For Richer, For Poorer

Retirement Incomes

The Actuaries Institute believes the strength of the retirement incomes system is a vital public policy issue and one where the Institute can provide material insight and an independent voice. The Institute's contribution to the longevity debate included a September 2012 White Paper *Australia's Longevity Tsunami – What Should We Do?* The Institute has long been a strong advocate for tackling the longevity risk issue.

In this White Paper we seek to understand whether the retirement incomes system can provide adequate retirement incomes for a broad range of retirees whilst ensuring the system's sustainability.

About the Actuaries Institute

The Actuaries Institute is the sole professional body for Actuaries in Australia. The Institute provides expert comment on public policy issues where there is uncertainty of future financial outcomes.

Actuaries have a reputation for a high level of technical financial expertise and integrity. They apply their risk management expertise to allocate capital efficiently, identify and mitigate emerging risks and to help maintain system integrity across multiple segments of the financial and other sectors. This unrivalled expertise enables the profession to comment on a wide range of issues including retirement income policy, enterprise risk management and prudential regulation, finance and investment, general insurance, life insurance, health financing, and climate change.

This White Paper was commissioned by the Actuaries Institute and prepared by Rice Warner.

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Overview

This paper stresses that policymakers need to fundamentally agree on what the objectives of the superannuation system should be.

In 2012 the Actuaries Institute published its ground-breaking report *'Australia's Longevity Tsunami – What Should We Do?'* which identified major financial implications for governments and individuals ignoring significant increases in life expectancy.

This new report *'For Richer, For Poorer – Retirement Incomes'* is a unique assessment of the superannuation system, comparing the nature and quantum of future retirement incomes of those belonging to different wealth and generational groups. This raises important questions; is the system working? What is it for – to build a nest egg or provide an income stream? Should that stream provide a modest or comfortable living standard? How will future generations fare after saving for their retirement and also paying for the Age Pensions of the baby boomers?

We can only really gauge answers to these questions when we have an agreed set of superannuation objectives enshrined in legislation – currently they do not exist. This is a fundamental requirement – unless we know what the system is meant to deliver we cannot efficiently integrate its various components; taxation concessions, age pension, superannuation savings and home equity, to drive desired outcomes.

This research concludes that our superannuation system is generally working but will not deliver a comfortable retirement lifestyle for all groups. Many current retirees were covered by superannuation for only a limited part of their working life and have accumulated most of their wealth through equity in the family home. Future generations of retirees will have a different wealth profile including a greater superannuation component. Regardless of those differences, the Age Pension will continue to underpin the lifestyle of retirees.

Key Findings

1. In the main, the superannuation system is doing what it was designed to do. It is accumulating assets to fund adequate retirement incomes and is reducing dependence on the Age Pension.

2. However, the least wealthy sections of the community, both now and in the future, will continue to be entirely dependent on the Age Pension to maintain even a modest lifestyle. The younger cohorts will be marginally better off when they reach retirement because of the Superannuation Guarantee.

3. The average taxpayer subsidy paid via the Age Pension will reduce for future retirees because of the Superannuation Guarantee.

4. As a result, even though the proportion of people who have access to at least a part Age Pension will not reduce significantly, the level of the part Age Pension per individual will reduce. This reduction in individual pension payments will partly offset the rise in the overall future cost of the Age Pension to taxpayers.

5. Older cohorts (current retirees) may need to access their home equity to supplement their retirement income, especially for those who live past life expectancy.

6. **Superannuation will remain an important supplement to the Age Pension for most people.**

Given the disparity of retirement outcomes for various cohorts we offer some guiding principles for superannuation policy and highlight several policy options for Government to consider on how to close the retirement income gap and improve system resilience, such as; changing assets and means testing arrangements for the age pension including the treatment of the family home, reforming superannuation tax concessions, encouraging later retirement and taxing bequests. These are vital considerations and we urge government to begin the important process of developing the objectives for our 21st century retirement income system.

Executive Summary

THE AUSTRALIAN SUPERANNUATION SYSTEM

Australia has a highly regarded retirement system, based on three pillars:

► a means-tested unfunded Age Pension paid by the Federal Government;

► mandatory employer superannuation guarantee (SG) contributions; and

► voluntary additional contributions (including those supported by tax incentives.)

Most members have defined contribution accounts so they bear their own investment risks. All superannuation accounts have full vesting of benefits and most members have full portability and have the option to move to another fund or start up their own self-managed superannuation fund (SMSF).

It is the Institute's belief that the population is confused about the value of superannuation, due to its complexity and the regular changes to legislation and/or tax rules made over the last 30 years.

The community knows that superannuation[1] is good but people don't generally engage with their superannuation until they are older (typically from age 50) and/or they have a significant account balance (e.g. $250,000 or more). As the rules around Age Pension eligibility, tax and superannuation are complicated to follow, it is often important that members approaching retirement seek advice on their options.

Now that the baby-boomers have begun to retire, the cost of providing the Age Pension has grown to become 10% of all government expenditure. It now exceeds $41 billion a year and is expected to grow to $50 billion within four years. The costs will keep growing due to the increasing amount of the population living at advanced ages and the increasing average length of retirement. The end of large government surpluses has made this generational issue more topical.

Consequently, Government superannuation policy has been to encourage higher levels of self-provision in retirement through the SG contributions coupled with incentives for voluntary additional contributions. Treasury estimates that the various tax concessions and other incentives provided within superannuation are worth about $32 billion a year. While the government believes this figure is overstated (ASFA estimate it at $16 billion a year), it nevertheless remains one of the largest tax incentives within the Federal Budget and many question whether the incentives are targeted efficiently or equitably.

There is an ongoing tension between the adequacy of retirement incomes and the sustainability of the system.

To understand how this tension can be reduced it is necessary to look beyond top down policy calculations and examine the projected experience of each cohort within the population. This helps us identify

[1]   2013 Towers Watson member engagement survey

whether the system is efficient, whether it disadvantages some cohorts and what policy actions are necessary to align retirement provision with sustainable costs.

Unlike the older cohorts, younger cohorts will have saved for their retirement throughout their whole working lifetime. Comparing different wealth groups also enables us to consider what should be the reasonable objectives of a retirement income system.

RETIREMENT STANDARDS

This paper begins the task of investigating the reasonable objectives of a retirement system by examining the relative financial positions of various cohorts of the population (separated by income and by generation) at retirement. It contrasts the likely experience of different cohorts to identify the risks and possible solutions to Australia's retirement income challenge.

It is broadly accepted that the top decile of retirees by income or wealth is likely to be substantially self-funded in retirement.

By contrast, the bottom two or three deciles are likely to be substantially dependent on social security. What remains largely unknown is how comfortable the financial position of those members lying between these two extremes will be.

In this paper, we review the finances of all deciles within generational cohorts. This leads us to consider what potential retirement solutions might be suitable for each group.

This paper begins the task of investigating the reasonable objectives of a retirement system by examining the relative financial positions of variously identified cohorts of the population.

INTERGENERATIONAL WEALTH

Financial positions

Graph 1 and Graph 2 show the estimated wealth at age 65, for couples who are currently 30 and 60 years old with wealth at the 5th, 25th, 50th (median), 75th and 95th percentiles of the population. (These terms are explained in Appendix H and it is important to note all these results are based on current conditions and rules e.g. means test, pension indexation etc.)

Graph 1. Projected wealth at age 65 (current dollars) – couples of median wealth and below
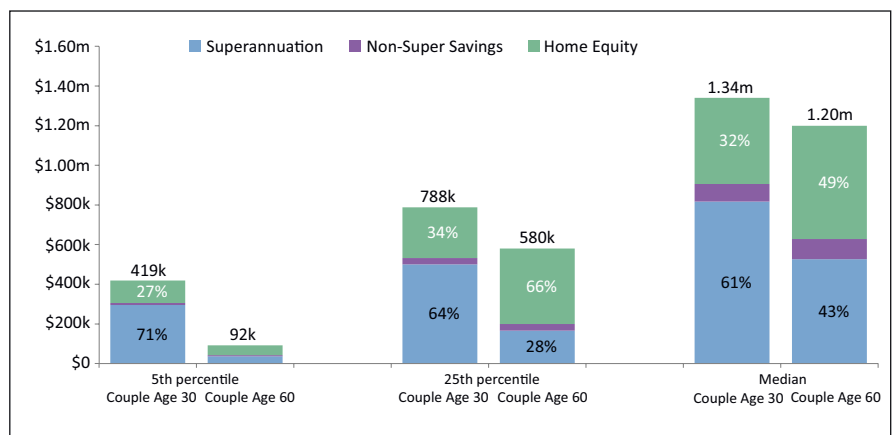
Graph 2. Projected wealth at age 65 (current dollars) – couples of median wealth and above
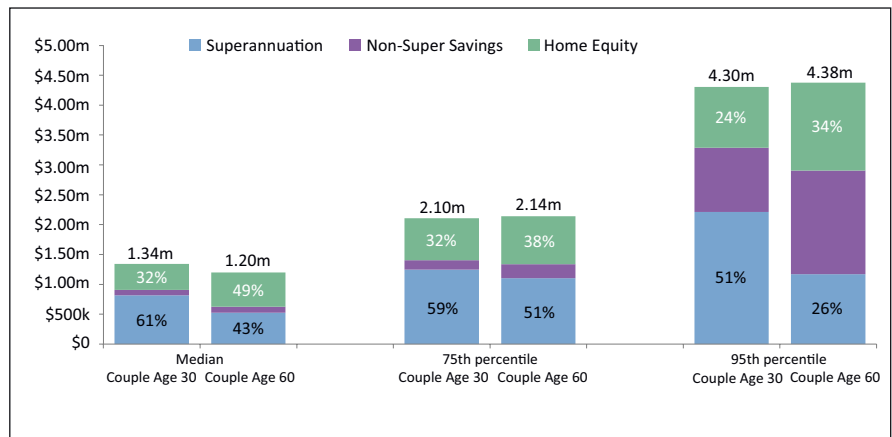
These results indicate that:

- There is a more than 10-fold difference in the expected retirement wealth between the lowest and highest wealth groups. This arises because super and savings are earnings related and the more you earn, the more you save.

[2] The impact on housing equity should however be considered in the context of the modelling methodology which is discussed in detail in Section 4.2.3. In particular transfer of housing equity between the older and younger cohorts via bequests has not been considered.

- The older cohorts have a high proportion of assets in home equity. This suggests policymakers could consider how this cohort could use that equity to meet the costs of consumption and aged care – especially if they live past their life expectancy.

- The retirement incomes of the younger generations will also reflect their working income patterns but they are expected to have higher superannuation savings and less home equity[2].

- For households in the median wealth groups and below, the younger cohorts will be in a better financial position at retirement as compared to the older cohorts, mainly due to higher superannuation savings. On the other hand, younger households in the above-median wealth groups will potentially have lower total wealth due to lower housing assets (refer to our comments below).

HOUSING

The housing wealth for the younger cohort at retirement is lower than for the older cohort. These results are dependent on and sensitive to the assumptions made in the model and are discussed in detail in Section 2.2.3.

Older cohorts are already the beneficiaries of housing transfers from their parents. Improving longevity is delaying the subsequent transfers to younger generations and is contributing in part to the higher value of housing wealth for older cohorts.

At some point, current property holders may pass their homes to younger cohorts, but this transfer has not been taken into account when projecting the housing wealth of the younger cohorts because of the lack of reliable statistics. Housing assets at retirement have been determined by projecting current housing assets plus the accumulated value of savings devoted to housing (see section 2.2.3).

The value of housing assets at retirement for the younger cohorts is therefore likely to be higher than projected once transfers have occurred.

Retirement Income by cohort

Graph 3 shows the expected income to life expectancy for the 30 year old and 60 year old cohorts with household wealth at the 5th, 25th, 50th, 75th and 95th percentiles of the population. The income is broken down into the element that will be derived from personal savings (superannuation and other non-housing assets) and the Age Pension. These incomes are compared to the ASFA Moderate and Comfortable household income standards (described in Appendix G). These standards are based on home owners. Rents can increase expenditure for low income couples by up to 30% so renters (who are quite likely to also be represented in the lower deciles of total wealth) require higher incomes for the same level of retirement adequacy. If one of the objectives of retirees is to maintain their pre-retirement living standards, individuals may need to consider relative standards i.e. income replacement rates rather than absolute ASFA standards.

These retirement income projections give us the best estimate for the group as a whole but individuals have to consider their individual mortality risk. Those reaching the age of life expectancy would be expected to extinguish their assets at that point and be wholly dependent on the Age Pension thereafter, unless some of their assets are allocated to an insurance or longevity pooling product. Alternatively, assets can be maintained for longer if drawings are reduced. Appendix E shows the reductions in incomes required for assets to last for longer lives.

