



BetaShares

Exchange Traded Funds

January 31, 2020

Retirement Income Review Secretariat
The Treasury
Langton Crescent
PARKES ACT 2600

By email: retirementincomereview@treasury.gov.au

To whom it may concern

Retirement Income Review Consultation Paper, November 2019

BetaShares commends the Australian Government for commissioning an independent review of the retirement income system and welcomes the opportunity to comment on some of the issues raised in the consultation paper.

Retirement income systems are by their nature complex. By global standards, Australia has a highly regarded system. The three pillars (a means-tested age pension, compulsory superannuation and voluntary savings) ensure that all Australians have at the very least a safety net, and in most cases additional resources to provide for a good quality of life in retirement.

However, as the system has evolved, it has become complex. This has led to unintended outcomes in certain situations, which are not always in the best interest of either retirees or the Government.

In our submission, we focus on outcomes relating to the interaction between the means tested pension and the other pillars, superannuation and savings. Tapering of pension entitlements based on income and assets influences the behaviour of retirees when deciding whether to spend or save. Specifically, the progressive withdrawal of the pension as assets increase creates a bias towards short-term spending ahead of using assets to generate long-term additional income.

We strongly believe that retirees should be able to choose whether to spend or save, without having to consider how the system will respond to that choice.

We propose a model in which the pension becomes universal and the current means tests are removed. Where possible, this pension is funded by a portion of compulsory superannuation contributions being streamed into defined benefits schemes. To ensure that all Australians receive a minimum basic pension and level of benefits, the Government will still cover any shortfall. We realise that many assumptions are made in this model and that much work is required to make it complete, however, we believe it will result in a more consistent system with stakeholders' interests more aligned than they are in the current one.

We understand that changing the large and complex Australian retirement income system is a significant task. Changes are bound to be controversial as they will affect stakeholders in

different - sometimes opposing - ways. Nonetheless, we urge the Panel to consider the issues and proposed solutions in our submission.

We are proud to contribute to the overall debate and discussion in the interests of improving the retirement income system, for all retirees and for Australia.

Again – thank you for the opportunity to be part of this review.

Yours sincerely



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Retirement Income Review

Response to November 2019 Consultation Paper

Executive Summary

The income and assets tests used to determine Government pension entitlements can, for retirees with certain asset balances, produce unintended and undesirable outcomes. These outcomes tend to bias retiree decision-making towards:

- choosing to spend additional money, rather than using it to generate retirement income;
- consciously reducing asset balances and/or income to ensure that some pension is received (so that entitlements such as a health care card are retained); or
- where additional amounts are invested, setting high and unrealistic return thresholds seeking to replace foregone pension entitlements.

We propose a model which seeks to create a more coherent system, where choices can be based on needs and requirements without influence from the unintended consequences of those choices. This model sees the introduction of a universal pension and removal of the assets and income tests. A retiree can choose to spend or save additional income or assets based on their circumstances, without that choice being distorted by the structure of the system.

Underlying this model is the requirement that any changes to current practice result in a system which leaves no retiree worse off than they are in the present system. Furthermore, it aims to reduce the fiscal burden on the government by requiring all (working) Australians to contribute towards funding their pension through superannuation contributions. This is achieved by streaming contributions into two components:

- stream funds into (future) pension entitlements via approved and regulated defined benefit schemes;
- stream funds into defined contribution schemes, much the same as those which exist currently.

Further work is required to determine the split between these two streams. Broadly, it would be based on age, income, current balances and future retirement income profiles.

About BetaShares

BetaShares is a leading Australian manager of exchange traded funds (ETFs). Based in Sydney, our first product was launched in December 2010. We now offer 60 products which are traded on the Australian Securities Exchange (ASX). BetaShares currently has ~\$10

billion in assets under management. BetaShares is making this submission due to the position it has in the marketplace as a provider of low-cost, transparent investment products to a broad client base – many of whom are retirees or near retirement.

We believe the current system can be improved to be better aligned with the interests of all retirees – irrespective of whether they are BetaShares' clients.

Introduction¹

By world standards, Australia has a well-regarded retirement system. Compulsory superannuation and regulations around managing superannuation balances means that Australian retirees are relatively well-off², and can enjoy decent levels of income in retirement.

Despite this, the current system encourages outcomes which are not always aligned with increasing income in retirement and reducing the fiscal burden on the Government to provide for retirees. Retirees' decisions around how to use their savings are not solely based on the merits of their choice. Rather, they also factor in how the system will respond, through changed entitlements. Generally, a decision to spend or save will favour the former, as saving results in decreased entitlements, which in many cases are disproportionately punitive compared to the benefits of spending. This also applies when choosing whether to spend or save additional income or capital received during retirement.

Context

The current retirement income system is based on three pillars³:

- Government-funded age pension;
- Compulsory superannuation; and
- Voluntary savings (superannuation and other)

An assets test and an income test determine pension (and other) entitlements based on levels of superannuation and other assets, plus income from these and other sources (including employment). As these levels increase, pension entitlements are phased out. Above certain levels, all pension (and other entitlements) cease.

¹ This work does not comment on levels of superannuation contributions. All assumptions are based on current contribution rates. All thresholds and levels are based on their current values.

² https://www.monash.edu/_data/assets/pdf_file/0016/2010526/MMGPI-2019-Report.pdf

³ <https://treasury.gov.au/sites/default/files/2019-11/c2019-36292-v2.pdf>

Structural Anomalies

A known consequence of the interaction between the first pillar and the other two pillars is that there is a band of savings levels where additional balances (from income or asset increases) can actually lead to lower levels of retirement income, because of the resulting reduction in the Government pension. This effect, variously termed the “**Retirement Trap**” or the “**Pensioner Taper Trap**”, has been illustrated and modelled by a number of researchers^{4,5,6}. This is illustrated in Figure 1.

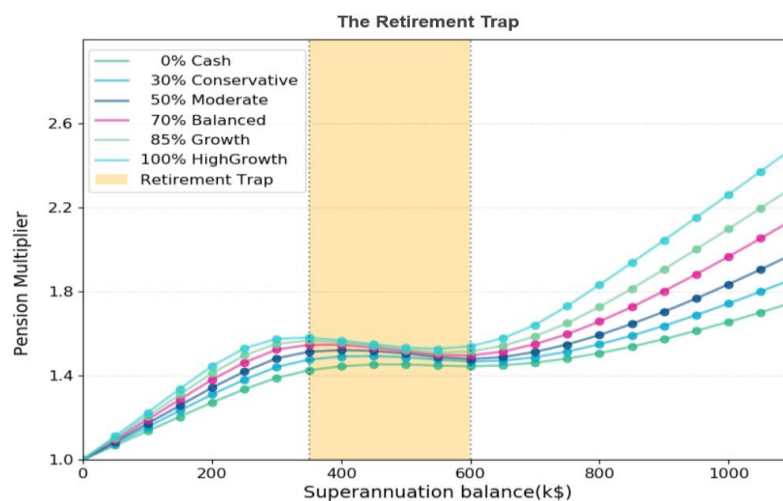


Figure 1: Illustration of increases in retirement income (as a multiple of the government pension) for various asset balances and investment strategies. Source: CSIRO.

This system does not encourage retirees within the “Retirement Trap” to deploy additional assets to generate income. Rather, spending, or directing resources towards assets which are exempt from the assets and income test (such as investing in the principal residence), can result in a benefit greater than the additional income that may be derived.

Outcomes from the current system include:

- Additional savings, when invested, do not always translate into additional - and in some cases can actually lead to reduced levels of - retirement income;
- Seeking to derive increased retirement income from additional savings may entail assuming levels of risk which are well beyond what is normally recommended for retirees;
- Spending, or directing additional resources towards exempt assets, rather than saving, is implicitly encouraged by the system.

