existing suite of courses required under RG146 by providing specific training in retirement planning, and specifically retirement risk management.

The course may also be taken on a 'non award' basis, and as such is specifically targeted to existing financial planners. From June 2015 this course has been accompanied by a fully online version (called ACTL5402 Retirement Planning Online), which covers exactly the same material in online mode, using Smart Sparrow's Adaptive eLearning Platform. The online version may also be taken by both award and non-award students. Enrolment in the online version is not restricted by the standard university calendar. Students are able to enrol at any time, and are given the equivalent of a standard teaching semester (13 weeks) to complete the course. The online delivery mode makes the course generally available throughout Australia.

The course imparts the knowledge necessary to provide effective financial advice for retirement planning in the context of increasingly complex financial products and government policies. A feature of the course is the integration of key retirement risks in retirement planning as well as consideration of behavioural biases which may influence advisor and client perceptions and behaviour. The course covers the presentation, evaluation and implications of retirement risks including longevity risk, inflation risk, interest rate risk, adequacy (replacement) risk, contingency risk and political risk; the design and features of superannuation and retirement income policies and products; the Age Pension and other publically provided benefits and their interaction with superannuation and other retirement benefit products; financing aged care; estate planning; understanding consumer behaviour; and designing a 'retirement plan'.

The course takes students on a journey on which they face a series of new challenges and activities. The ultimate goal is to better assist retirees to plan for their retirement. The aim is to help (future) professional financial planners to develop and communicate effective and appropriate retirement planning strategies within the current Australian policy framework. The course is separated into two 'phases' with the goal to respectively fill students' knowledge and skills gap. The focus of the first phase is to make sure students understand and master the required knowledge essential for this job and only then do they proceed to the second stage, where they are presented hypothetical clients that they will have to advise and handle themselves.

The course is designed around four main lessons – Introduction, Retirement Risks, Drafting a Statement of Advice, and Case Studies. Students will work sequentially through the main lessons. These four main lessons are supplemented by 12 mini lessons covering: The Age Pension, Transition to Retirement, Risk Typology, Taxation of Superannuation, Retirement Products, the Statement of Advice, Financing Aged Care, Institutional Framework, Understanding Life Expectancies, Demographic Trends, Consumer Behaviour and Client Profiling. Despite the different delivery style, the content is exactly the same as in the face-to-face version.

Given that this course is now widely available, and others such as ASFA (Association of Superannuation Funds of Australia) are now following with courses with similar content, this has removed any barrier to setting appropriate competency standards for financial planners in the critical area of managing retirement risk.

Contestability of retirement income stream market

The Draft Report notes that the number of annuity providers in Australia is small. While there are significant barriers to entry to operate as a life office in Australia, in terms of capital and regulatory requirements, it is not barriers to entry that are the cause of the current narrow annuity supplier base. There are large numbers of life offices operating in Australia which would be capable of providing annuities but currently choose not to

and instead elect to offer other categories of life products, most typically death and disability insurance. The development of new market opportunities may change that appetite and some have already indicated their intentions to provide the new category of longevity products. Competition may increase at both retail and institutional levels, with marketing through advisers and superannuation fund channels.

Scale not a barrier to longevity solutions

The Draft Report questions whether all types of funds have opportunities to invest upstream? This is presumably a reference to the ability of SMSFs and small APRA regulated funds to access the same range of investments as large APRA regulated funds.

SMSFs, small APRA regulated funds and some larger APRA regulated funds have neither the scale nor the capital to provide longevity insurance. Scale in this context means both an adequate number of members for the purpose of pooling longevity risk and a low enough average cost to make the operation of a life insurance business economic. Life insurance is however a highly scaleable business and it is possible for superannuation funds that do not have the capital, expertise and scale to provide longevity insurance themselves to arrange longevity protection on an individual or group basis for their members from an APRA regulated life office.