VALUE OF THE AGE PENSION

For people retiring today aged 65, the value of the Age Pension is equivalent to a capital sum of $816,000 for couples, $419,000 for a single male and $482,000 for a single female. (Appendix D)

Graph 3. Estimated annual income to life expectancy (current dollars) - couples
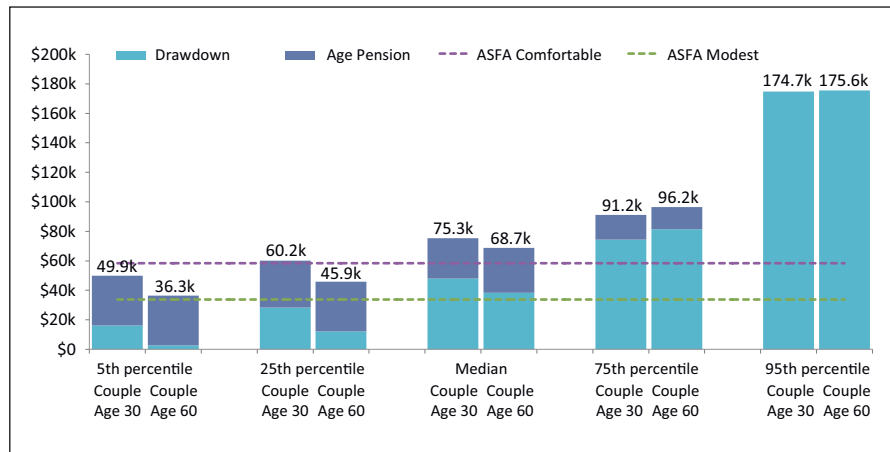
These results indicate that:

- The combination of the Three Pillars (Age Pension, Compulsory (SG) Super and voluntary contributions) is necessary to provide an equitable outcome across the population. The Age Pension is the foundation and the other pillars are used to substitute the Age Pension for the wealthier segments and to supplement it for the poorer segments.

Wealthier – 75th percentile and higher

- The 95th percentile households do not and will not receive any subsidy from the Age Pension and can support a retirement income well in excess of the ASFA Comfortable standard.

- Couple households at the 75th socio-economic percentile are expected to have enough savings to maintain a lifestyle in excess of the ASFA Comfortable living standard until life expectancy even without the support of the Age Pension which they receive under current rules.

- These 75th percentile and higher groups are likely to have income requirements in excess of the ASFA Comfortable standard based on their income and standards of living prior to retirement.

Median – 50th percentile

- Median Couple households are expected to maintain a living standard at the ASFA Comfortable level with some support from the Age Pension. The main financial risk for these groups is living past life expectancy and exhausting their assets.

- The younger cohorts are particularly exposed to the public policy risk that social security benefits may be cut, and they might need to pay higher taxes through their working life to support the benefits paid to older cohorts.

Poorer – 25th percentile and lower

- Households at and below the 25th socio-economic percentile are, and will continue to be, largely reliant on the Age Pension. Those in the poorest group rely on the Age Pension to maintain even a modest income.

- The impact of the Superannuation Guarantee is significant for the 5th percentile wealth cohort. The 30 year old cohort will have significantly greater assets at retirement than the 60 year old cohort primarily due to greater superannuation assets. Without the Superannuation Guarantee, the 30 year old cohort is likely to have a similar outcome to the 60 year old cohort.

- The main financial risk for this group is that social security payments might be cut.

The economic environment is unpredictable and results are likely to be variable, therefore a number of key sensitivity scenarios have been considered in this report.

KEY SENSITIVITIES

The potential retirement outcomes presented are for couples, based on a median investment and economic scenario over the periods modelled. However the economic environment is unpredictable and results are likely to be different than projected. The following key sensitivity scenarios have been considered in this report.

- The position of single women is worse than couples against the ASFA standards. Single men fare better than single women - their position is similar to that for couples. The poorer expected outcomes for women are due to a number of factors including lower average incomes, broken employment with fewer years in paid employment. Single women also need to support a retirement income for a longer life expectancy than single men do. Single women who have been divorced or widowed may in some cases be better off due to their share of their partner's assets although divorce can render each partner worse off than they were as a couple. (Section 4.1.2)

- The performance of investment markets has a significant effect on how much super will be accumulated, but the Age Pension provides some insurance against adverse investment outcomes. This means that the taxpayer is exposed to increased expenditure in times of poor investment returns due to the impact on the assets test. It is likely that this could occur at the same time that government revenue is falling due to economic downturns. (Section 4.2.1)

- Delaying retirement improves the financial position of the younger cohort relative to the older cohorts. Delaying retirement by five years is estimated to increase income to life expectancy by about 20%. (Appendix C)

- Reducing the indexing of the Age Pension by removing the link to wages could increase inequalities, as this change would have the greatest impact on the younger and lower wealth cohorts. On the other hand, reforming the Age Pension by changing the means testing would have the greatest impact on higher wealth cohorts and an equivalent effect on the young and the old. (Appendix D)

- Living with reduced expenditure does not guarantee the income will last to the desired age, especially when investment risk is taken into account. Insurance or longevity pooling products can potentially help to better plan for retirement. (Appendix E)

KEY FINDINGS

Through the projection of retirement wealth across different cohorts and socio-economic groups, this research finds that:

- In the main, the superannuation system is doing what it was designed to do. It is accumulating assets to fund adequate retirement income and is reducing dependence on the Age Pension.

- The least wealthy sections of the community, both now and in the future, are entirely dependent on the Age Pension to maintain even a modest lifestyle. The younger cohorts will be better off when they reach retirement because of the Superannuation Guarantee.

- The average taxpayer subsidy paid via the Age Pension will reduce for future retirees because of the Superannuation Guarantee.

- As a result, even though the proportion of people who have access to at least a part Age Pension will not reduce significantly, the level of the part Age Pension per individual will reduce. This reduction in individual pension payments will partly offset the rise in the overall future cost of the Age Pension to taxpayers.

- Older cohorts (current retirees) may need to access their home equity to supplement their retirement income, especially for those who live past life expectancy.

- **Superannuation will be an important supplement to the Age Pension for most people.**

Equitable outcomes

There are pressures on the Government to reduce expenditure. An option the Government may consider is reducing the value of the Age Pension. Several tax concessions, particularly those for members who have attained age 60, were enacted when the government enjoyed fiscal surpluses. Now that we face a lengthy period of Budget deficits, the government may deem it appropriate to consider whether these concessions remain equitable and affordable.

This section analyses some options for reducing the Age Pension recognising the complex interaction that exists between the three pillars. Any change will impact on some or all cohorts either now or in future.

Changes which could be considered include:

- Changing the indexation rules for Age Pension increases from wages to prices would have most impact on the younger and lower wealth cohorts.

- Lowering the means test thresholds would have greater impact on the higher wealth cohorts.

- Including the value of the family home above a reasonable threshold – this would have most impact on middle-income Australians. Older

> Potentially faced with a lengthy period of Budget deficits, the government may deem it appropriate to consider whether previously granted tax concessions remain equitable and affordable.

cohorts have higher housing wealth, but are also dependent on this housing wealth to support their incomes and age care needs in retirement because many have not had enough time to accumulate sufficient superannuation assets.

- Using the current Federal Government Tax Review process to target tax concessions better.

Longevity

Poorer retirees will be protected from longevity via their entitlement to a full Age Pension. This pension will provide them with a modest retirement income. Similarly, wealthier retirees will be able to live comfortably throughout their lives even if they live beyond their life expectancy.

However, the remaining retirees will only sustain their individual asset pool to advanced ages by reducing their incomes (Account Based Pension drawdowns). Access to some form of insurance or longevity pooling would assist retirees to sustain adequate incomes for their lengthening lifetimes. The challenge is in providing an equitable balance of benefits and costs.

For most Australians, allocating some portion of retirement savings into some form of insurance or longevity pool will be needed to ensure adequate retirement incomes for those who live past life expectancy.

CHALLENGES FACED

The financial risks on individual retirees depend on their age and wealth profile. Table 1 presents an overview of the financial risks facing the different age and wealth cohorts.

Table 1. Risks faced by the cohorts

Wealth	Younger Cohorts	Older Cohorts
75th percentile and higher	Dependent on own assets for income so exposed to investment risk on substantial asset holdings.	Dependent on own assets for income so exposed to investment risk on substantial asset holdings.
Around 50th percentile	Dependent on own assets for income so exposed to investment risks and inflation risks. Likely to have lower housing assets because of the increased difficulty to access the housing market and potentially lower future yields on housing assets. Exposed to public policy risk – paying higher taxes to support current retirees while receiving less social security support on their retirement.	Dependent on own assets for income so exposed to investment risks and inflation risk. Significant housing assets, but must be able to release value. Public policy risk of reduced benefits.
25th percentile and lower	Small exposure to investment risks because of modest balances and reliance on Age Pension. Public policy risk of reduced benefits. Significant risk from reduction in indexation of Age Pension.	Little exposure to investment risks because of small balances and significant reliance on Age Pension. Public policy risk of reduced benefits. Smaller risk from reduction in indexation of Age Pension.

MEETING THE CHALLENGES

The Institute believes there are some policy changes that should be considered to improve the system. These include:

- Determining the needs of those in retirement.

- Building higher levels of engagement with members throughout their working careers thereby encouraging higher levels of voluntary savings, whether tax concessional or otherwise.

- Financial Risk Management

    - Encouraging long-term investment strategies whilst dealing with investment risks.

    - Providing insurance or longevity pooling to provide financial protection against longevity.

- Using housing equity as part of the retirement solution, whilst recognising its role in meeting aged care and other unexpected costs such as health costs.

- Public Policy – building a sustainable and equitable retirement income system.

These issues are discussed in Section 4.

Setting appropriate objectives

The Institute supports the recommendation of the Financial System Inquiry (FSI) to have as the primary objective of superannuation:

"To provide income in retirement to substitute or supplement the Age Pension"

To achieve this primary objective we propose some guiding principles for superannuation policy.

The Institute considers that retirement incomes policy should be guided by the following principles:

- Sustainability, including a long-term regulatory outlook focused on providing retirees with a reliable, secure and adequate income flow during retirement.

- Flexibility within regulation to reflect individuals' different retirement income needs and varying capacity to exercise choice.

- Equity, particularly in relation to the combined cost to the taxpayer of the Age Pension and various tax concessions and incentives, as well as inter-generational equity.

- Efficiency, so that the cost to taxpayers is efficiently meeting the core objective of providing adequate retirement incomes.

- Simplicity, particularly in retirement so that, to the extent possible, retirees can optimise their position without having to obtain expensive advice.

- Encouraging competition by ensuring that regulatory frameworks do not unreasonably impede innovation, including an appropriate balance between the social objectives of regulation and the implications for industry including the cost of compliance.

- In implementing any changes to the current retirement incomes system, the Institute is concerned about the retrospective impact of various public policy changes. This impact should also be considered when proposing any changes to the current system.

1. Structure of superannuation

1.1 Three Pillars

The Australian superannuation system is based around mandatory employer contributions with tax incentives for people to contribute more. The modern structure is based on defined contribution arrangements (accumulation benefits).

The system has three pillars:

- A State means-tested unfunded Age Pension currently available from age 65 but increasing to age 67 by 2023, with proposed further increases to age 70 by 2035. Veterans (pensioners who have been in the armed services) receive identical benefits but can access them five years earlier than civilians.

- A mandatory employer Superannuation Guarantee (SG) contribution which is currently 9.5% of wages, and will gradually increase to 12% from July 2025.

- Voluntary additional contributions, some of which may be supported by tax incentives.

The rules for the Age Pension are complex and means testing drives the behaviour of many retired people. The benefit provides a modest safety-net – and is far below the aspirational level of living standards which Australians expect. Those who live on a full Age Pension will almost invariably have a much reduced standard of living relative to their working years.

The rules for the Age Pension are complex and means-testing drives the behaviour of many retired people. The benefit provides a modest safety-net – and is far below the aspirational level of living standards which Australians expect.

1.2 Varied membership

Members of superannuation funds can be grouped into a number of categories.

The majority of members receive SG contributions and their benefits are held in employer funds. Most of these are housed in not-for-profit funds (industry, corporate or public sector) or commercial master trusts. The bulk of these members reside in MySuper-compliant default investment strategies.

The remaining members exercise Super Choice and select a different investment strategy within these funds and a growing number set up their own funds – Self Managed Superannuation Funds (SMSF).

Self-employed people are not subject to the SG contributions but many have 'personal superannuation' which is set up under one of the above Choice arrangements.

Irrespective of the structure, these arrangements have the common theme that all investment risks are borne by members and there are no guarantees as to the benefit paid at retirement.

However, investment strategies in the funds are set by trustees and (apart from members who set up their own SMSF), assets are pooled for members.

While there is still a large number of members with defined benefits (DB), most of these are in funds which are closed to new DB members, and DB now represents about 10% of the assets of funded superannuation

arrangements in Australia. Further, almost all DB funds provide lump sum benefits at a nominated retirement age, in contrast with typical defined benefit designs in markets such as the US, Canada, the UK, Germany and the Netherlands. Despite the guarantees on the lump sum retirement benefit, there is no guaranteed income during the retirement years.

1.3 Size of superannuation marketplace

The superannuation market will continue to grow strongly and future generations will retire with much larger benefits than their parents.

Table 2 sets out the current and projected size of the market. Table 3 is a subset showing the portion of the total market which is in the retirement phase.