These effects bias the behaviour of retirees - especially those who receive a full or part pension – towards spending rather than saving. Ultimately, this puts an increased burden on

⁴ <https://www.betashares.com.au/files/collateral/BetaSharesTheRetirementTrap.pdf>

⁵ <https://nationalseniors.com.au/uploads/End-the-pensioner-trap-media-release.pdf>

⁶ <https://nationalseniors.com.au/uploads/Taper-Rate-Fact-Sheet-for-Media-release-002-.pdf>

the Government by discouraging retirees receiving pension entitlements from becoming more self-sufficient.

A Model to Avoid The Traps

There are many solutions - either as modifications to the current system, or as completely new systems - which do not suffer these same limitations.

We propose a system where:

- The government pension is universal (ie. the income and assets tests are discarded);
- As much as possible, the pension is funded by individuals;
- No individual is worse off than in the current system; and
- The financial burden on the Government is decreased from the present.

This model is described in detail in a collaboration between BetaShares and the Monash Centre for Financial Research: “Pitfalls in the Retirement System and some thoughts about Risk, Reward and Remediation”⁷. The reader is encouraged to refer to this source for further detail. A PDF copy of the paper has been supplied for completeness.

How This Is Relevant To The Retirement Income Review

Many of the issues raised in the Australian Government Consultation Paper³ for this review are addressed by the framework proposed above. We now address some of the specific questions raised in the Paper, with reference to the proposed model.

Questions Addressed:

The retirement income system

1. Are there aspects of the design of retirement income systems in other countries that are relevant to Australia?

Australia can learn from the successes and failures of a universal pension provided in various countries.

Where the universal pension has failed, that failure has primarily been due to problems around ensuring that it is funded at sustainable levels. However, a full or partial universal pension is successfully part of the retirement system in many countries. In the recent Monash Mercer Retirement Survey², Australia’s retirement system ranked third overall behind the Netherlands and Denmark, with Finland, Sweden, Norway, Singapore and New Zealand close behind Australia. Of this top cohort, the Netherlands and New Zealand have a universal pension, while Denmark, Norway, Finland and Sweden ensure that all retirees receive a minimum level of pension via a combination of state and private funding (some of which may be means tested). Australia, together with some of this latter group, has a means-tested pension, although the combination of an assets test and an income test is unique to Australia.

⁷ https://www.monash.edu/_data/assets/pdf_file/0008/2044943/Pitfalls-in-the-Retirement-System-and-Some-Thoughts-about-Risk-Dec-6.pdf

Australia is well-positioned to use a best of breed approach to implement a best practice universal pension within its retirement income system.

Purpose of the system and role of the pillars

4. What are the respective roles of the Government, the private sector, and individuals in enabling older Australians to achieve adequate retirement incomes?

Superannuation savings are the backbone of Australia's retirement income system. The majority of super balances are managed by industry funds (27.18%), retail funds (26.7%) and SMSFs (32.3%), with the remainder in public sector and other funds⁸.

Under our model, funds management will be segmented into defined benefit schemes (to fund the universal pension) and defined contribution schemes. Both schemes can exist within the public and private sector.

Defined contribution schemes will continue largely unchanged from the current system. Individuals will have flexibility and choice as to where their contributions are directed and how they are invested.

Defined benefit schemes will require (massive) pooled funds to be set up. These must operate within a rigorous actuarial framework, to ensure that they are run sustainably and efficiently. This will require the Regulator to manage and monitor the framework to ensure that it reflects its objectives. The Regulator will also monitor individual defined benefit funds, to ensure that they meet or exceed their objectives. This will require extensive input from both the Government and the private sector, with, ultimately, the Government setting the rules and governance framework.

Empowering the Regulator to provide the necessary oversight of the implementation and efficacy of the retirement system will be vitally important.

5. The Panel has been asked to identify the role of each of the pillars in the retirement income system. In considering this question, what should each pillar seek to deliver and for whom?

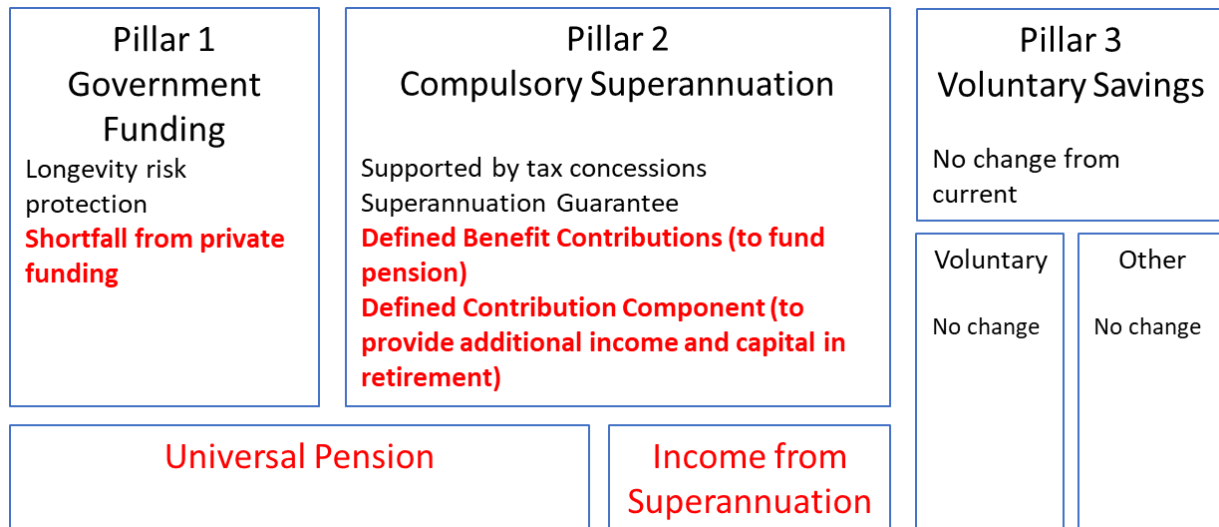
Under our model, the three pillars would be modified so that:

- Pillar 2 (Compulsory Superannuation) is streamed to fund in full, or part, the universal age pension, as well as to provide additional income and capital for retirees;
- Pillar 1 (Government Funding) would address any shortfall in funding of the universal pension; and
- Pillar 3 would remain largely unchanged.

A diagram of this appears in Figure 2.

⁸ Source: 2018 data from https://public.tableau.com/views/KPMGSuperInsights/Super?:embed=y&:display_count=yes&:showVizHome=no

Figure 2: Proposed Three Pillars



6. What are the trade-offs between the pillars and how should the appropriate balance between the role of each pillar in the system be determined?

The major change to Pillar 2 (Compulsory Superannuation) is that contributions are streamed into the two components described above. Optimum streaming is complex and is still to be determined. Streaming too little towards funding the pension (through the defined benefit component) will increase the burden on Pillar 1, while streaming too much will leave retirees worse off than they are in the current means-tested system. Further work is required to ensure that the outcome is an improved system with a lower burden on the Government.

Principles for assessing the system

8. Are the principles proposed by the Panel (adequacy, equity, sustainability, and cohesion) appropriate benchmarks for assessing the outcomes the retirement income system is delivering for Australians now and in the future? Are there other principles that should be included?

Yes. It is these principles (especially that of equity) which have led to BetaShares identifying where the current system produces undesirable (or unfair) outcomes and suggesting how it can be improved.

Equity

14. What factors and information should the Panel consider when examining whether the retirement income system is delivering fair outcomes in retirement? What evidence is available to assess whether the current settings of the retirement income system support fair outcomes in retirement for individuals with different characteristics and/or in different circumstances (e.g. women, renters, etc.)?