Adverse selection

The Draft Report noted that adverse selection is an issue with lifetime annuities and generally increases the cost of these products. The Henry Review and the Murray Inquiry examined compulsory annuitisation as a means of addressing this problem but both rejected it. Chapter 7 of the AFTS Report on Strategic Issues stated:

"In a mandatory scheme, people who die before or shortly after the age at which the annuity commences support the income of those who live longer. Consequently, there are potential equity issues, especially for groups in the community who tend to have lower life expectancies, such as low income earners and Indigenous Australians."

The validity of this argument also provides the basis for rejecting any proposal to community rate annuities. Life offices should not be hindered in offering better rates to those with shorter life expectancies where they can be identified. Challenger commissioned Watson Wyatt to further explore this issue on the basis of experience in a larger and more mature annuity market, the United Kingdom (UK). Watson Wyatt's report is at Attachment C.

First Watson Wyatt examined mortality experience by health status. This was done by identifying a group of individuals with experience of 36 specific diseases as indicative of an "unhealthy" group and comparing their mortality experience with that of a "healthy" group who had not experienced those diseases, as well as the mortality experience of all lives in the combined population.

Watson Wyatt provided:

- the mortality experience of the healthy group and the unhealthy group as ratios of the population;
- life expectancies for the healthy group, the unhealthy group and the population;
- indicative rates on a £50,000 lifetime annuity for the healthy group, the unhealthy group and the population; and
- indicative rates for a term certain annuity for the average life expectancy of the healthy group, the unhealthy group and the population.

The tables below show the mortality experience of the unhealthy group and the healthy group, expressed as ratios of the mortality experience of the combined population.

Table 4: Ratio of mortality experience for "healthy" group vs entire population for different calendar years after selection on `1 January 2000

Age group at start of period	Calendar year									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	Avg
Men										
45-54	66.5%	74.7%	78.1%	79.3%	82.3%	81.2%	80.7%	87.1%	86.3%	79.6%
50-59	63.9%	70.6%	77.2%	75.2%	82.1%	81.2%	81.1%	82.9%	83.7%	77.5%
55-64	61.5%	67.2%	73.1%	72.7%	76.9%	77.1%	78.2%	75.8%	79.9%	73.6%
60-69	58.8%	63.9%	70.7%	70.4%	73.2%	73.3%	74.5%	76.5%	78.0%	71.0%
65-74	57.4%	64.0%	68.7%	69.0%	74.8%	71.7%	74.1%	78.1%	78.6%	70.7%
Women										
45-54	58.7%	67.0%	69.0%	75.0%	83.1%	80.4%	83.2%	84.6%	82.3%	75.9%
50-59	57.8%	64.4%	69.8%	72.6%	79.3%	73.7%	83.1%	80.4%	82.8%	73.8%
55-64	56.6%	67.7%	70.1%	69.8%	76.7%	71.2%	79.7%	77.2%	81.0%	72.2%
60-69	57.3%	68.1%	68.3%	70.6%	75.7%	74.6%	74.4%	79.1%	77.7%	71.8%
65-74	58.4%	64.6%	69.5%	70.6%	74.1%	74.0%	75.3%	78.5%	79.1%	71.6%

Table 5: Ratio of mortality experience for "unhealthy" group vs entire population for different calendar years after selection on 1 January 2000

Age group at start of period	Calendar year									
	2000	2001	2002	2003	2004	2005	2006	2007	2008	Avg
Men										
45-54	325.5%	271.3%	249.1%	241.5%	221.6%	230.6%	235.0%	190.4%	195.1%	240.0%
50-59	275.3%	243.9%	212.3%	223.1%	189.4%	194.8%	195.8%	187.3%	182.8%	211.6%
55-64	221.7%	204.8%	187.0%	188.9%	176.0%	176.3%	173.4%	181.7%	168.2%	186.4%
60-69	185.5%	175.9%	162.4%	163.8%	158.6%	159.5%	157.7%	153.7%	150.6%	163.1%
65-74	162.9%	154.3%	148.2%	148.8%	140.5%	146.6%	143.8%	137.9%	137.6%	146.7%
Women										
45-54	453.9%	384.7%	368.3%	318.2%	248.1%	272.6%	248.8%	237.2%	256.7%	309.8%
50-59	363.6%	324.2%	290.9%	274.5%	233.0%	270.4%	210.8%	228.7%	212.5%	267.6%
55-64	286.0%	240.0%	230.6%	232.9%	204.1%	229.9%	192.8%	204.8%	187.2%	223.2%
60-69	229.8%	198.6%	199.3%	193.1%	178.2%	183.0%	184.8%	170.0%	175.0%	190.2%
65-74	194.8%	182.6%	172.6%	171.7%	164.8%	166.3%	164.5%	157.0%	156.3%	170.1%