Table 2. Total superannuation market (2014 dollars)

| Market segment | Today | | In 5 years | | In 15 years | |
| | 30 June 2014 | | 30 June 2019 | | 30 June 2029 | |
	($M)	(%)	($M)	(%)	($M)	(%)
Not-for-Profit Funds	758,259	41.2	978,834	41.0	1,448,412	39.2
Commercial Funds	521,419	28.3	686,000	28.8	1,191,337	32.2
Self-Managed Super Funds	559,800	30.4	720,238	30.2	1,059,565	28.6
Total superannuation market	**1,839,478**		**2,385,072**		**3,699,315**	

Table 3. Total retirement market (2014 dollars)

| Market segment | Today | | In 5 years | | In 15 years | |
| | 30 June 2014 | | 30 June 2019 | | 30 June 2029 | |
	($M)	(%)	($M)	(%)	($M)	(%)
Not-for-Profit Funds	86,277	14.8	178,211	23.2	412,731	29.3
Commercial Retirement Products	178,253	30.7	209,502	27.3	375,981	26.6
Self-Managed Super Funds	316,870	54.5	380,046	49.5	622,222	44.1
Total retirement market	**581,400**		**767,759**		**1,410,935**	

The number of retirees will grow significantly in future years. Table 4 and Table 5 set out the projected increase in pensioners by gender. These represent retirees who will be drawing superannuation pensions over the next 30 years.

Structure of superannuation

Table 4. Projected Male Retirees (000's)

Age Group	Males			
	2014	**2019**	**2024**	**2029**
55-59	20	79	51	53
60-64	116	224	306	245
65-69	270	242	352	433
70-74	289	352	353	436
75-79	185	283	364	366
80-84	98	148	231	301
85-89	51	64	100	160
90+	22	31	40	63
Total	**1,051**	**1,424**	**1,798**	**2,057**

Table 5. Projected Female Retirees (000's)

Age Group	Females			
	2014	**2019**	**2024**	**2029**
55-59	40	85	99	117
60-64	196	229	317	337
65-69	355	319	372	459
70-74	275	407	397	439
75-79	136	268	403	397
80-84	53	119	236	356
85-89	23	40	90	182
90+	13	17	28	62
Total	**1,092**	**1,483**	**1,943**	**2,350**

All of these results are from the Rice Warner report *Superannuation Market Projections 2014.*

1.4 Retirement behaviour

It is often claimed that Australia is a lump sum society and that retirement benefits are squandered. The FSI Interim Report (July 2014) stated that half of all retirement benefits are taken as a lump sum. The value of retirement benefits taken as lump sums is however less than 20% since members taking a lump sum are largely those who have less than $100,000 and who do not see the advantages of taking a pension.[3]

A significant portion of lump sum benefits are reinvested into bank term deposits (rather than being spent) – that is, it is transferred to a different type of saving rather than being consumed.

It is also often stated that Australians spend their superannuation too quickly and then fall back on the Age Pension. In fact, the average pension payment is only a few percent above the minimum required withdrawals.

Retirees tend to be frugal as they cannot replace their benefit once it has been consumed. A large number of retirees appear to live off the earnings of their fund and they keep back the capital as long as they can. If they were able to insure or pool longevity, they would be able to spend their benefit with more certainty.

3 Rice Warner research on retirement behaviour http://www.ricewarner.com/media/111738/New-analysis-shows-our-%E2%80%98lump-sum-culture%E2%80%99-is-an-exaggeration-Colonial-First-State-Income-Stream-Index-Launched-280415.pdf

1.5 Phases of retirement

Retirement has three distinct phases:

▶   active years;

▶   sedentary years; and

▶   frail years.

These periods are largely based on the health of the individual and the activities at each stage. The active years are much like the last few years of working life. There is more free time with increased expenditure on leisure activities; conversely, there are no longer any work-related expenses.

At some stage, usually between ages 60 to 75 depending on the individual, retirees slow down mentally and physically. They become more passive in their lifestyle and expenditure tends to reduce.

In late life, retirees become frail and have reduced mobility. Many need aged care support and might need to move to a retirement village or nursing home.

The three key phases of retirement mainly relate to retiree health and activity.

2. Intergenerational wealth

In assessing the effectiveness of the retirement incomes system, it is not enough to simply consider the wealth of specific age groups at static points in time. It is also necessary to consider the retirement outcomes for each group and the differences between the wealthier and less wealthy segments of the population.

Our approach has been to subdivide the population into cohorts according to age, gender and wealth. The details are given in Appendix A. The financial position of each cohort is projected to retirement and their potential retirement incomes are then determined and compared.

2.1 Financial Positions of various cohorts

We have projected retirement wealth and incomes for cohorts based on quinquennial age groups and deciles of wealth (these terms are explained in Appendix H).The projection takes into account the variability of investment returns and improving longevity.

The Age Pension is taken into account according to current rules and retirement has been assumed to occur at age 65. The Age Pension is discussed in more detail in Appendix D and provides an underpinning to the incomes generated from private wealth. The value of the Age Pension is equivalent to a capital sum of $816,000 for couples, $419,000 for a single male and $482,000 for a single female.

Wealth is considered under three headings:

•   Superannuation.

•   Non-superannuation savings/investment which includes the value of any investment property, financial assets etc.

•   Home equity which is the value of the personal dwelling.

The projected values are discounted for wage inflation to current day dollars (See Appendix A). This provides a better comparison against lifestyle than discounting at cost inflation. The position of couples is considered because around 75% of people reaching retirement are part of a couple. The couples are assumed to be of the same age.

The impacts of variations in these assumptions are presented in later sections.

Firstly we consider the wealth that the cohorts can be expected to have accumulated by the time of retirement at age 65. Graph 4 shows the results for 30 and 60 year old couples with wealth at the 5th, 25th and 50th (median) percentiles. Graph 5 shows the results for 30 and 60 year old couples with wealth at the 50th, 75th and 95th percentiles. As would be expected modelling results for the other cohorts between these ages fall between these results.

Intergenerational wealth CONTINUED

Graph 4. Projected wealth at age 65 (current dollars) – couples of median wealth and below
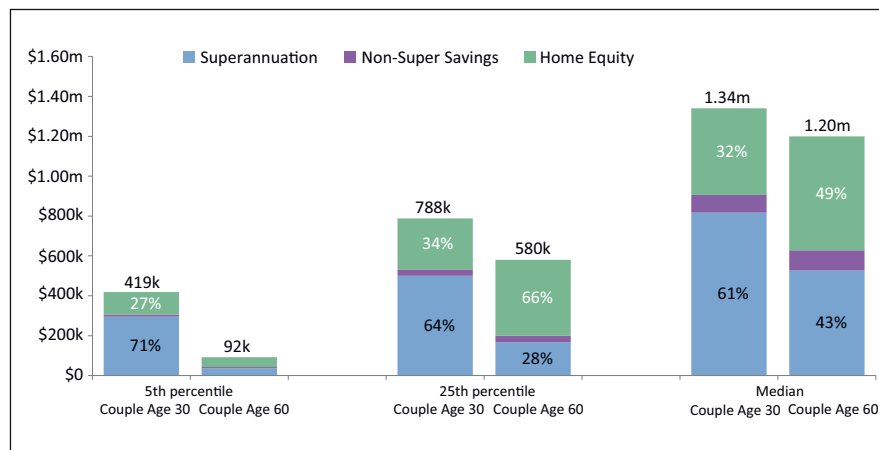
Graph 5. Projected wealth at age 65 (current dollars) – couples of median wealth and above
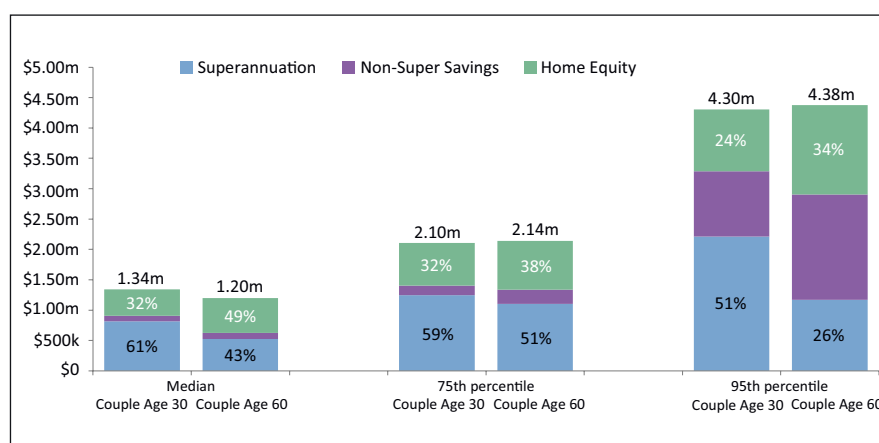
The results show that:

- The younger cohorts will generally be expected to have lower value in their own homes at retirement. This is due to the proportion of savings directed to housing and also due to lower expected increases in house values over the period to retirement. (See Section 2.2.3 for more details.)

  – Older cohorts have experienced a doubling of the real value of their home equity over the last twenty years[4] due to reduced interest rates and continuing excess of demand over supply in Australian capital cities. Interest rates are now at historic lows and there is little capacity to drive higher house prices via lowering interest rates.

Intergenerational wealth

- Older cohorts have also already been the beneficiaries of the transfer of housing assets from their parents and grandparents via bequests. The younger cohorts have not yet benefited from these transfers and the model does not explicitly allow for them, although it can be expected that some transfer would be expected which will increase their total wealth.

- Younger cohorts with median or lower wealth can expect to be better off at retirement than the older cohorts. This is primarily due to the accumulation of greater superannuation savings over a working life. The older cohorts with median and lower wealth did not participate in superannuation until much later in their working lives and have therefore had less ability to accumulate superannuation benefits.

- For the wealthier groups, there is a smaller increase in superannuation assets at retirement between the cohorts compared to the less wealthy households, because these wealthier groups have traditionally participated in superannuation and made high voluntary superannuation contributions.

  The 95th percentile group presents as an anomaly. Graph 5 shows an unexpectedly low proportion of superannuation assets for the 60 year old cohort. The cause is unclear, but is possibly due to the misclassification of SMSF assets as private trust assets in the data used.

- For the younger, wealthier cohorts, this smaller increase in superannuation is offset by reductions in non-superannuation savings and lower home values with the result that their total wealth at retirement is little changed.

The expectations of those at the extremes are very different:

- There is a more than 10 fold difference in the expected retirement wealth between the lowest and highest wealth groups. This arises because super and savings are earnings related and the more you earn the more you save.

- The impact of the Superannuation Guarantee is signficant for the 5th percentile wealth cohort. The 30 year old cohort will have significantly greater assets at retirement than the 60 year old cohort primarily due to greater superannuation assets. Without the Superannuation Guarantee, the 30 year old cohort is likely to have a similar outcome to the 60 year old cohort.

- The wealthiest cohorts accumulate significant assets outside superannuation. The 30 year old cohort is expected to have higher non-housing assets with the increase being primarily due to an increase in superannuation assets.

Intergenerational wealth

2.1.1 Retirement income

The accumulated wealth provides the basis for retirement incomes. Graph 6 shows the level of income in current day dollars that could be derived from the investment assets (i.e. excluding the personal dwelling) for life expectancy at retirement. Age Pension entitlements are averaged over life expectancy. These entitlements are generally lowest at the point of retirement and increase over time as available assets reduce due to draw downs.

The income is compared to the *ASFA Retirement Standard* which is described in more detail in Appendix G. The ASFA standards estimate the income required to support a 'Modest' lifestyle and a 'Comfortable' lifestyle for both singles and couples.

Graph 6. Estimated annual income to life expectancy (current dollars) – couples
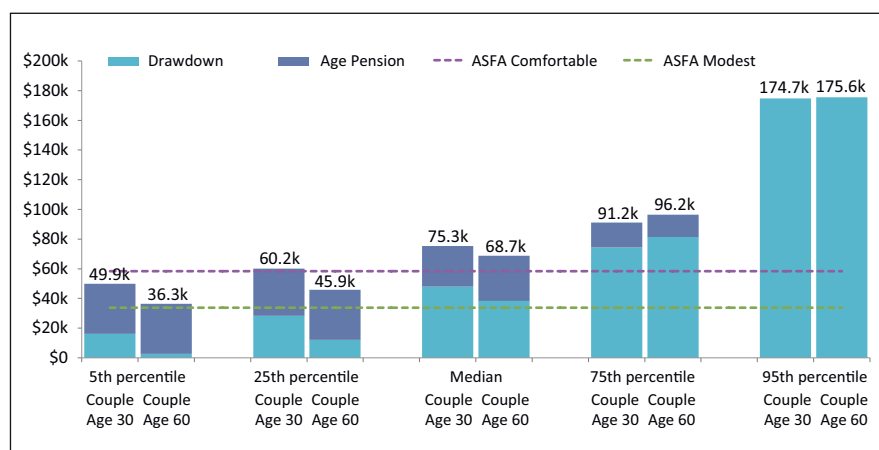
> **Currently, the superannuation system is performing its function of improving retirement incomes and reducing individual dependence on the Age Pension over time.**

An overall assessment of these results shows that:

- The superannuation system is performing its function of improving retirement incomes and reducing individual dependence on the Age Pension over time.

- The average subsidy to retirees via the Age Pension will reduce for the median and lower wealth cohorts. This is primarily due to their greater superannuation assets and the application of the means test which reduces the Age Pension by $0.50 for every $1.00 of deemed income above the threshold.

- The reduction in Age Pension entitlements for these cohorts at the point of retirement is even greater, but this is compensated for by partial and full Age Pensions needing to be paid for longer periods later in life because of increased life expectancy.

- The differences in incomes in retirement between the age cohorts are smaller than the differences in non-housing assets at retirement because of the Age Pension. The Age Pension is therefore effective at

equalising incomes in retirement despite significant differences in pre-retirement assets.

- Most retirees can be expected to achieve at least a *modest* income in retirement because of the Age Pension with the younger cohorts expected to have higher incomes.

  The median and higher wealth cohorts can be expected to achieve a *comfortable* income or better in retirement.