The Panel should ensure that the system is designed in such a way that no retiree is punished for increasing their savings pool, or is influenced by the system when choosing how to spend

or invest their retirement savings. Evidence – from modelling, various researchers and direct observation – shows that currently these outcomes are not always being achieved.

15. Is there evidence the system encourages and supports older Australians who wish to remain in the workforce past retirement age?

Whilst the system does not explicitly discourage retirees from working, it does bias them towards spending their earnings, or channelling them into exempt assets (such as the family home), rather than using them to generate additional retirement income. A fair system would give the earner the choice of either using their earnings or adding them to their savings pool, without that choice being distorted by the structure of the system.

Cohesion

21. What should the Panel consider in assessing whether the retirement income system is cohesive?

There are many factors which make a system cohesive. From our perspective, the most important factor is that the system must be completely consistent, and without anomalies or flaws which influence behaviour or result in sub-optimal outcomes.

23. What evidence is available to show how interactions between the pillars of the retirement income system are influencing behaviour?

Research and anecdotal evidence showing that retirees are incentivised to spend or deploy additional savings into non-assessable assets is available from many sources⁹. This is an adverse consequence of the interaction between the eligibility for pension entitlements and the assets and income tests. Specifically, the withdrawal of, or reduction in the pension, and loss of other benefits as savings increase, influences retirees to spend (or move resources into assets which are excluded from these tests) rather than to invest and benefit from additional income and capital to draw down on over time.

26. Is there sufficient integration between the Age Pension and the superannuation system?

No. The age pension and the superannuation system are linked primarily by means testing applied to assets and income (there are secondary linkages such as healthcare and excluded assets). This linkage produces undesirable consequences (the Retirement Trap). Removal of these means tests improves integration, as it removes the punitive aspects of the reduction in the pension as means increase. Retirees would be able to make financial decisions (such as whether to spend or save) without taking into consideration the way the system will behave. Additionally, the resulting system will be simpler to administer and understand.

Summary and Conclusions

Structural changes to the retirement system that create a model with better outcomes for retirees and for the Government include:

⁹ See: <https://www3.colonialfirststate.com.au/personal/guidance/retirement-strategies/how-to-boost-your-pension-under-the-new-threshold-rules.html>, <https://www.northernstar.com.au/news/how-to-keep-your-assets-and-get-the-age-pension/3204330/>, <https://www.afr.com/wealth/superannuation/advice-on-how-to-trim-assets-to-keep-pension-irks-industry-super-funds-20151222-glt2wa> for examples

- Removing the assets and income tests and introducing a universal pension;
- Streaming superannuation contributions into defined benefit and defined contribution components. The former will be used to fully or partially fund the universal pension. The latter would provide additional income and capital to retirees;
- Ensuring that where there is a shortfall (i.e. a retiree has not fully funded their pension through the defined benefit component of their super), the Government makes up the difference¹⁰;
- Ensuring that any changes to the system do not result in any retiree being worse off than they are under the current system (consideration must be given to replicating the thresholds below which asset increases do not cause any tapering of pension entitlements);
- Reducing the overall cost to the government via efficiencies from a highly simplified system, which includes creating pooled defined contribution schemes using best of breed technology and practice to fund the universal pension; and
- Obtaining extensive actuarial input to determine how super contributions should be streamed.

We believe that with the implementation of this model, Australia can move from having one of the best retirement systems in the world, to having the best retirement system in the world.

This submission has been prepared by, and reflects the opinions of, BetaShares Capital Ltd (ACN 139 566 868 AFS Licence 341181) ("BetaShares"). This submission may include opinions, estimates and projections ("forward looking statements") which are, by their very nature, subject to various risks and uncertainties. Actual events or results may differ materially, positively or negatively, from those reflected or contemplated in such statements. BetaShares does not undertake any obligation to update forward looking statements to reflect events or circumstances after the date such statements are made or to reflect the occurrence of unanticipated events.

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Supplementary PDF Attachment: *Pitfalls in the Retirement System and Some Thoughts about Risk, Reward and Remediation, MCFS White Paper 01-19.*

File name: SUPPLEMENTARY MATERIAL - MCFS White Paper 01-19 - Pitfalls in the Retirement-System

¹⁰ It is not envisaged that retirees will fully fund their pension as a priority. Rather, funding of both the pension and the defined contribution component of superannuation would occur simultaneously with the split determined by age, earning capacity and other factors. It would ensure that retirees are at least no worse off than they are in the current system.

PITFALLS IN THE RETIREMENT SYSTEM

AND SOME THOUGHTS ABOUT
RISK, REWARD AND
REMEDICATION

ROGER COHEN
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MCFS WHITE PAPER 01-19

Pitfalls in the Retirement System and Some Thoughts about Risk, Reward and Remediation

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MCFS White Paper 01-19

Pitfalls in the Retirement System and Some Thoughts about Risk, Reward and Remediation

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December 6, 2019

Abstract

The Australian retirement system is highly regarded by world standards. Despite this, there are anomalies in the system, which can be removed or improved to produce better outcomes for both retirees and the government. This paper illustrates how the three pillars of the Australian retirement system – the pension, superannuation, and savings – interact. It is well known that the unintended consequences of this interaction can encourage savings and investment behaviour, which is both counterintuitive and contrary to the intended outcomes of the system. Ultimately, this is detrimental to retirees and will increase the fiscal burden on the government. We introduce a framework for potential alternatives that address some of these anomalies. Our framework is simpler and leads to better outcomes for retirees and the government than the current system. The main proposal is to use superannuation to fund a compulsory defined benefit scheme, which, coupled with government assistance, will fund a universal pension. This alternative framework will continue to provide a lifetime safety net for all Australians while retaining a defined contribution system to provide additional income.

Key Words: Superannuation, Means-Tested Age Pension, Deemed Income, Retirement, Defined Benefit, Universal Pension.

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1. Introduction

Australia is recognised globally as having a world-class pension system. In 2019, Australia ranked third globally in the Melbourne Mercer Global Pension Index¹. As a country, it has the fourth largest (Thinking Ahead Institute, 2019) pool of retirement savings globally. In the latest Melbourne Mercer Global Pension Index, Australia ranked as the third best retirement system in the world behind only the Netherlands and Denmark (MMGPI, 2019). Despite these plaudits, it is recognised that there are still gaps and anomalies in the system that can be improved. These anomalies are especially evident for retirees with assets or income that are close to the thresholds for aged pension eligibility.

The Australian Government is well aware of and is trying to address some of these shortfalls. The development of a framework for Comprehensive Income Products in Retirement (CIPR)², aimed at increasing standards of living in retirement with products specifically to solve for stable income and mitigate longevity risk, was initially concluded in July 2017. The Retirement Income Covenant position paper proposes that Trustees of superannuation funds consider the retirement income needs of their members³. The subsequent consultation process closed in June 2018. Recognising how complex the issues are, the commencement of the Covenant has been delayed until July 2020 to allow for the development of suitable investment products. In September 2019, the

Productivity Commission recommended a Retirement Income Review⁴. The terms of reference of this review will focus on the three pillars of the system, namely:

- a means-tested Age Pension;
- compulsory superannuation; and
- voluntary savings, including home-ownership⁵

This paper will identify some of the well-known anomalies and shortfalls with the current system and explore strategies to address them. Particular attention is paid to the interaction between the pillars above and the undesirable consequences that can result. These may encourage behaviour which impacts negatively on risk and risk-taking. This will also be discussed below. Hypothetical frameworks that circumvent some of these shortfalls will be introduced, and issues around transition and implementation will be discussed. In particular, we will focus on solutions that remove some of the anomalies, which are a consequence of the means-tested Age Pension. The focus of these proposed solutions and strategies is to achieve three objectives. First, we aim to improve financial outcomes for retirees. Second, we seek to ensure that the existing safety net provided by the current pension is retained. Third, any proposed amendments should decrease (or as a worst-case not increase) the financial burden on the Australian Government.