Table 6: Complete cohort life expectancy for different groups for selected ages

Starting Age	Life Expectancy			
	All	Healthy	Unhealthy	Healthy - All
Men				
50	37.9	38.7	33.5	0.8
55	32.9	33.8	29.0	1.0
60	27.8	29.1	24.6	1.2
65	23.0	24.4	20.4	1.4
70	18.4	19.9	16.4	1.5
Women				
50	39.9	40.8	34.3	0.9
55	34.8	35.7	30.4	0.9
60	29.6	30.7	26.0	1.0
65	24.6	25.9	21.4	1.3
70	19.8	21.1	17.1	1.3

There are substantial differences between the life expectancies of healthy and unhealthy lives. However, the difference in life expectancies between healthy and all lives is smaller, and would be expected to increase if the unhealthy population included other lesser diseases, such as hypertension, or other predisposing risk factors such as high cholesterol or smoking. These comparisons could be taken as a proxy for the effect of adverse selection if an insurer was pricing annuities on the assumption of aggregate mortality experience whereas in fact the policyholders were all healthy.

Table 7: Lifetime annuity payments for a £50,000 pension fund for different groups for selected ages

Starting Age	Life Expectancy			
	All £	Healthy £	Unhealthy £	Healthy – All £
Men				
50	2660.9	2626.8	2881.2	-34.1
55	2832.4	2781.9	3069.4	-50.5
60	3077.0	2991.5	3344.5	-85.5
65	3426.4	3287.3	3724.3	-139.0
70	3928.1	3715.2	4274.1	-212.9
Women				
50	2592.0	2559.1	2849.4	-32.9
55	2742.7	2700.7	2988.7	-41.9
60	2961.1	2897.1	3226.9	-63.9
65	3279.6	3170.6	3613.6	-109.1
70	3738.2	3570.5	4154.0	-167.7

To further explore the equity issues identified in Chapter 7 of the AFTS Report on Strategic Issues, Challenger commissioned Watson Wyatt to provide information on relative mortality experience and indicative pricing using its propriety modelling based on socio-economic profiling by post code in the UK.

This shows mortality rates in post codes in the lowest decile of the socio-economic profile being around double that of the highest decile.

Direct comparisons of annuity rates between different socio-economic groupings and health-based groupings are not possible because of the need to make different assumptions as to continued mortality differences at older ages. However, it is likely that postcode groupings will act as a proxy for a wider range of mortality risk factors than consideration of diagnosed disease, and could therefore support a wider range of annuity rates.

Table 8: Mortality comparisons between different deciles for men and women in age groups 50-59 to 70-79

Decile Grouping	Men			Women		
	50-59	60-69	70-79	50-59	60-69	70-79
1	145%	144%	145%	135%	134%	134%
2	127%	127%	127%	120%	121%	121%
3	117%	117%	117%	112%	113%	114%
4	109%	110%	109%	107%	107%	109%
5	102%	103%	103%	102%	102%	104%
6	97%	97%	97%	97%	98%	99%
7	92%	92%	92%	92%	93%	95%
8	86%	86%	86%	87%	88%	89%
9	80%	80%	80%	82%	83%	84%
10	70%	70%	69%	73%	74%	75%

Table 9: Lifetime annuity payments for a £50,000 pension fund for different deciles for selected ages

Staring Age	Annual annuity payment				
	All £	**Decile 1 £**	**Decile 10 £**	**Dec 1 – All £**	**Dec 10 – All £**
Men					
60	3077.0	3304.1	2902.8	227.1	-174.2
65	3426.4	3738.5	3185.5	312.1	-240.9
Women					
60	2961.1	3107.4	2832.9	146.3	-128.2
65	3279.6	3483.5	3102.3	203.9	-177.3

The difference between the indicative annuity pricing for post codes in the lowest decile and the highest decile in the UK is substantial (17.4% higher annual income in the case of a 65 year old male on the assumption of continued mortality differentials between the different deciles at older ages).