For the median and lower wealth cohorts we can see that:

- The younger cohorts will be better off because the increase in superannuation benefits is not fully offset by reductions in the Age Pension.

- The lowest wealth cohorts are entirely dependent on the Age Pension to maintain even a modest lifestyle. This is particularly true for the 60 year old cohort which, even with the Age Pension, can only expect a modest lifestyle. The 30 year old cohort will be better off, but will still not reach the *comfortable* standard.

  The ASFA Standards are determined for couples owning their own home. The 5th percentile wealth cohort, however, has very low levels of home ownership (Section 2.2.3). They are therefore likely to have expenditure requirements in excess of the ASFA Standards and have difficulty maintaining a Modest lifestyle (Appendix G). This is particularly the case for the 60 year old cohort.

For the above median wealth groups we see that:

- The position of these groups is little changed, but there is a small reduction in expected income for the younger cohort due to reduced average income from superannuation assets. This reduction occurs because, although there is a small increase in non-housing assets at retirement, these are needed to fund an income for a longer life expectancy.

- The 95th percentile wealth cohorts do not and will not need or receive any support from the Age Pension. Their expected retirement incomes are well in excess of the *comfortable* standard, but for these cohorts the *comfortable* standard would represent a reduction in living standard.

- The 75th percentile wealth cohorts are able to maintain a *comfortable* lifestyle without the Age Pension, but will, in general, receive at least a part Age Pension.

- Neither the younger nor older 75th percentile wealth cohorts will be entitled to an Age Pension at retirement, but they will attract at least partial Age Pensions later in life. The average amount payable over life expectancy will be little changed.

> **The lowest wealth cohorts are entirely dependent on the Age Pension to maintain even a modest lifestyle.**

Intergenerational wealth

2.1.2 Single households

Those reaching retirement as singles are in a slightly different position. 'Singles' are those living in a single person household at retirement. They may have previously been married. This is equivalent to the definition used for the Age Pension. Graph 7 shows the level of income (in current day dollars) that could be derived from the investment assets (i.e. excluding the personal dwelling) for life expectancy from retirement for single men and women. The ASFA retirement standards illustrated are those applicable to singles.

Graph 7. Estimated annual income to life expectancy (current dollars) – singles
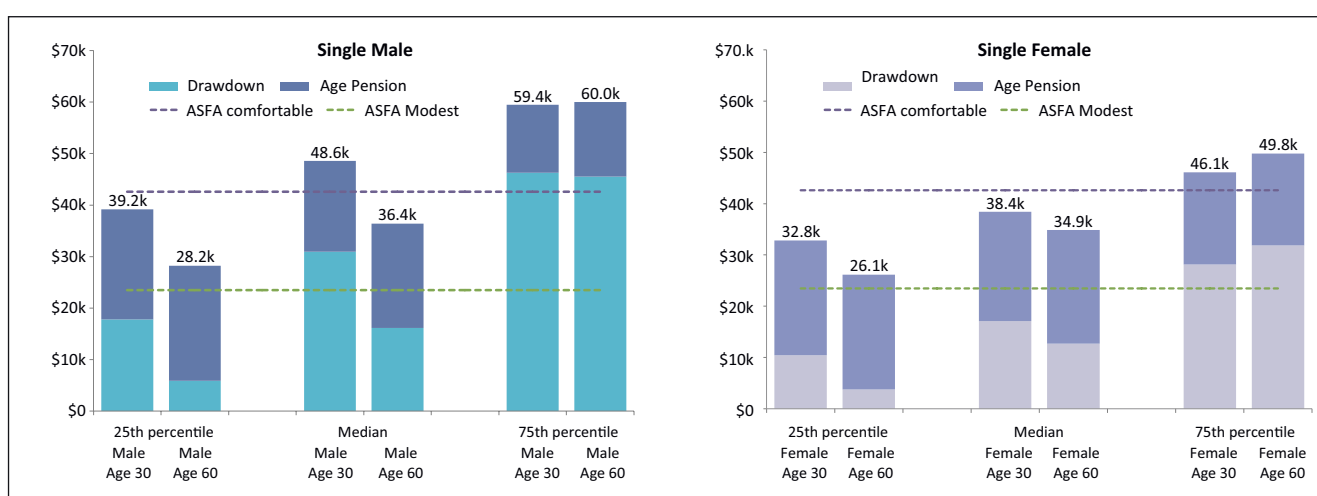
These relative outcomes for the cohorts are similar to those for couples, but also show that:

- The position of single women is worse than couples against the ASFA standards.

- Single men fare better than single women and their position against the ASFA standards is similar to that for couples.

These poorer expected outcomes for women are due to a number of factors including lower average incomes and broken employment with fewer years in paid employment. Single women also need to support a retirement income for a longer life expectancy than single men do.

Women who reach retirement as single because of the death of their partner will in general be better off than these results indicate because they can be expected to have benefited from their partner's accumulated superannuation. Their financial position can be expected to be between that shown for females in Graph 7 and that for couples.

Women who reach retirement as single because of divorce may in some cases be better off due to their share of their partner's accumulated superannuation. This benefit may, however, be reduced by settlements related to other assets and to the provision of maintenance.

Intergenerational wealth

2.2 Variability in results

The potential retirement outcomes presented in Section 2.1 are based on a median investment and economic scenario over the periods modelled. However the economic environment is ever changing and the median results may not be achieved.

2.2.1 Scenario with stressed investment outcome

We have modelled a large number of investment scenarios using the approach described in Appendix A. We now consider the outcomes for couples if investment outcomes are at the 5th percentile of the results produced by our model. This means that there is a 95% probability that the investment outcome would be better than this. Graph 8 shows the asset values that can be expected at retirement with investment outcomes at this level.

Graph 8. Projected wealth at 65 (current dollars) – 5th percentile investment returns

Column totals represent the sum of: Superannuation + Non-Super Savings + Home Equity
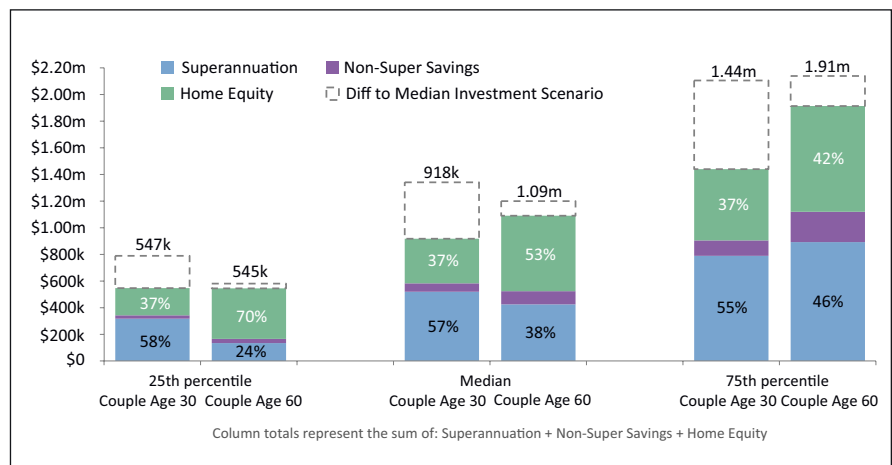
These results show that:

- As expected, the impact of investment outcomes is more pronounced for the younger cohort because of the longer period to the pension phase (the outcomes for the younger cohort are lower by about 30%).

- In comparison the older cohorts are less affected (the outcomes are lower by about 10%).

The investment scenarios that cause the results to be in the 5th percentile are different for the two cohorts. A reduction of this level over the short period for the 60 year old cohort requires a significant, short term negative event like the GFC. A reduction to the 5th percentile for the 30 year old cohort requires sustained underperformance over a long period. In this scenario, Individual, and even multiple, GFC type events over the longer period are compensated for by periods of normal or above normal returns.

The impact on retirement incomes is also significant if we assume the adverse investment return scenario continues into retirement, as is demonstrated in Graph 9.

Graph 9. Estimated annual income to life expectancy (current dollars) – couples – 5th percentile investment returns

Column totals represent the sum of: Drawdown + Age Pension
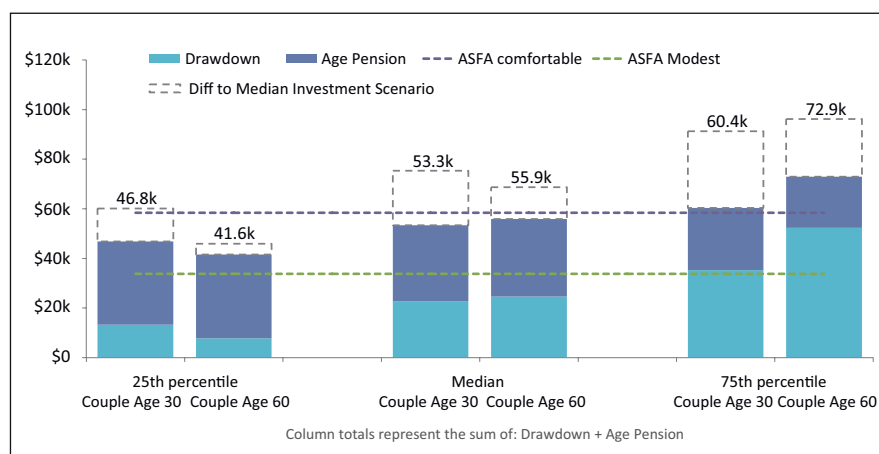
These results show that:

- While investment markets are key in determining how much super will be accumulated, the Age Pension provides some insurance against adverse investment outcomes. This means that the tax payer is exposed to increased expenditure in times of poor investment returns. It is likely that this could occur at the same time that government revenue is falling due to economic downturns.

- Incomes for the younger cohort are reduced by about 29% which is more than for the older cohort (about 19%) due to lower non-housing assets from which to derive an income.

- Even in this poor investment scenario, most people can still be expected to achieve a *modest* income in retirement due to the Age Pension. Higher wealth groups can still be expected to achieve a *comfortable* income in retirement.

- The lower wealth cohorts will receive some compensation from Age Pension increases, but many of them were already entitled to the full Age Pension so the compensation will be modest.

- The higher wealth cohorts on the other hand will receive greater compensation from the Age Pension increases as more become eligible for part and full Age Pensions. These increases, however, will not replace the earnings lost because of the lower value of their non-superannuation assets.

While investment markets are key in determining how much super will be accumulated, the Age Pension provides some insurance against adverse investment outcomes.

Saving outside superannuation may be lower in the future, given the increase in the rate of the compulsory Superannuation Guarantee.

2.2.2 Scenario with lower saving rate

We have assumed the average saving rate of 7.9% of disposable income (in addition to employer contributions to superannuation) as this is the average historical saving rate estimated with ABS data . However, historically household savings rates fluctuate year to year ranging from 0% to 19% and the future savings rate could be different to the historical average for many reasons, including:

- Saving outside superannuation may be lower in the future, given the increase in the rate of the compulsory Superannuation Guarantee.

- Currently high property values could result in lower housing affordability of younger cohorts. This could result in lower home ownership and more renters, hence a lower savings rate through mortgage repayments.

- Higher future taxation levels would reduce disposable incomes.

Graph 10 shows the asset values that can be expected at retirement, assuming a future saving rate of 3.9%, which is half of the level compared to the median scenario.

Graph 10. Projected wealth at 65 (current dollars) – couples – lower saving rate

Column totals represent the sum of: Superannuation + Non-Super Savings + Home Equity
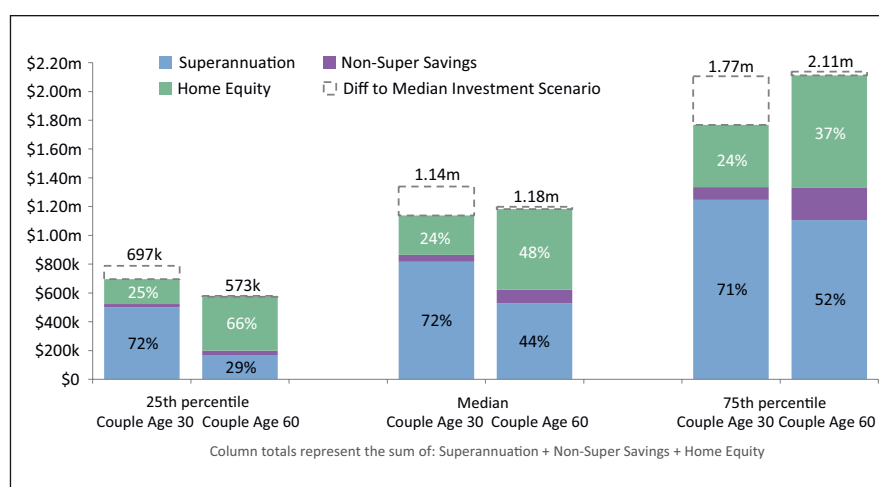
The result shows that:

- As expected, the impact of the reduction in the savings rate is more pronounced for the younger cohort because of the longer period to the pension phase (The outcomes for the younger cohort are lower by about 15%).

- In comparison, the older cohorts are only slightly affected.

Retirement incomes, on the other hand, are less affected, as is demonstrated in Graph 11. The lower savings rate mainly results in lower values of home equity. Superannuation assets are not affected because of compulsory contributions. Income generating assets are therefore not

greatly affected and to the extent that they are, there is a compensating increase in the Age Pension.