¹<https://www.monash.edu/data/assets/pdf/file/0016/2010526/MMGPI-2019-Report.pdf>

² <https://consult.treasury.gov.au/retirement-income-policy-division/comprehensive-income-products-for-retirement/>

³ <https://treasury.gov.au/sites/default/files/2019-03/c2018-t285219-position-paper-1.pdf>

⁴ <https://treasury.gov.au/review/retirement-income-review>

⁵ <https://treasury.gov.au/review/retirement-income-review/TOR>

2. The Current System

It is well known^{6,7} that the current system contains anomalies and inconsistencies, which make it unfair and disadvantageous to those in certain circumstances. The “Retirement Trap”, evidenced by its impact on retirees whose assets and income qualify them for a part pension, means that additional income or assets do not automatically translate to better outcomes. See Cohen, Chen and Zhu (2019) for a description of this effect and modelling of the outcomes it produces. This situation incentivises behaviour, such

as excessive spending, and/or not saving, to take advantage of concessions and benefits that would otherwise be lost. Significant wealth can be accumulated inside the family home and other non-assessable assets without affecting pension entitlements. This can potentially result in a perverse relationship between assets at retirement and the net present value of retirement spending for some retirees. To help the reader understand the source of these anomalies, we provide a brief description of the three pillars of the retirement system.

Note about numbers and analysis

Principles underlying the Government Pension apply to individuals and couples in exactly the same way, as do outcomes. Amounts, entitlements and thresholds, however, are, in many cases, different. A couple is treated as an aggregate unit. Relevant amounts and thresholds are not the same as for two individuals. Furthermore, certain tests and thresholds differ based on whether an individual or a couple are homeowners or non-homeowners. For the purpose of clarity and brevity, values and amounts, where quantified, are based on the case for a single homeowner. Principles and outcomes for couples and non-homeowners are exactly the same when the relevant amount is substituted. For specification of these relevancies, refer to the underlying sources quoted in this paper.

2.1 The means-tested age pension

As of 1 July 2019, any Australian aged 66 and above, with income and assets below certain thresholds, is entitled to receive a full or part Government Pension. The age for these entitlements will be gradually increased to 67 years by 1 July 2023⁸.

- For a single person (homeowner and non-homeowner) the maximum annual age pension entitlement (including energy supplements) is \$24,268.40⁹

- **Assets test:** A single homeowner is eligible for a full age pension if their financial assets (including superannuation) are less than or equal to \$263,250. For each additional \$1,000 in assets, the age pension declines by \$78.21 per annum. Once assets

⁶ <https://nationalseniors.com.au/uploads/Taper-Rate-Fact-Sheet-for-Media-release-002-.pdf>

⁷ The Age Pension means tests: contorting Australian retirement, Anthony Asher & John De Ravin, 2018 n

⁸ <https://www.dss.gov.au/seniors/benefits-payments/age-pension>

⁹ <https://www.humanservices.gov.au/individuals/services/centrelink/age-pension/how-much-you-can-get> retrieved on October 8, 2019. This site also provides equivalent information for couples and for those in other situations.

exceed \$574,500¹⁰, pension entitlements become zero.

- **Income test:** For a single retiree with an annual income above \$4,524, the age pension reduces by \$0.50 for each extra dollar earned. Age pension entitlements cease once income is greater than \$2,026 per fortnight (or \$52,676 p.a.).

Deemed Income

Income from financial assets, applied to the above tests is based on deemed rates of return (not real returns). For a single retiree, deemed income rates are currently 1.00% for assets up to \$51,800 and 3.00% thereafter¹¹. Any deviation from these deemed rates – positive or negative – is not included in the relevant test. In the current low-interest-rate environment, these deeming rates have recently been lowered, and are still under review as being too high (given the official cash rate is currently 0.75%¹²).

2.2 Superannuation

Under the current system, employers pay 9.5% on top of employee salaries into a qualifying superannuation account. These payments are taxed at concessional rates. Employees can also make additional voluntary contributions to their superannuation (via salary sacrifice, or as additional payments) at the same concessional rates, up to a total (including employer contributions) of \$25,000 per annum¹³. Investment earnings and capital

gains in superannuation enjoy similar concessional tax rates. A retiree has access to their superannuation balance on reaching a certain age. Income earned, and capital gains from funds kept in superannuation post-retirement (up to an indexed cap, which is currently \$1.6 million¹⁴) are tax-free. Post-retirement, there are mandated minimum withdrawal rates from superannuation; however, retirees can withdraw above these minimums at their own discretion.

2.3 External assets

Assets outside superannuation are subject to the same deeming rates for purposes of calculating income and are aggregated with superannuation balances for assessing age pension eligibility. However, the income from assets outside superannuation (both pre and post-retirement) does not benefit from the concessional (zero or low) tax rates that apply to income from assets in superannuation.

3 Underlying Rationale of the System

The entire retirement system (super, external assets, and the pension) aims to provide income and lump sums for retirees. The pension is set to provide a safety net for those with low income or asset balances (The Treasury, 2018), and

¹⁰ ADHS.

<https://www.humanservices.gov.au/individuals/services/centrelink/age-pension>

¹¹<https://www.humanservices.gov.au/individuals/topics/deeming/29656>, retrieved on October 29 2019.

¹²<https://www.rba.gov.au/statistics/cash-rate/>, retrieved on November 1 2019.

¹³ <https://www.moneysmart.gov.au/superannuation-and-retirement/how-super-works/super-contributions>

¹⁴ https://www.ato.gov.au/Rates/Key-superannuation-rates-and-thresholds/?page=29#Transfer_balance_cap

phases out as assets and income increase¹⁵. The philosophy behind the income and assets tests is that as the ability of a retiree to sustain themselves comfortably increases, their entitlement to a government pension drops away. Above an annual income of \$52,262 or assets of \$574,500, the pension entitlement becomes zero.

Superannuation is intended to provide the core benefits for most Australians, with a top-up from the pension where income and assets fall below the thresholds described above. According to the Australian Bureau of Statistics (ABS), approximately 68%¹⁶ of Australians aged above 65 received a full or part pension in 2018.

The Association of Superannuation Funds of Australia (ASFA), in its retirement standard,¹⁷ provides guidelines for modest and comfortable income levels for retirees. Currently, the modest and comfortable levels for a retiree aged 65 are approximately 1.16 times and 1.81 times the full pension entitlement, respectively. These multiples decrease with age.

Under the current guidelines, all Australians in retirement will, at a minimum, receive the Government Pension. The total retirement benefits received increase with income from financial assets and other sources up to a threshold, above which the pension begins to taper out. When income and/or assets exceed the eligibility threshold, aged pension payments become zero, and the retiree becomes fully funded by the other two pillars of the retirement system

(superannuation and external assets). Over the lifetime of a retiree, pension entitlements are continually reassessed using the metrics described above.

4 The anomalies

4.1 Figurative Tax Rates and High Investment Hurdles

The reduction in pension entitlements prescribed by the assets and income tests can be interpreted as a figurative¹⁸ tax on retirees who receive a full or part pension. It is a tax in the sense that the Government is recouping a portion of the pension which would otherwise be paid out in the absence of an increase in income or assets.