These results demonstrate both the pricing for selected groups on the basis of population-wide assumptions and the opportunity to allow competition in a fully annuitized market to provide price advantages (higher payments) to less advantaged socio-economic groups.

Recent developments in the Australian lifetime annuity market

The focus of Australian wealth managers on the lifetime annuity market reduced after the introduction of the Superannuation Guarantee in 1992. This coincided with the era when defined benefit (DB) schemes were being closed to new entrants in both the public and private sectors and a shift to defined contribution (DC) schemes with funds management business models for both accumulation and superannuation pensions.

These changes resulted in fund members and retirees accepting risks previously borne by employers, in the case of DB schemes, and life offices, in the case of annuities. This also resulted in a very large amount of longevity, market and inflation risk being transferred to the Australian Government through the mechanism of the Age Pension means test.

Table 10: Sales of Lifetime Annuities in Australia 1992-2015

Year	$million	Year	$million
1991	376	**2004**	281
1992	162	**2005**	27
1993	146	**2006**	29
1994	140	**2007**	38
1995	184	**2008**	12
1996	192	**2009**	7
1997	202	**2010**	10
1998	293	**2011**	27
1999	245	**2012**	108
2000	183	**2013**	228
2001	166	**2014**	413
2002	154	**2015**	405
2003	200		

Source: Challenger

The market grew again strongly after 1998 when the Government introduced a 100% Assets Test Exemption (ATE) from the Age Pension means test for Complying Income Streams. Complying Income Stream status applied to non-commutable lifetime annuities and fixed term annuities with a tenor to LE. Financial advisers sold these products on the basis of the value of this social security concession that effectively increased the value of the return on the annuity.

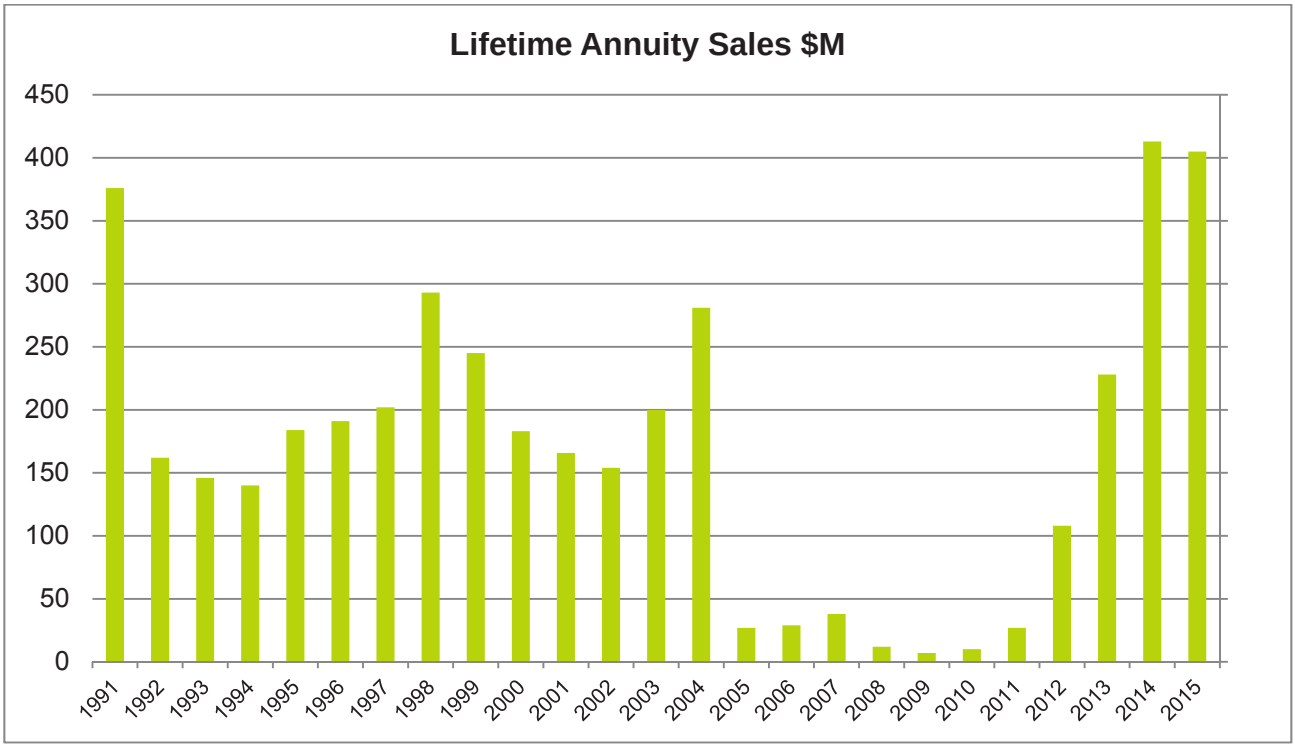
Funds managers sought a similar social security concession for ABPs. In 2004 the Government provided an ATE for Term Allocated Pensions (TAPs). A TAP is a non-commutable ABP with both a minimum and maximum drawdown rate. To pay for the cost of extending the ATE to TAPs the Government cut the ATE to 50% for all Complying Income Streams (both TAPs and annuities). The 100% ATE for existing Complying Income Streams was grandfathered with a prospective start date for the 50% ATE. This caused a significant bring forward of sales in 2004. Sales were subsequently subdued as a result of the lower ATE.