Graph 11. Estimated annual income to life expectancy (current dollars) – couples – lower saving rate

Column totals represent the sum of: Drawdown + Age Pension

2.2.3 Owner occupied housing
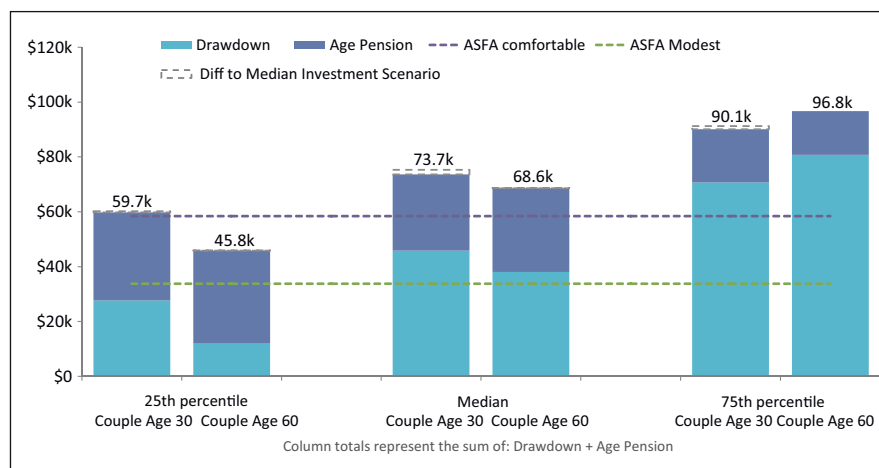
The results for housing wealth for the younger cohort at retirement are lower than those for the older cohort. These results are dependent on and sensitive to the assumptions made in the model.

Estimating the value at retirement of owner occupied dwellings for the older cohorts is relatively simple as the values are based on reliable statistics of existing home ownership. The ABS Survey of Income and Housing shows that at age 65:

- For the 5th percentile wealth group, approximately 10% of couples and 2% of singles own homes.

- For the 25th percentile wealth group, approximately 90% of couples and 65% of singles own homes.

- For the 50th percentile and above at least 95% of couples and 90% of singles own homes.

The housing wealth of the age 60 year old cohort is based on these levels of home ownership.

Projecting housing wealth for the younger cohorts, who are still in the phase of accumulating housing wealth, is more difficult. The model develops the value of housing wealth at retirement from:

- the proportion of savings committed to financing housing; and

- the long term growth rate of the value of housing assets.

The amount of savings committed to housing at the 5th percentile of wealth is very small. At the higher percentiles the proportion of savings devoted to housing is as shown in Table 6.

Table 6. Proportion of savings devoted to housing

Wealth Percentile	Proportion of savings (%)
25	90
50	80
75	60
95	40

Property values are assumed to grow at the wage inflation rate. This is consistent with the long-term earnings assumptions for property assets – which combine both rental and capital growth.

The model makes no explicit assumption regarding the transfer of housing wealth from older to younger cohorts via bequests. These transfers have generally already occurred for the older cohorts and have contributed to their housing wealth. The younger cohorts have generally not yet been the beneficiaries of these transfers so their projected housing wealth at retirement is likely to be an underestimate.

The model also makes no explicit assumption regarding the transfer of housing wealth from older to younger cohorts via purchase. This transfer is implicit in the assumptions related to the savings rate and the proportion related to housing.

Property return is a sensitive assumption so we have also considered the outcome should property values increase at a higher rate. Graph 12 shows the asset values that can be expected at retirement, assuming future property values increase at 1% pa above the wage inflation rate.

The result shows that with the higher property return, the total wealth of young cohorts at retirement can be about 10% higher compared to the base scenario, and they will have similar housing wealth compared to the older cohorts.

This will not affect projected retirement incomes because these are generated from non-housing assets and the family home is exempt from Age Pension means testing.

Graph 12. Projected wealth at 65 (current dollars) – couples – higher property return
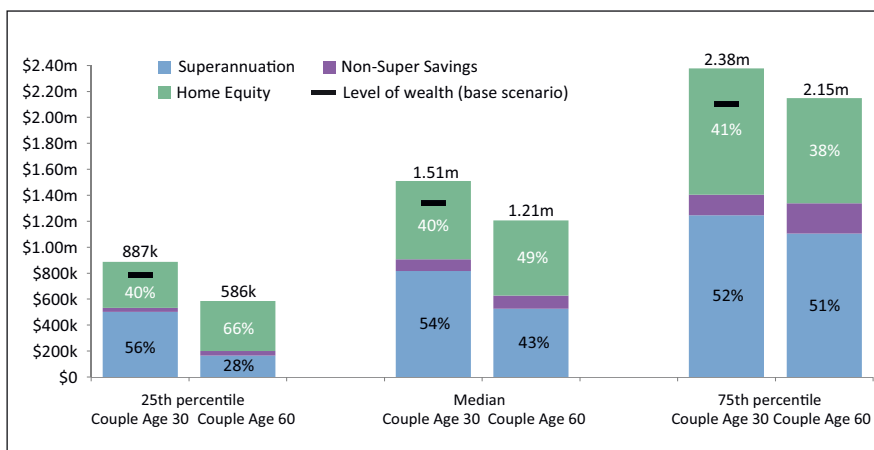
2.3 Comparison across Cohorts and Socio-economic Groups

Couple households with median and higher wealth can be expected to maintain the ASFA Comfortable living standard until life expectancy. They can be expected to maintain this standard of living even in the event of poor investment outcomes assuming a diversified portfolio.

For those households with median wealth, the maintenance of this standard of living is dependent on the receipt of the Age Pension within the current eligibility rules. Those with wealth at the 75th percentile can maintain this standard even without the Age Pension.

The main risk for these groups is the risk of living longer than life expectancy. This risk can only be overcome through insurance or longevity pooling.

Couple households at and below the 25th wealth percentile are, and will continue to be largely reliant on Age Pension payments. With the Age Pension, superannuation and other wealth combined, these groups will maintain a standard of living at or above the ASFA Modest standard of living.

The older cohorts at the 5th percentile of wealth will at best achieve a Modest standard of living. On average, their limited assets will be able to supplement the Age Pension so that they reach the Modest standard. The younger cohorts at the 5th percentile of wealth will do better because of the impact of compulsory superannuation.

The main risk for these households is that social security payments will be reduced in real terms. Appendix D illustrates the impact on the retirement position of various cohorts of different changes in Age Pension policies. A change in indexation of the Age Pension from wages to CPI (as proposed by the current government) would have a bigger impact on the younger and lower wealth groups. For 30 year old couples, the 25th wealth percentile group would experience a decrease of approximately $15,000

> The risk of living longer than life expectancy can be overcome through insurance or longevity pooling.

or 25% in their retirement incomes while the 75th percentile group would experience a decrease of approximately $9,000 or 10% of their retirement incomes. The 60 year old couples would experience very little impact.

A reduction to the eligibility thresholds would have a bigger impact on the higher wealth groups. For 30 year old couples, the 25th wealth percentile group would experience a decrease of approximately $7,000 or 12% of their retirement income while the 75th percentile group would experience a decrease of approximately $16,000 or 18% of their retirement incomes. For 60 year old couples, the 25th wealth percentile group would experience very little impact while the 75th wealth percentile would experience a decrease of approximately $14,000 or 15% or their retirement incomes.

The older cohorts have significant non-income producing assets in the form of personal housing. Access to these assets to produce income for consumption past life expectancy will be important for them. Younger cohorts will face similar issues, but can be expected to have lower savings outside superannuation.

2.4 Key findings and Summary of Positions

Through the projection of retirement wealth across different cohorts and socio-economic groups, this research finds that:

The Superannuation System

- In the main, the superannuation system is doing what it was designed to do. It is accumulating assets to fund adequate retirement incomes and is reducing dependence on the Age Pension.

- The least wealthy sections of the community, both now and in the future, are entirely dependent on the Age Pension to maintain even a modest lifestyle. The younger cohorts will be better off when they reach retirement because of the Superannuation Guarantee.

- Older cohorts (current retirees) may need to access their home equity to supplement their retirement income, especially for those who live past life expectancy.

- The average taxpayer subsidy via the Age Pension for future retirees will reduce because of the Superannuation Guarantee.

- As a result, even though the proportion of people who have access to at least a part Age Pension will not reduce significantly, the level of the part Age Pension per individual will reduce, and the rise in the overall cost to taxpayers will be lower.

- **Superannuation will continue to act as an important supplement to the Age Pension for most people.**

2.4.1 Equitable outcomes

There are pressures on the Government to reduce expenditure. An option the Government may consider is reducing the value of the Age Pension.

Intergenerational wealth

Any change towards improving the government's fiscal position will impact on some or all cohorts either now or in future.

Several tax concessions, particularly those for members who have attained age 60, were enacted when the government enjoyed fiscal surpluses. Now that we face a lengthy period of Budget deficits, the government may deem it appropriate to consider whether these concessions remain equitable and affordable.

This section analyses some options for reducing the Age Pension recognising the complex interaction that exists between the three pillars. Any change will impact on some or all cohorts either now or in future.

The Age Pension is the foundation and the other pillars are used to substitute it for the wealthier segments and to supplement it for the poorer segments. The present value of a full Age Pension for someone retiring today at age 65 is $418,594 for a single male, $481,982 for a single female and $815,877 for a couple.

Changes which could be considered include:

- Changing the indexation rules for Age Pension increases from wages to prices would have most impact on the younger and lower wealth cohorts.

- Lowering the cost of the Age Pension by lowering the means test thresholds would have greater impact on the higher wealth cohorts.

- Including the value of the family home above a reasonable threshold – this would have most impact on middle-income Australians. Older cohorts have higher housing wealth, but are also dependent on this housing wealth to support their incomes and age care needs in retirement because many have not had enough time to accumulate sufficient superannuation assets.

- Using the current Federal Government Tax review process to target tax concessions better.

2.4.2 Longevity

Poorer retirees will be protected from longevity via their entitlement to a full Age Pension. This will provide them with a modest retirement income. Similarly, wealthy retirees will be able to live comfortable throughout their life even if they live beyond their life expectancy.

However, the remaining retirees will only sustain their individual asset pool to advanced ages by reducing their incomes (pension drawdowns). Access to some form of insurance or longevity pooling will be necessary if they are to sustain adequate incomes for their expanding lifetimes. The challenge is in providing an equitable balance of benefits and costs.

For most Australians, allocating some portion of retirement savings into some form of insurance or longevity pool will be needed to ensure adequate retirement incomes for those that live past life expectancy.

3. Challenges faced by different cohorts

The risks depend on the age and wealth profile being considered. Table 7 presents an overview of the retirement positions and Table 8 presents the risks facing the different age and wealth cohorts:

Table 7. Summary of retirement positions

Wealth	Younger Cohorts	Older Cohorts
75th percentile and higher	Sufficient resources. Will be able to sustain a Comfortable income in retirement, but will generally have aspirations above the Comfortable standard based on income levels prior to retirement.	Sufficient resources. Will be able to sustain a Comfortable income in retirement, but will generally have aspirations above the Comfortable standard based on income levels prior to retirement.
Around 50th percentile	Can sustain Comfortable income for life expectancy. The main risk is dealing with longevity, health and other personal risks. Greater superannuation assets. Lower housing and non-superannuation assets. Longer life expectancy for which to provide an income.	Can maintain Comfortable income for life expectancy. The main risk is dealing with longevity, health and other personal risks. Lower superannuation and other non-housing assets. Significant housing assets. Shorter life expectancy, but still lengthening.
25th percentile and lower	Heavily dependent on Age Pension. Modest assets to supplement Age Pension. Can expect income between Modest and Comfortable.	Entirely dependent on Age Pension. Virtually no assets to supplement Age Pension. Can expect Modest Income at best.

Table 8. Risks for the cohorts

Wealth	Younger Cohorts	Older Cohorts
75th percentile and higher	Exposed to investment risk on substantial asset holdings.	Exposed to investment risk on substantial asset holdings.
Around 50th percentile	Dependent on own assets for income so exposed to longevity risk, investment risks and inflation risks. Likely to have lower housing assets because of access and potential future yields. Public policy risk of higher taxes to support current retirees while receiving less social security support when they retire.	Dependent on own assets for income so exposed to longevity risk, investment risks and inflation risk. Significant housing assets, but must be able to release value. Public policy risk of reduced benefits.
25th percentile and lower	Small exposure to investment risks because of modest balances and reliance on Age Pension. Public policy risk of reduced benefits. Significant risk from reduction in indexation of Age Pension.	Little exposure to investment risks because of small balances and significant reliance on Age Pension. Public policy risk of reduced benefits. Smaller risk from reduction in indexation of Age Pension.

Challenges faced by different cohorts

When considering these risks there are a number of other factors and risks that should also be borne in mind:

- People in the low income / low wealth cohorts have lower saving rates due to their low disposable incomes which make it very difficult for them to advance themselves out of dependency on the social security system.

- The majority of personal savings outside superannuation goes to residential property/investment property. These assets will need to be released to support retirement incomes.

- How significant will be the offsetting of savings inside and outside super with increases in the Super Guarantee?

- Investments return risk. With longevity extending it is increasingly necessary to generate incomes over longer periods from investable assets. This will require higher returns which bring higher volatility. The challenge therefore is how to provide access to the higher yields while better managing the downside and short term volatility.

- Sequencing risk present a specific challenge for retirees who need to manage their annual drawdowns (pension payments).