- The “figurative tax” rate for a retiree on a full pension rises to 50% once their income exceeds \$172¹⁹ per fortnight (because the pension drops by \$0.50 for each \$1.00 of income above this amount). A pensioner not impacted by the asset test will continue to receive pension entitlements until their annual income exceeds \$52,262, while the personal income tax rate steps up to 32.5% when annual income exceeds \$38,000. Thus the effective tax rate can reach as much as 82.5% in instances where a pensioner earns between \$1,457 and \$2,004 per fortnight.

- A homeowner pensioner would have to generate income at a rate of 7.82% p.a. for each additional \$1,000 in financial

¹⁵ <https://www.alrc.gov.au/publication/grey-areas-age-barriers-to-work-in-commonwealth-laws-ip-41/age-pension/>

¹⁶ Calculated from the ABS data (Income (including Government), Australia, State and Territory, Statistical Area Levels 2-4, Greater Capital City Statistical Area, 2011-2018).

¹⁷ <https://www.superannuation.asn.au/resources/retirement-standard>

¹⁸ Figurative because it is not an actual tax, but an outcome that is similar to what it would be if it were a tax.

¹⁹ <https://www.humanservices.gov.au/individuals/services/centrelink/age-pension/eligibility/income-test-pensions#cutoff> as at July 1, 2018

assets accumulated above \$263,250²⁰ to replace lost pension income (as the pension drops by \$3.00 per fortnight or \$78.21 p.a. for that additional \$1,000).

These punitive “figurative tax” rates and high investment return thresholds apply to retirees receiving a part pension. As a group, those affected would tend to be towards the lower end of the range in terms of income and assets. Above these levels, these taxes and return hurdles drop away entirely, and normal rates of tax applicable within and outside superannuation kick in as appropriate. If behavioural biases are ignored, then these features together suggest an asymmetric approach to risk and to spending for a person who is receiving a part pension. A person on part pension only enjoys the fruits of half of any increase in income, and if they are investing, they must generate high returns to replace or surpass lost pension income. Additionally, once income or assets increase to the level where pension entitlements phase out completely, a number of auxiliary benefits (such as the health care entitlements and electricity subsidies) are lost completely

4.2 Net Value of the Pension

As a Government guaranteed lifetime indexed annuity, a financial instrument that replicates the pension has significant value.

²⁰<https://www.humanservices.gov.au/individuals/services/centrelink/age-pension-as-September-18-2019>

²¹ The value of a 30 year indexed annuity assuming a long bond rate of 3.5% and long run inflation at 2.5% is \$626,302,638. This is simplistic, in that it does not take into account mortality rates, gender and other factors. Other studies produce varying results. See (Cohen, Chen, & Zhu, 2019), for example, which comes up with a number between \$447,000 and \$507,000. For the purposes of this paper, ascertaining an exact “right” value for the present value of the age pension is less important

- The present value of the full pension is complex to calculate. We simplistically estimate that for a 65-year-old, it is between \$626,302 and \$859,389 depending on the underlying assumptions made about returns, spending, longevity, and asset allocation. Other sources produce estimates which differ from these values²¹. The asset test dictates that the same 65-year-old would lose their pension entitlements completely once their net worth exceeds \$574,500. On this basis, the theoretical net worth of a retiree with assets between zero and \$263,250 is approximately equal to the present value of the pension²². As their asset base increases, the pension tapers off, dropping to zero when the asset base reaches \$574,500. Graphing this shows that (theoretical) net worth measured this way (at the beginning of retirement) does not increase linearly as their asset base increases (Figure 1). This is an undesirable situation, as it would be reasonable to expect that net worth should increase in line with the asset base. Under certain circumstances, an increase in assets actually results in a decline in income (Cohen, Chen, & Zhu, 2019) (when the pension and deemed income are combined). These effects are exacerbated as retirees who receive a full or part pension are also entitled to other benefits, as mentioned above. Eligibility for these benefits is binary – based on receiving any level of pension. A retiree who receives as little as one dollar of pension income is

than acknowledging that it has significant value. Valuing the pension as a Government guaranteed annuity (which it is), is not an efficient way to actually generate the pension. For example, the offsetting benefits of pooling (which manages longevity risk), long term investing (at rates higher than real interest rates) and best of breed investment management techniques, in conjunction with rigorous actuarial analysis will significantly reduce the cost of generating the pension.

²² At assets level \$263,250, net value of age pension is \$596,139 (lower than the present value at asset zero) due to the income test.

still entitled to them. However, if that entitlement is lost, so are these benefits.

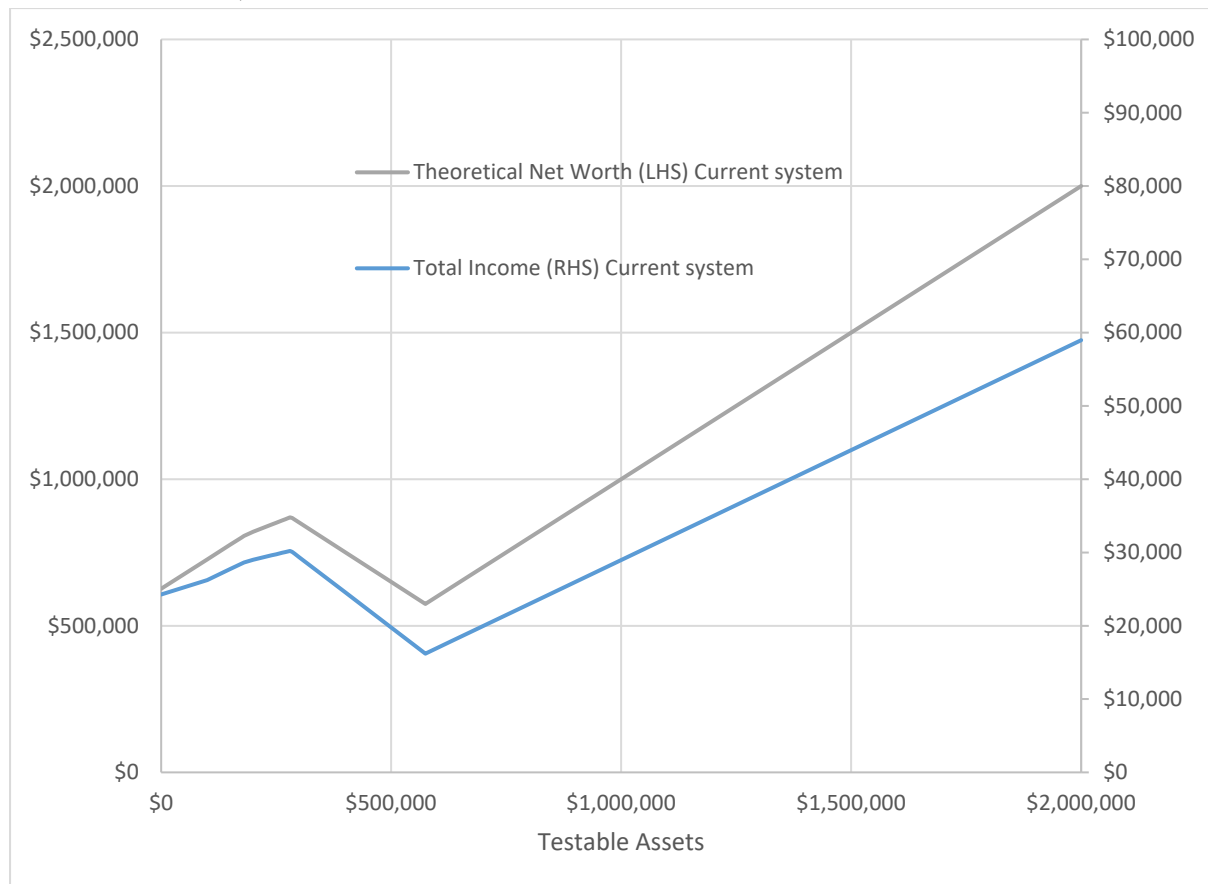


Figure 1: Income derived from a combination of the age pension and superannuation balances for different levels of assets.