In 2007, the Government introduced a tax exemption for all superannuation benefits paid to retirees over age 60. At the same time it abolished the ATE for Complying Income Streams. As Complying Income Streams were being sold on the basis of the social security concession and not their inherent characteristics, this turned TAPs into a legacy product and resulted in a near collapse of the lifetime annuity market. As noted in the Draft Report sales fell to 19 lifetime annuities in a 9 month period in 2009.

In 2010 Challenger Life entered the lifetime annuity market with an innovative product called Liquid Life. Recognising the behavioural biases that discouraged retirees from buying lifetime annuities Challenger offered two innovative features intended to overcome the objections many retirees, and their advisers, had in relation to the product. Liquid Life provided that if a retiree died in the first 15 years after they purchased the product their estate would receive the nominal value of the original premium. This is a common feature of modern lifetime annuities. But Liquid Life also had a much more innovative feature. Retirees were given the option of voluntary commutation any time in the first 15 years and would receive back 100% of their premium. After 15 years Liquid Life became a normal non-commutable lifetime annuity. This had the effect of overcoming retirees' initial reluctance to make an irreversible decision. It took several years for advisers and retirees to become enthusiastic about these features but they are the principal reason why the Australian lifetime annuity market is now rebuilding strongly from what was, in 2009, a very low base.

Lifetime annuities are now being sold, without social security concessions, on the basis of their inherent characteristics to manage longevity, sequencing and inflation risk. In 2016 Challenger introduced two additional Liquid Life options that meet the requirements of the capital access schedule which the Government has adopted from the Review of Retirement Income Streams. The first provides, capital access in accordance with the maximum prescribed by the capital access schedule, and the second provides no voluntary liquidity feature.

Figure 2: Australian Lifetime Annuity Sales 1991-2015



Source: Challenger

Conclusion

Challenger trusts that these suggestions to make the objectives for the superannuation system set out in the Draft Report more specific in relation to the retirement or pension phase, and to provide appropriate criteria and metrics for assessing the competitiveness and efficiency of that part of the superannuation system are a practical contribution to the further work of the Commission on the superannuation system. Challenger has also provided some additional information on other retirement or pension phase issues raised in the Draft Report. Challenger would be pleased to elaborate further on any of these matters should that be helpful to the Inquiry.

Yours faithfully

David Cox

Head of Government Relations

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