- Public policy risk. The retirement income system must be fiscally sustainable, but the lower wealth cohorts, especially the older ones, are heavily dependent on government support. The efficiency of the system must be improved without impoverishing these groups.

- There will be an increasing demand for health services and long-term care for all cohorts when they reach older ages. Housing assets are increasingly being used to finance long term care and it is likely that this trend will continue.

4.   Meeting the challenges

There are two main challenges identified when examining the efficacy and equity of the current superannuation system - ensuring people have an adequate level of retirement income and ensuring the retirement income system is sustainable.

A Three Pillars retirement system must adequately maintain socio-economic and intergenerational equity.

The Three Pillars retirement system of compulsory superannuation and voluntary contributions supported by the Age Pension needs to be maintained to ensure socio-economic equity and intergenerational equity. Our projections show that the lowest income groups will not be able to provide for their retirement incomes by themselves. Even those with median incomes will require some support. The issue is ensuring that the system is sustainable. The system should therefore:

- Maintain the Age Pension as the core safety net for the system.

- Provide for median and wealthier cohorts to replace the Age Pension through voluntary and compulsory savings.

- Provide for poorer cohorts to supplement the Age Pension through voluntary and compulsory savings.

Whatever the final solutions, there are some themes that should be considered. These include:

1. The needs of those in retirement.

2. Risk Management – Investments and Insurance or longevity pooling.

3. Wealth Management – Housing.

4. Public Policy – A sustainable and equitable retirement income system.

4.1 The needs of those in retirement

The position of retirees is more complex than the position of those still accumulating assets for retirement. The reasons are many but include the fact that retirees face a range of risks in retirement and, in many cases, also have restricted options. For example, in most cases, they are unable to return to the workforce and earn additional income.

In addition, the financial needs and risk profiles of individual retirees vary considerably, depending on their family, health and wealth situations. There will be no single product solution that will suit all or even most. The specific solution and choice of products for each will be different, but will depend on each individual's preference for the following criteria and attributes:

1. **Income efficiency**

   Efficiency relates to the extent to which superannuation money saved up during the accumulation phase is actually applied to retirement income.

2. **Risk management**

   Products will be selected based on their ability to mitigate the following retirement income risks:

   a. Investment volatility (including sequencing risk) – investment returns are uncertain.

   b. Flexibility – ability to access capital when required especially in emergencies.

   c. Inflation – incomes will need to keep pace with inflation.

   d. Idiosyncratic longevity – arises from individuals living for a shorter or longer time than their life expectancy.

   e. Systematic longevity – arises from improvements or deteriorations that impact survival probabilities of all individuals. e.g. a breakthrough in cancer treatment.

   f. Sufficiency – will funds last through retirement?

3. **Consumer attitudes**

   Consumer demand for retirement income products will be enhanced by what they perceive as 'good value' i.e. the best risk adjusted return on their investment and will include the following criteria:

   a. Simplicity of design will encourage understanding and take-up.

   b. Transparency around fees, risks and outcomes is necessary to minimise the risk of mis-selling.

   c. A degree of flexibility will be required to provide ready access to funds to manage retirees' changed personal circumstances.

   d. Minimal self-management is desirable in old age given the potential for impaired decision making and a higher incidence of fraud on the elderly.

   e. Income stability is important to assist expenditure planning.

   f. There must be consideration of product impact on and integration with current social security arrangements.

   g. People hope to make the 'best returns' from their retirement investments.

   h. Consumers are concerned about counterparty risk.

4.2 Risk Management

With life expectancy growing, the risks from inflation and longevity are particularly important.

4.2.1 Inflation risk – Investments

With extending longevity, there is an increasing need to provide adequate, real (inflation protected) retirement incomes for longer from accumulated superannuation and other assets. The extending investment horizons in retirement, however, also provide greater opportunity and scope to invest in higher yielding asset classes.

Appendix B provides a summary of the expected returns from various asset classes for reference.

The examples demonstrate that over the investment horizons required for people at retirement, growth assets have only a very small probability of underperforming Cash and Fixed Interest assets and a significant probability of outperforming them.

4.2.2 Sequencing risk – Investments

Higher yielding portfolios do, however, come with greater volatility. Over the short term these higher yielding assets do have a significant probability of underperforming Cash and Fixed Interest assets and also of potentially delivering negative returns. This will clearly be detrimental if these assets need to be realised at depressed values. The challenge therefore is to manage and deliver stable incomes in the short term from growth assets invested for the long term. This will require more careful asset and cash flow management.

4.2.3 Longevity risk – Insurance or longevity pooling

More effective management of assets to increase long term returns and stabilise incomes will, however, not be sufficient to maximise and secure retirement incomes. Drawing an income purely from assets presents the risk that the retiree will live beyond the time the assets are extinguished. The alternative of drawing a lower annual pension income, extends the period for which an income can be drawn, but reduces lifestyle, and potentially leaves a significant asset pool on death which could have delivered a greater income.

The effect is demonstrated in Appendix E where the results show that to sustain an income to 75% life expectancy under the median investment scenario; the retiree would need to draw an income 4% to 7% lower compared to the income to 50% life expectancy. To sustain an income to 90% life expectancy, the income will need to reduce by 9% to 12%.

The main mechanism that deals with this uncertainty is some form of longevity pooling so that the assets of those who die earlier in retirement help support those who live longer. For example, market wide longevity pooling would allow the projected incomes shown in Graph 6 to be paid for life, however long that might be. Individuals would also have the option

of withdrawing some lower amounts from an account based pensions. However on a macro level this is less efficient for the retirement income system as it can result in lower levels of living standards and higher levels of bequest for those that die earlier.

It is outside the scope of this paper to propose or develop specific product solutions, but Appendix F presents some potential solutions.

4.3 Holistic consideration of wealth – Housing

Housing assets must be part of the solution. The older cohorts have accumulated significant housing assets at least partly due to surging house prices over more recent years. These assets represent a significant proportion of accumulated wealth for these cohorts at all wealth levels except the very lowest. The challenge for these cohorts is releasing the accumulated value in their housing while maintaining their standards of living.

The younger cohorts (in the lower to medium income percentiles), however, are facing challenges with housing affordability and therefore seem likely to accumulate lower housing assets over their working lives. For these cohorts, there may need to be policy changes to improve affordability e.g. increased supply of housing.

The unknown factor when considering housing assets between the age cohorts is the potential impact on the housing market of the older cohorts disposing of their housing assets in order to support their retirements. The sale of these assets will, of necessity, need to be made to the younger cohorts. This change in the supply and demand dynamics could potentially reduce the current intergenerational inequities.

The older cohorts will also transfer some of their housing assets to the younger cohorts via bequests. They have already benefited from these themselves. This transfer will act to increase the housing wealth of the younger cohorts above the levels projected by the model.

There is therefore a realistic potential that the younger cohorts will be better off with respect to housing than the modelling suggests.

4.4 Appropriate solutions for different cohorts

As discussed in section 5.1, managing risk in retirement is a complex business and individuals need to consider a range of risks and make informed decisions to adequately fund an increasingly long life in retirement.

People's financial position, personal circumstances and appetite for risk at retirement will determine what solutions are most appropriate.

25th percentile and lower
These cohorts are expected to have superannuation funds of $100k for the older cohorts ($150k – $250k for younger cohorts) in comparison to the current PV of an Age Pension of $419k for a single male and $482k for a female. Therefore the majority of retiree's income will come from the Age Pension and there will be limited options for product/investment options.

> **Housing assets represent a significant proportion of accumulated wealth and must be part of any solution.**

Housing assets may be needed to support transfer to age care.

Around 50th percentile

These cohorts are expected to have superannuation funds of ~$300k for the older cohorts and ~$450k for younger cohorts. Retirees are in more of a position to consider a portfolio approach of different product/investment opportunities to balance and trade-off the different risks they are exposed to and manage their assets to supplement Age Pension. Housing assets may be used to support transfer to age care and to fund longer term income.

75th percentile and higher

These cohorts are expected to have superannuation funds >$600k. They have a wide range of product/investment options to help them manage assets to provide retirement incomes.

4.5 Public Policy – A sustainable and equitable retirement income system

It is inevitable that there will need to be changes to government policy to support sustainable and equitable retirement incomes with the ageing population. Social security integration should not distort decisions or cause retirement income to be less stable. In general, product solutions/innovations that are well integrated with the 'Age Pension' and are income efficient while delivering no less retirement income would be preferred.

Proposals that have been canvassed and may be considered include:

- Reforming the Age Pension by changing the means testing. This could include lowering thresholds and including the family home. This change would have the greatest impact on higher wealth cohorts.

- In comparison, reducing the indexing of the Age Pension by removing the link to wages would be less equitable as this change would have the greatest impact on the younger and lower wealth cohorts.

- Reforming the tax treatment of concessions on contributions and earnings (e.g. a lifetime concessional contributions cap, instead of annual caps; tax rebates against marginal rates rather than concessions).

- Taxing investment income of retirement assets and possibly reducing the overall rate below 15%.

- Encouraging later retirement. This will require support for increased employment at older ages and an extension of benefits for those who are simply unable to work to the higher qualifying ages. The effect of this is illustrated in Appendix C.

- Taxing of bequests.

Some examples are given in Appendix D, which show that the potential impact of different policies can be very different for various cohorts and socio-economic groups.

Encouraging later retirement will require support for increased employment at older ages and an extension of benefits for those who are simply unable to work to the higher qualifying ages.

Meeting the challenges

The Institute recommends the Government adopt a comprehensive framework to manage all issues relating to a sustainable financing of our ageing population. A coherent unifying strategy is needed to deal with the interaction of the various financial elements of retirement – Age Pension, aged care, health care and the family home. The Institute agrees with the FSI that there is need for a formal statement of the guiding objectives for the retirement income system.

Within that framework, we also recommend:

1. Provide incentives for retirees (i.e. individuals in the draw down phase) to take their retirement benefits predominantly as an income stream.

2. Increase the preservation age.

3. Extend the MySuper regime to include retirement solutions with 'intelligent defaults' that provide retirees with secure income streams.

4. Remove the impediments that discourage older Australians who want to work.

5. Remove the legislative barriers preventing innovation in developing-retirement income stream products such as deferred annuities.

6. Link changes in the Age Pension eligibility age to improvements in life expectancy.

7. Review the efficiency of the Retirement Income System to further improve the efficacy of the system to meet its core objective of providing an adequate income to meet the financial needs of retired Australians.

Further detail can be found at http://www.actuaries.asn.au/Library/MediaAndPublicPolicy/2013/RetirementIncomesPolicyPosition.pdf

Appendices
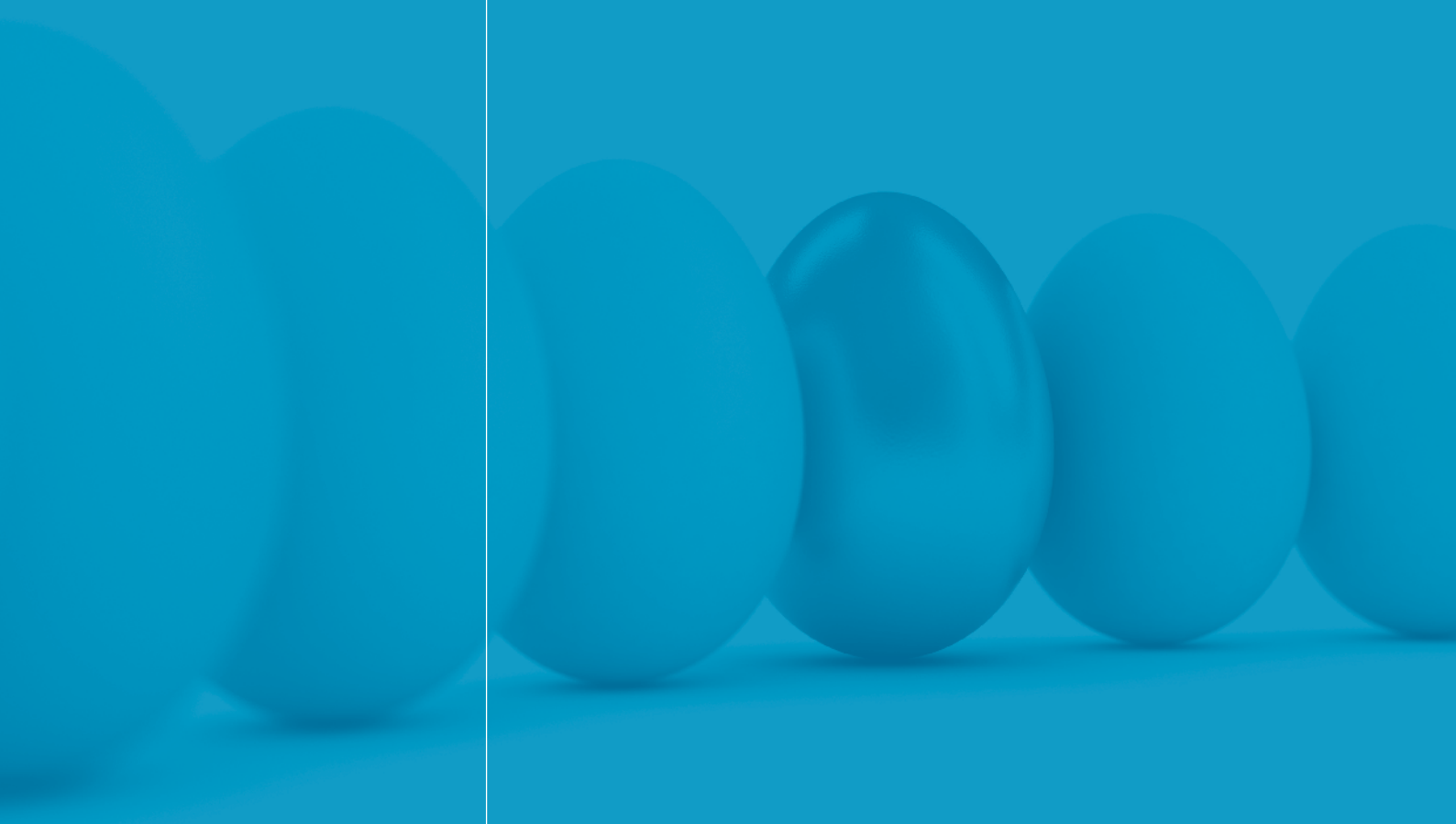
Appendix A   Summary of methodology and modelling

Our model subdivides the Australian population by age, gender and 10 social economic groups based on wealth and income.