Notes: In calculating the theoretical net worth of a retiree, the present value of a full age pension is assumed at \$626,302. Theoretical Net worth = Present Value of Pension Entitlement + Superannuation Balance. This value for net worth is theoretical because at no time is the Present Value of the pension to be realised, other than via an ongoing stream of pension income payments. As the value of Testable Assets increase, the present value of the pension, to a specific retiree, decreases (as a consequence of the assets and income tests). This explains the “kinks” in the lines in the chart above. Also, this calculation presents an instantaneous snapshot which assumes that the retiree does not draw down any assets.

In reality, there are regulatory minimum superannuation drawdown requirements, which vary from 5% to 14% depending on the age of the retiree²³. This means that the above calculation must be repeated with a modified asset base to generate ongoing income streams. Asset draw-down by spending more than the total income generated from all sources, including the

pension, means that retirees who currently receive no pension may over time become eligible for a part or full pension. The current means-tested age pension can yield situations where retirees with higher asset balances may not be as well off as those with lower asset balances, as the differences suggest (Kapur & Ruthbah,

²³<https://www.moneysmart.gov.au/superannuation-and-retirement/income-sources-in->

[retirement/income-from-super/account-based-pensions](https://www.moneysmart.gov.au/superannuation-and-retirement/income-sources-in-retirement/income-from-super/account-based-pensions)

2019). As Cohen et al. (2019) put it, “*more is not necessarily more.*”

5 Recommendations to design a fair system:

There are many models and variations to the current system which could remove some of the anomalies and inconsistencies discussed above. Designing a perfect system is an impossible task as there are too many conflicting requirements. Even specifying the metrics to measure such a system is not possible without compromise. For example, lifestyle and income are not necessarily correlated. Individual retirees have vastly different aspirations and requirements. Below, we consider aspects of the current system, which can be improved. We propose some of the requirements and changes which could underlie such a system. This is not intended to be prescriptive or complete. Rather, it is one point of view which can be incorporated into ongoing discussion and debate. The aim is to raise issues (many already known), which can be incorporated into changes to produce better outcomes for retirees and for Australia.

In 2017-18, 71.9% of all Australians (74.4% male and 69.5% female) and 45.4% of all aged 65 and above had some degree of superannuation coverage. The average superannuation balance of a 65-74-year-old was \$402,600²⁴. As a headline number, this is less than the estimated net value of the government pension (as described above). The current Australian superannuation system is largely based on defined contributions by members. These are intended to fund the various lump sum and income options possible in retirement.

The government pension is available as a safety net, or top-up for those without sufficient savings or assets. The Retirement Income Covenant, together with products that should result from the CIPR requirements, seeks to improve outcomes, as does the ongoing Retirement Income Review. However, as discussed in the previous sections, the system – even with some of these changes - is still complex, riddled with inconsistencies, and subject to misuse.

5.1 Can we create an ideal system?

To improve the current system, we start by specifying the desired features and attributes such a system would encapsulate. It should:

- be fair, consistent
- be free from anomalies
- be simple to understand, implement and administer
- provide a lifetime pension or income stream for all Australians (plus the same basic access to healthcare).
- encourage saving within superannuation to fund a comfortable retirement (with income over the pension)
- reduce the pension load and reliance on the Government,
- encourage additional earning and asset accumulation at all times, including in the pension phase
- encompass the aims of the retirement income covenant and CIPR
- allow choice and control by stakeholders

²⁴ ABS, 65230DO012_201718 Household Income and Wealth, Australia: Summary of Results, 2017–18

- allow for flexibility and choice by retirees about spending including access to lump sums

5.2 Proposition

There are many possible models and solutions. Replacing the means-tested pension with a universal pension (which is not income or asset tested) would remove many of the anomalies and counterintuitive outcomes discussed above. This is the case in many countries with highly regarded pension systems – including the Netherlands and Denmark, who rank first and second in the Melbourne Mercer Pension Index (MMGPI, 2019). The main issue with a universal pension is to ensure that it is adequately funded, without increasing the

burden on the government. It can be done either:

- Through an additional tax (such as the National Insurance scheme in the UK), or
- As part of the superannuation system

We focus on the latter. The Australian superannuation system is well established and highly regarded. Most existing superannuation balances lie within a defined contribution (DC) framework. We propose to introduce a universal defined benefit (DB) scheme along with the existing defined contribution (DC) system. The former (together with a possible contribution from the government) will fund a lifetime indexed annuity for retirees up to the value of the pension

An Illustrative Example

Consider a universe with three retirees - Coombs, Phillips and Knight. All of them are expected to live for 30 more years. Their superannuation balances are \$0, \$280,000 and \$1,000,000 respectively. Assume that they have no other financial assets outside superannuation, and will use their superannuation to derive annuity-like income streams (so no lump sum or other spending patterns are anticipated).

Coombs, with no super, would be entitled to a full Government pension, Phillips, with a moderate balance, would receive a part pension and Knight, with a large balance, would have zero pension entitlement. From the Government perspective, to fund Coombs, Phillips and Knight under the current system would require (by our above used methodology) \$626,302, \$589,655 and zero respectively (these amounts are approximate – especially for Phillips and Knight – as they depend on future outcomes including life expectancy and spending patterns).

Under a system such as that proposed above, the pension would be universal. Coombs, Phillips and Knight would all receive the same Government pension. If the system were to produce equivalent, or better outcomes to the current, then:

Coombs would be in exactly the same situation as current. With zero superannuation and other financial assets, the universal pension would exactly match the current full pension entitlement.

Phillips currently would receive approximately 94.1% of the full pension (with an asset base above the assets test threshold of \$263,250 and income test of \$4524) and so would see the pension taper by \$1,420pa. Additional income from the total super balance of \$280,000 would be generated at real rates of return, not the deemed rates used for the income test. Under the proposed system, Phillips would receive a full pension entitlement. The super balance of \$280,000 would have been split into DB and DC components. In order to be at least no worse off than in the current position, the first \$240,000 of this balance would be allocated to the DC scheme. The remaining \$40,000 would be in the DB component and used to fund the pension partially (this allocation is chosen discretionally by us, and that as discussed below, the “optimum” allocation methodology is to be the subject of further work). The government would fund the rest. Under the assumption that Phillips spends only the pension and income generated from additional assets. Then with the DB scheme, the total available to spend would be \$30,432 (universal pension of \$24,628 + deemed income from \$240,000, which is \$6,164). Under the current system, the total available to spend would be \$30,212 (94.1% of age pension, being \$22,848 + deemed income from \$280,000, which is \$7,364). The DB scheme will thus improve his retirement spending capacity by a small margin, while the government will save \$3,335 (\$626,302 - \$40,000 (cost of full pension under DB scheme) - \$589,655 (cost of part pension under current system)).

Knight, under the current system, would receive no pension entitlement and would derive income based on the returns from \$1,000,000 in super. Under the proposed system, a portion of the \$1,000,000 super balance would be allocated to the DB component, which would fully fund the pension for Knight. The remaining balance would remain in the DC component and would generate additional returns. How much is allocated into the DB component is still to be determined. The full value of the pension as discussed above is \$626,302. Allocating this entire amount into the DB component could well leave Knight considerably worse off as only the remaining \$373,698 would be available to derive additional income. If spending is only from income, and deemed rates of return are used, then under the current scheme, total income would be \$28,964, while under the proposed DB scheme, it would be \$34,443 (full pension + deemed income from \$373,698). However, as discussed above, the cost of generating a lifetime income stream in a well-run pooled DB scheme will be considerably less than has been assumed, so additional income would be derived from a higher amount and be based on real returns. Specifics of this, as mentioned above, are still to be determined. Additionally, if the Government is to stream part of the current cost of the system into subsidising this scheme, then the potential for higher income (for all stakeholders) will be possible.