The starting point is the current wealth of the population. From various sources[6] we have estimated the total net wealth of Australian households, consisting of superannuation assets, family home and other savings. Using the ABS Survey of Income and Housing sample demographics, these assets are then broken down to an average per person. Each type of asset is then projected separately to retirement for each cohort.

We have made the following main assumptions:

- We have selected a common retirement age of 65. According to ABS survey[7], the average ages at which people currently intend to retire are 63.5 for men and 62 for women. Given both the preservation age and age pension age are increasing, we have selected 65 as a suitable retirement age as a basis of comparison for current and future cohorts.

- Mortality and mortality improvement assumptions used follow the Australian Life Tables 2010-12 published by Australian Government Actuary. Different mortality rates experienced by different wealth cohorts have not been modelled. This will result in payments to life expectancy being overstated for higher wealth cohorts who will have better mortality than population.

- The population is classified into 10 socio-economic groups by income and wealth. The socio-economic groups are defined as "current wealth + current income (70- Age)". This approach was necessary as younger cohorts have similar wealth (being only recent entrants to the workforce) but very different income while older cohorts have very different wealth (having accumulated savings from very different incomes over long periods) but many are retired and have no income.

- We have used a wage inflation rate of 4.0% to reflect the increase in future living standards.

- We have used the average saving rate of 7.9% of accessible income, estimated with ABS data[8], this is in addition to employer contributions to superannuation. We assume the saving rate is lower for the lower socio-economic cohorts and higher for higher socio-economic cohorts according to RBA research[9].

- The projection of non-superannuation assets applies the average saving rate on people's income into non-superannuation savings and the family home. We assume that most of the non-superannuation saving is repayment of mortgages (about 60% on average), but this is higher for lower socio-economic cohorts (80%-90%) and lower for higher socio-economic cohorts (50%). Section 4.2.3 discusses the housing assumptions in detail.

- The value of residential property is assumed to increase in line with wage inflation. The current older cohorts experienced higher property price increases due to reductions in interest rates, but the current economic outlook does not indicate a further sustained reduction in

[6] Including: Rice Warner Superannuation Market Projection 2013; Rice Warner Personal Investment Market Projection 2013; ABS 5204.0 – Australian System of National Accounts, 2013-14, Table 41 Household balance sheet; ABS 6554.0 – Household Wealth and Wealth Distribution, Australia, 2011–12; and APRA monthly bank statistics report.

[7] ABS 6238.0 - Retirement and Retirement Intentions, Australia, July 2012 to June 2013

[8] ABS 5204.0 Australian System of National Accounts, Table 7. National Income Account, Current prices;and ABS 5206.0 Australian National Accounts: National Income, Expenditure and Product, Table 30. Key Aggregates and analytical series, Annual. Note this includes after-tax superannuation contributions.

[9] Richard Finlay and Fiona Price "Household Saving in Australia", RBA research discussion paper 2014-03

interest rates so this excess growth in property values above wage inflation is less likely.

- We assume that couples are of the same age, retire at the same time, and that their household wealth at retirement is the sum of the estimated wealth of a female and male both in the same social-economic group.

- We have assumed the Age Pension will continue to be indexed to Male wages in the future, as the proposal to change the indexation to CPI has not yet been made law. We have discounted future values to current dollars using this same rate.

- We have used Rice Warner's stochastic investment model to determine the variability of the investment outcomes and the stress scenarios over different time horizons. The model takes into account a wide range of economic metrics and investment market factors, including expected asset class returns, volatilities, cross correlations between asset classes, skewness and kurtosis. The model also factors in auto-correlation/mean reversion of returns.

- We have supplemented historical data with Rice Warner's survey of major asset consultants and fund managers, regarding their expectations of the asset returns in the next 10 years. We have used this to help form a forward looking view on the potential investment returns and volatility of various asset classes.

- We assume investment in a typical balanced portfolio with a 70% allocation to Growth assets. The earnings rate assumptions are based on the results of Rice Warner's annual survey of Australia's leading asset consultants. The portfolio is assumed to earn 7.2% p.a. before tax, both before and after retirement.

Appendix B Investing in different asset classes

Graph 13 shows the expected long term returns and volatilities for a range of asset categories, according to Rice Warner's investment assumption survey to various asset consultants and fund managers.

Graph 13. Expected long term returns and volatilities
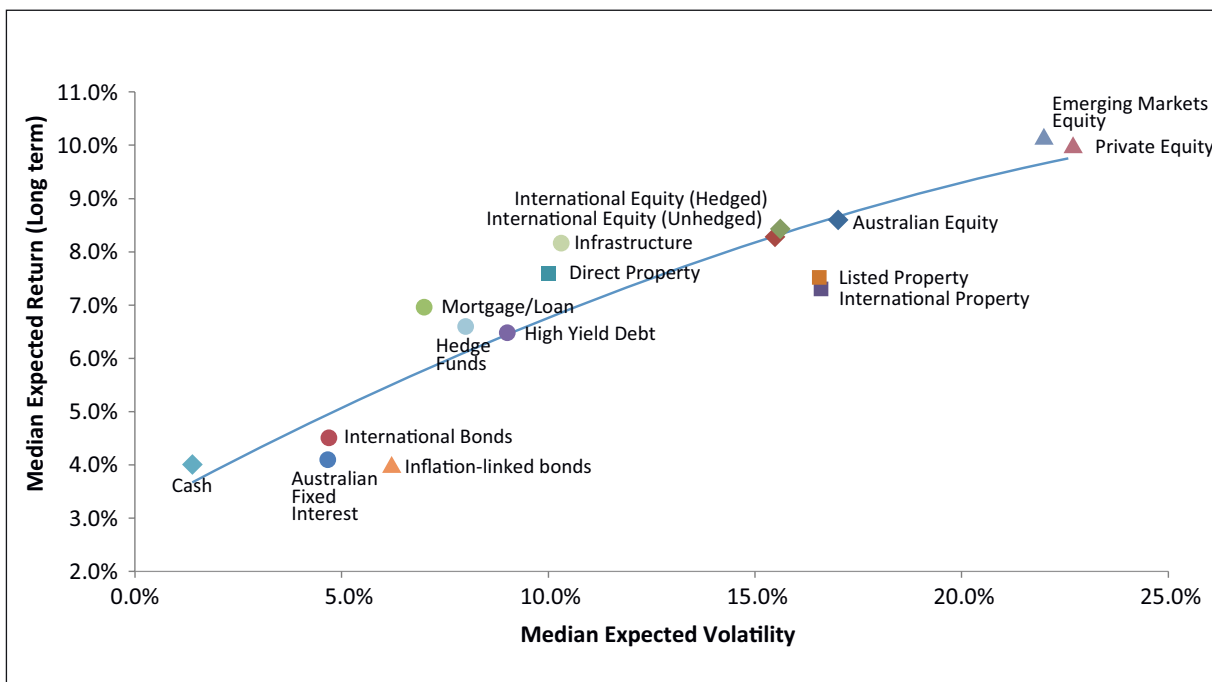
The impact of investing in these different asset categories is illustrated in Graph 14. It shows the results for a stochastic model of investment returns for an investment in a number of different options over 20 years. This period is close to life expectancy for retirees at retirement.

The Conservative option is a composite portfolio with an allocation of approximately 50% to growth assets and 50% to defensive assets. The Balanced option is a composite portfolio with an allocation of approximately 70% to growth assets and 30% to defensive assets. The other options are prime sectors as labelled.

The results show the range of expected outcomes at the 90% confidence level – i.e. the top and bottom 5% of outcomes are excluded.

The outcomes are benchmarked to the outcomes for the Cash option which is the lowest volatility and 'lowest risk' option.

Investing in different asset classes CONTINUED

Expected relative asset values after 20 years
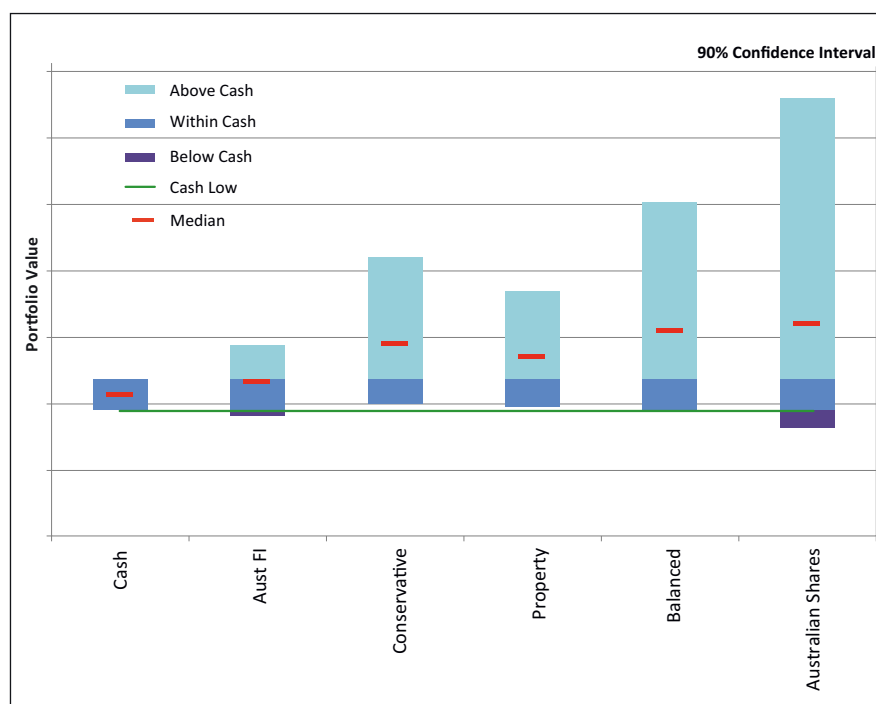
The results show that:

- Only the Australian Shares and Australian Fixed Interest options have the potential to perform worse than Cash over this period and then only have a small probability of doing so.

- Cash has the lowest median expected return.

- The other options all have the potential to perform better than Cash and for some significantly better.

- The risk from these options is little different from Cash over this period, but the increase in return is material and can be significant.

Those with higher balances have greater capacity to allocate a portion of the portfolio to growth assets. An increase in allocations to growth assets in retirement may increase expected returns over the long term, however the returns will need to be managed to ensure stability of incomes from the higher volatility. The balance between stable, lower returning assets and more volatile, potentially higher returning assets will depend on personal circumstances and appetite for risk.

Appendix C Retirement Age

We have compared the expected retirement outcomes of the various cohorts on the assumption that all will retire at age 65. This makes comparisons of the impact of wealth, compulsory superannuation and longevity improvement simpler. It does, however, ignore the potential effect of later retirement, especially for the younger cohorts who will likely be required to retire at an older age with the government seeking to lift the eligibility age for the Age Pension to age 70 over time.

Graph 15 shows the impact of retiring at age 70 for couples in the 30 year old cohort.

Graph 15. Projected wealth at retirement (current dollars) – couples
Retire at age 70 for 30 year olds and age 65 for 60 year olds
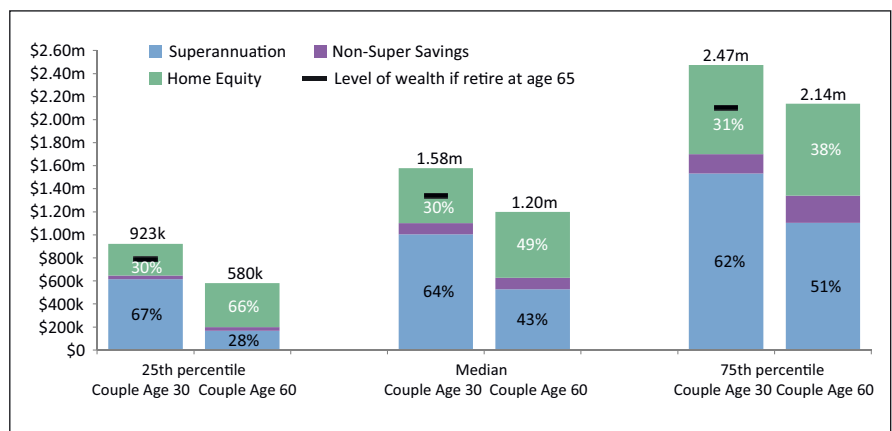
The initial modelling indicated that the younger cohorts would generally be better off at retirement than the older cohorts. The delay in retirement age improves their position relative to the older cohorts. This improved financial position translates into an improved expectation for income in retirement as is shown in Graph 16.