In summary: The total cost to the Government for Coombs is similar under both scenarios, although the pension income would be generated from a pooled fund. Phillips’ pension would be partly self-funded, with the Government making up the shortfall. Knight would be completely or largely self-funded. Overall, the burden on the government will potentially be lower as the system will enable most retirees to fully or partially fund their pension from superannuation contributions. It will also be simpler to administer, without the complexity of income and assets tests.

As discussed previously, work is still required to properly model and quantify these outcomes. This illustrated how the framework for the system would operate.

5.3 Implementation

There are many ways a DB scheme can be financed.

One simple way is to accumulate balances in superannuation as is done currently. At retirement, a mandated amount (which is related to the retiree's total superannuation and financial asset balance²⁵) is transferred as a lump sum into a DB scheme. The Government would meet any shortfall for those who are unable to fully finance their pension (for an example, see Box 2). The lump-sum amount that is transferred to the DB scheme will require calibration to ensure that retirees end up potentially better off, or at worst in the same position as they would be in the current system.

This above is not necessarily the most efficient method to fund (future) pensions. A more effective system could work as follows.

- As soon as a person enters the workforce, super contributions are split into DB and DC components. This split is based on the age and size of super contributions. The split is designed to maximise the number of superannuation accounts which will fully fund a pension without leaving retirees worse off than they would be under the current system. In particular, this means that they should be allowed to build up balances in the DC component of their super up to the asset test threshold before funding any DB scheme. Once an individual has contributed enough to fully fund a DB retirement income stream at the level of the pension, all excess contributions would go into traditional superannuation (i.e., current practice).

- This would allow the benefit or compounding over long time periods to help fund future pension payments.

- Individuals can also be encouraged with tax concessions to on a discretionary basis fund the DB component of named beneficiaries (i.e., family members, or other individuals), or a general pool. This will allow wealthy individuals to help reduce the pension load on the government efficiently.

All retirees will, under this framework, receive a minimum income stream at the rate of the pension. On retirement, the government will top up any shortfall for any individual retiree who has an unfunded or partially funded pension. We present a very simplistic comparison of this proposed system with the current practice in Appendix A.

5.4 Valuing the DB component of super

Valuing the DB component of super, as mentioned above, is a complex exercise. The full value of a lifetime income scheme (guaranteed by the Government) is extremely expensive. (of order \$600k!!!), and would make the above-proposed framework difficult to fund without Government input. Currently, the Government funds pension entitlements (through both full and part pension payments) to the order of about \$50 billion pa. (Australian Government, 2019). A well-run pooled DB scheme, with a broad age and demographic population, can be run efficiently over long periods. This will see the threshold required to fund a pension fully to be lowered significantly. Quantifying this, deciding whether this scheme should be centralised or

²⁵ We include all financial assets in this assessment to ensure that retirees are not incentivised to keep

balances outside super to reduce the sum transferred to fund their pension

distributed, and whether it should be run in the private or public sector, is left for further work. The box below shows the amount of savings (in today's dollars), which are required to fully fund the age pension at different stages of pre-retirement.

To summarise: The cost of funding a universal pension can be significantly lowered if a prescribed proportion of the current superannuation system is incorporated into a DB scheme, run as a diverse (with respect to stakeholders) and diversified (with respect to investments) pooled vehicle.

Amounts needed in DB scheme to fully fund pension at different discount rates

Years to Retirement	3%	4%	6%	8%
10	-\$466,027.51	-\$423,107.19	- 349,724	- 290,099
20	-\$346,768.23	-\$285,836.06	- 195,284	- 134,372
30	-\$258,028.13	-\$193,100.60	- 109,046	- 62,240
40	-\$191,997.16	-\$130,451.85	- 60,890	- 28,829
50	-\$142,863.92	-\$88,128.59	- 34,001	- 13,354

Note: The numbers are calculated under the assumption that the retiree will require \$626,302 in superannuation at the beginning of retirement to fully fund their pension. This means that the rates in this table are real rates (i.e. they do not include inflation).

5.5 Funding the unfunded

The pension must be available to all Australians. There will always be a segment of the population who, through their lives, will not contribute to superannuation or make savings, or who will not accumulate enough to fund their pension. The Government will be responsible for this shortfall (as it is today). The shortfall can be quantified using demographic and actuarial information, which is already estimated by the Treasury. Under this proposal, funding can be allocated by the Government – either into a sovereign wealth fund – or to private investment managers (who would already manage pension money via the DB component of superannuation). An important role for the Government (via the

regulator) would be to ensure that all DB schemes are properly regulated, run to appropriate benchmarks, and to ensure that they maximise the benefits of pooling. Specifics of regulation, managing and allocating Government money will not be discussed further here.

5.6 Issues and pitfalls

A potential problem with centrally run DB schemes is that they may become underfunded. For example, the size of the deficit of the UK's DB pension scheme was £260 billion²⁶ in the first quarter of this year, and that of the largest 100 US corporate DB pension plans was \$258 billion²⁷ in October 2019. This deficit is typically alleviated by (the government) either reducing the payout benefit²⁸,

²⁶ <https://www.pensionsage.com/pa/UK-DB-pension-deficit-increases-by-60bn.php>

²⁷ <https://us.milliman.com/PFI/>

²⁸ The Dutch pension funds are planning to reduce the pension benefit from next year

(<https://www.ipe.com/countries/netherlands/biggest-dutch-pension-funds-face-imminent-benefit-cuts-following-new-rules/10032346> fullarticle).

restructuring the pot to cover shortfalls, changing the concessions on inflows, changing the taxation and treatment of outflows, or other means. Also, the commonly observed practice of “kicking the can down the road” is employed, meaning the status quo is maintained to the detriment of future beneficiaries. And of course, there is always the danger that, a means test is (re)introduced, which then circles back to the current imperfect system.

Although there is no perfect solution, perhaps the government should focus on setting up a friendly taxation, regulatory and governance environment and a framework that allows DB schemes to be run by the private sector. This would require extensive oversight; however, this is not new or unfamiliar. In many areas (including insurance and within the current superannuation system), this is already practiced to some degree. The points below are included as areas for further discussion:

- Schemes must be outcome-based (i.e., to generate lifetime annuities set and indexed at a pension-like level). A differentiator between schemes (if they are run in the private sector) is allowing them to use insurance or insurance technology to ensure that minimum defined benefit outcomes are achieved, with scope for improvement based on manager skill
- Benchmarks – based on contributions, time to retirement and investment performance - must be set so that stakeholders know how well their pension is funded (at any time, the percentage of the pension that is funded must be known). Investment managers must meet or exceed the performance specified by this benchmark
- Regulation should focus on governance, best practice, transparency, and risk management. Fees and fee

structures and manager remuneration and reward should all be part of the governance process

- An appropriate risk management framework is vital. To be efficient, schemes can and must take a very long term view. Stakeholders must be diverse across age and social and economic dimensions. Risk-taking is a central factor that can drive up returns if done sensibly. Diversification, including investment in long term assets such as solar farms, infrastructure, and early-stage businesses for example should be mandated. Short term volatility should not be a detractor to position-taking (as long as this is understood). Whilst valuation is important, the effect of daily mark to market can impact investment decision making (imagine if the value of your house was prominently displayed daily, and your creditworthiness altered in line with it). Many investment vehicles (including Australia’s own Future Fund) manage to similar metrics, with positive outcomes
- Like private health insurance, members should have the ability to choose or switch schemes. A regulated transfer arrangement will be required so that the current value of contributions moves with members (including standard transfer mechanisms to preserve the benefits of pooling and to ensure that excessive churning and inter-fund arbitrages are not possible). Success and failure must become visible and ensure that minimum standards are met.
- Technology, data analysis, and understanding the dynamics of stakeholders (in the population) are vital. Australia has a well-developed and sophisticated asset management industry. Focus on enabling it to meet the challenges that these changes will be necessary

Properly implemented and regulated, the outcome will be a more efficient system with a better outcome for retirees at a lower cost to the Government. This is extremely complex. A danger is that it becomes a mechanism to introduce excessive or obfuscated risk-taking and introduce high levels of unnecessary bureaucracy. Ensuring that there is a rigorous path to implement true long term pooled investing with a clear objective, will ensure that a universal pension system can succeed.

This still requires much discussion, testing, and needs to be proven or contested.

6 Conclusions:

The existing Australian retirement framework contains several gaps and anomalies, for which there is no easy solution. Guaranteeing all Australians a basic pension without the current means tests creates a simpler system with fewer anomalies. Using a level of Government funding and streaming super contributions into DB and DC schemes would result in a system where this universal pension is possible. The need to set thresholds, rules, and make tests would be eliminated. Rational behaviour would be encouraged in a system that is simpler to implement and administer and more difficult to abuse than the current. It would be structured to reduce reliance on the government and enable Australians to retire in comfort, with the security of a lifetime income stream equivalent to the current pension as a minimum.

However, the proper planning and implementation of such a system requires

further detailed analysis, including how it should be run (privately or publicly); the regulatory and governance framework; how it affects the income distribution of retirees compared to the existing system; whether it is actually more efficient; how couples and singles should be treated; should it incorporate health care and other benefits; are certain assets (such as the family home) exempt as in the current system and more. This white paper lays out some of the well-known pitfalls of the current system and proposes just one alternative. This is only the beginning of a process of extensive discussion, quantitative and qualitative research to begin to address these issues and to work towards contributing to a solution.

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Appendix A:

There are still kinks, but they are less severe. Comparing the current system with the proposed DB system

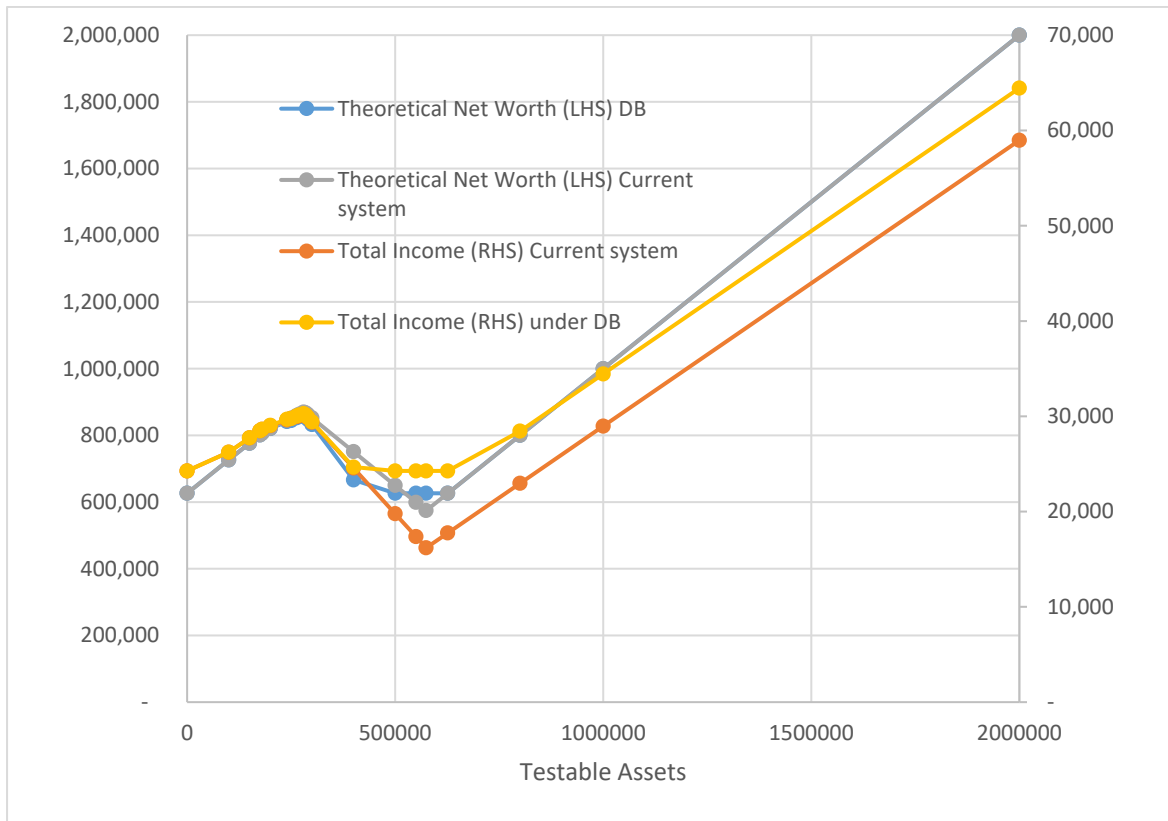


Figure A1: Comparing the income stream and theoretical net worth of a retiree under the current system with the proposed DB system

The income stream and theoretical net worth of a retiree under the current system is compared with the system proposed in the paper above. In the latter, retirees apportion part of their retirement savings into a defined benefit (DB) scheme and the rest into a defined contribution (DC) superannuation account. The full value of the DB scheme is assumed at \$626,302 (as shown above). To the degree that this amount is not funded, the Government is assumed to make up any shortfall (in lieu of funding the pension as they do currently). There is much scope for allocating savings across the DB and DC schemes. For this paper, we use a simplified approach, which ensures that retirees are at the very least not worse off

than they would be under the current scheme and that the fiscal burden on the Government does not increase (as much as can be determined). The actual pattern of contributions has been chosen to fit these assumptions, rather than to produce an optimal outcome (if such is possible). In our model, only retirees, with assets above the level the asset test kicks in, contribute to the DB scheme. This allows the current assets test base to be reproduced before any pension is funded. We have also assumed that the draw-down rate over time is zero (which means that all income is completely from investment returns plus the pension) and that investment returns are at prescribed deeming rates, rather than real-world returns (which can vary widely

and are uncertain). Because there is no pension tapering, each dollar earned by a retiree accrues to that retiree without reducing their pension (in the current system, the pension would taper within certain income bands). From the figure, we observe that as testable assets increase, there are still kinks in Theoretical Net Worth and income under both the current and the proposed DB schemes. However, for the latter, they are less severe, meaning an overall better outcome. To reiterate: This is all part of a simplified model – designed to illustrate the benefit of a universal pension, funded by allocating savings into a DB scheme. It has not been tuned to produce the optimum

methodology for such allocations (which will require extensive further work). In a real-world situation, there is also scope to use best practice pooled investment management practices, while modelling using real returns, aimed to reduce the cost of funding a universal pension. The ultimate cost should be (substantially) less than what has been assumed here. Allocating retirement savings more optimally between DB and DC schemes will further smooth or ultimately remove the kinks in the system, aiming to make the relationship between savings and net worth at retirement linear with a reduced cost to the Government. This work is beyond the scope of the current paper

Further information

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