Graph 16. Estimated annual income to life expectancy (current dollars) – couples

> Initial modelling indicated that the younger cohorts would generally be better off at retirement than the older cohorts, with the delay in retirement age improving their position relative to the older cohorts.
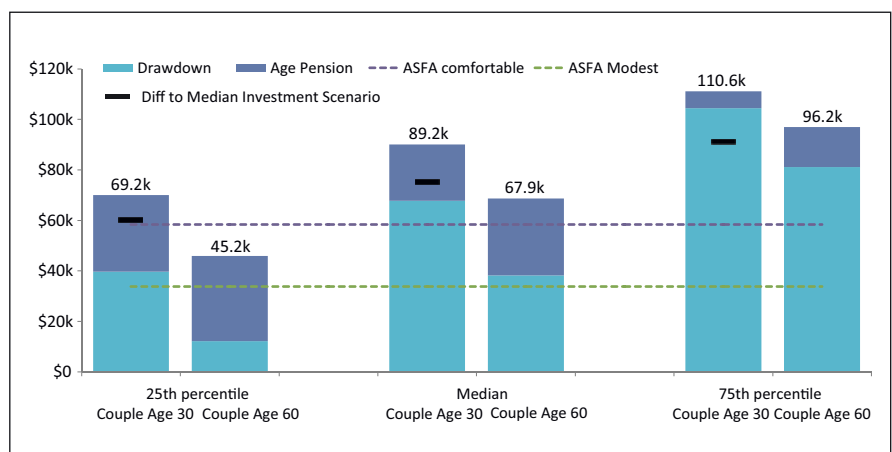
Retirement Age CONTINUED

The chart shows that:

- Delaying retirement improves the financial position of the younger cohort relative to the older cohorts.

- Delaying retirement by 5 years is estimated to increase income to life expectancy for the younger cohort by about 20%.

- The younger cohort can be expected to receive higher incomes in retirement than the older cohort at all levels of wealth.

- All wealth cohorts can expect to be able to maintain a Comfortable income in retirement.

- The Age Pension component of this income is reduced.

- Median and higher wealth cohorts can be expect to maintain a Comfortable income without recourse to the Age Pension.

Appendix D Value of Age Pension

D.1 Capital values

The Age Pension is a valuable benefit. It is similar to an indexed life annuity provided by the government but is not guaranteed and is subject to future policy changes. If individuals were to purchase an income equivalent to the Age Pension at age 65 they would require the capital sums shown in Table 9.

Table 9. Present value of full Age Pension at age 65

Recipient	Present Value ($)
Single Male	419,000
Single Female	482,000
Couple	816,000

These present values are calculated based on age pension rate as at 31 December 2014. We have assumed a discount rate equal to the Age Pension indexation rate (which is assumed to be 4% equal to wage inflation rate). For couples, the pension is assumed to revert to the Single's pension on the death of the first dying.

D.2 Utilisation of the Age Pension

Graph 17 shows the proportion of the population at various ages receiving the Age Pension. The proportion increases over the period in retirement.

[10] Private data request to Departments of Social Security and Veterans' Affairs

Graph 17. Persons on Age Pension at June 2014[10]
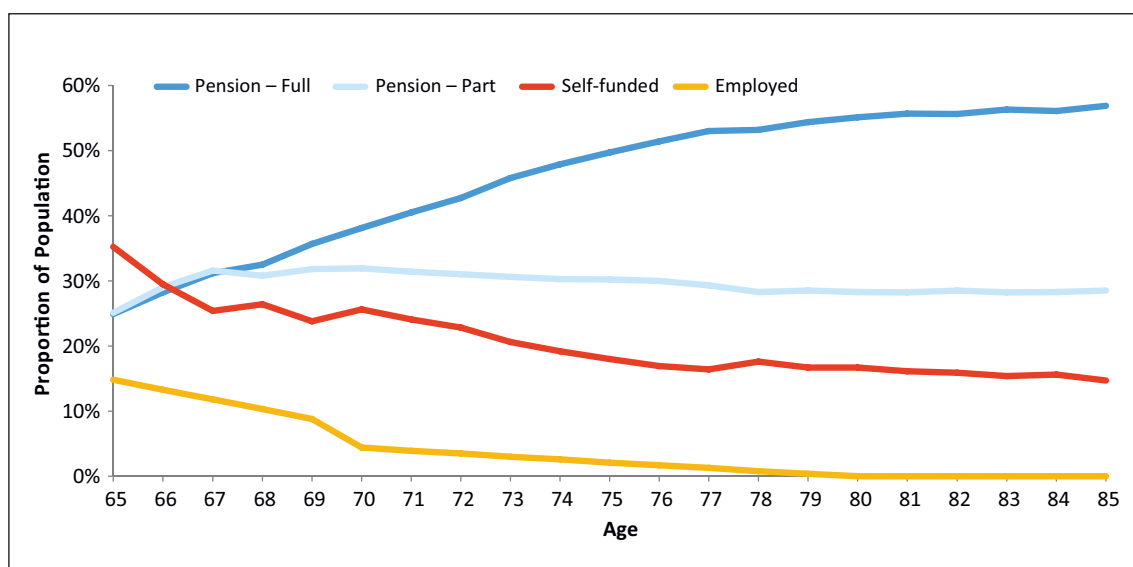
D.3   Value to individuals

The Age Pension is a valuable benefit and the outcomes modelled in Section 3 demonstrate the important part that the Age Pension plays in the delivery of adequate retirement incomes. The modelling also demonstrates

Value of Age Pension continued

Indexation of the Age Pension only to changes in the Pensioner CPI will reduce costs over time, but will also result in the Age Pension increasingly falling behind community income standards.

that the cost of providing the Age Pension is likely to reduce on a per capita basis with the younger couples and singles receiving less Age Pension each when they reach retirement. The total cost to the economy is, however, expected to increase as the number of people receiving the Age Pension increases and the period for which they receive it also increases.

The Age Pension is increased at the greater of changes in the Pensioner and Beneficiary Living Cost Index (Pensioner CPI) and Male Total Average Weekly Earnings (MTAWE). Because wages historically increase at a greater rate than costs of living, this means that the Age Pension is effectively indexed at the rate of growth of MTAWE. The government has proposed that the indexation of the Age Pension should be changed so that it is linked only to changes in the Pensioner CPI. This will undoubtedly reduce the cost of the Age Pension over time, but will also result in the Age Pension increasingly falling behind community income standards.

We have therefore compared the potential outcomes from this proposal to an alternative proposal to tighten the Means Test for the Age Pension, but leave it indexed to MTAWE.

Graph 18 shows the expected outcome if the Age Pension and the Means Test thresholds are indexed at the Pensioner CPI instead of MTAWE. The dotted areas show the reductions from this change.

Graph 18. Estimated annual income to life expectancy – couples – Indexed to CPI

Column totals represent the sum of: Drawdown + Age Pension
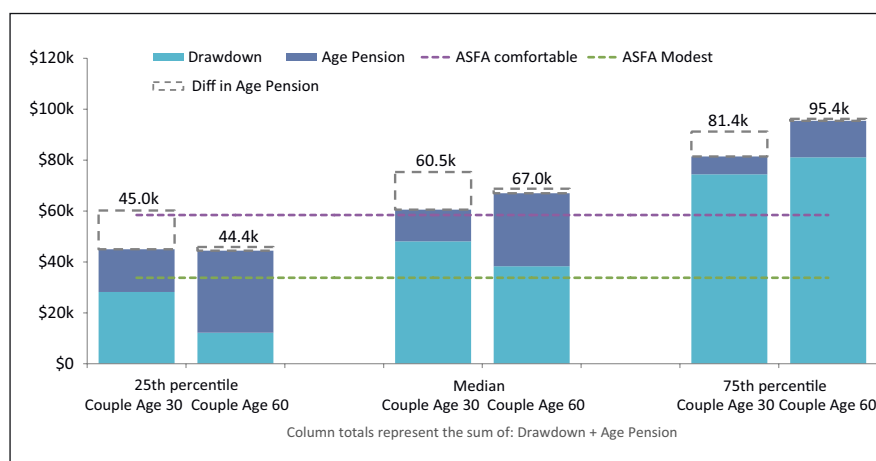
The results show that:

• The amount paid via the Age Pension is reduced as expected.

• The younger cohorts are impacted more than the older cohorts because the impact will be extended over a longer period.

• Younger cohorts with below median wealth will be materially impacted.

• Higher wealth cohorts will be impacted less than Median and lower wealth cohorts both in absolute terms and as a proportion of payments.

Value of Age Pension continued

In comparison, Graph 18 shows the expected outcomes if instead:

- The Age Pension rate and indexation remain unchanged.

- The assets test lower threshold is increased in line with government policy as in the May 2015 Budget.

- The reduction to the Age Pension for Assets above the threshold is doubled.

Graph 19. Estimated annual income to life expectancy – couples – reduced means test thresholds
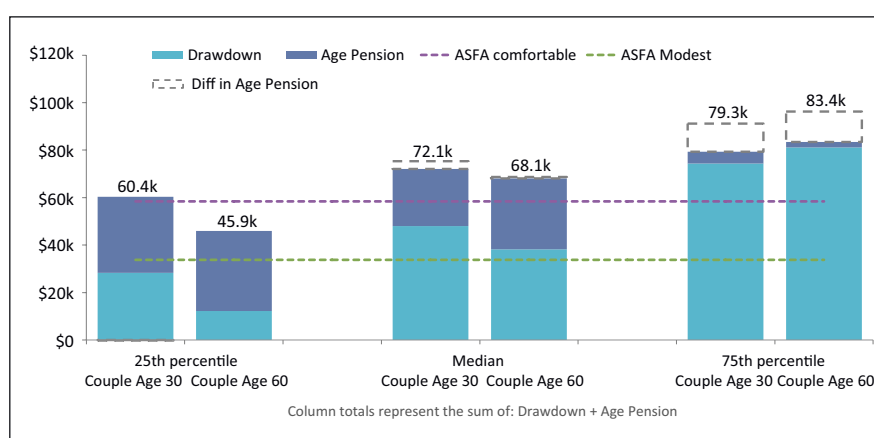
Column totals represent the sum of: Drawdown + Age Pension

This approach also reduces Age Pension payments for median and high wealth cohorts. In comparison to changing indexation of the Age Pension:

- There is a small positive impact on the cohorts with lower than median wealth.

- The impact on cohorts with above median wealth is bigger and for those at the 75th wealth percentile, the Age Pension is eliminated. Nonetheless, this group is still able to maintain retirement incomes above the Comfortable standard.

- The impact of the reduction in Age Pension payments is more equitable across the wealth and age cohorts than the reductions due to changing the indexation of the Age Pension. The less wealthy households who are dependent on the Age Pension are the least affected.

The impact of the reduction in Age Pension payments is more equitable across the wealth and age cohorts than the reductions due to changing the indexation of the Age Pension

Appendix E   Income to extended life expectancy

The base scenario of this report has considered the expected income to life expectancy from retirement for 30 year old and 60 year old cohorts. This approach is appropriate for these large population groups, but may not be for individuals because half of the population can potentially live past the life expectancy age. Graph 19 shows the percentage of retirees aged 65 who can be expected to die at each age in retirement.

The graph also shows the life expectancy for both males and females and represents the age by which 50% of the respective group can be expected to have died.

Graph 20. Deaths by age
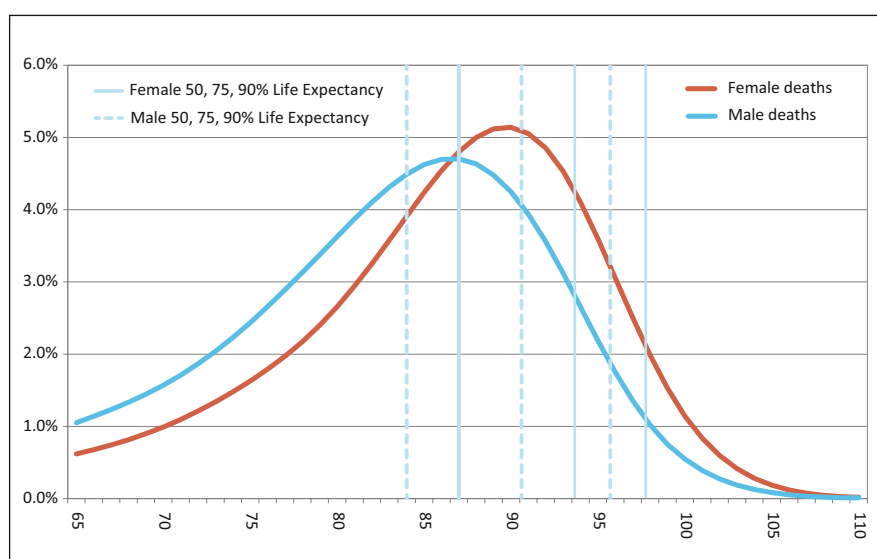
We have therefore also considered the income that could be sustained to older ages.

The income drawn must be lower if the asset pool is to last to older ages. The following graphs show the estimated income that could be sustained to the 75th and 90th life expectancy percentiles – i.e. the ages by which 75% and 90% of the population could be expected to have died.

Income to extended life expectancy CONTINUED

Graph 21. Estimated annual income to 75th life percentile (current dollars) – couples

Column totals represent the sum of: Drawdown + Age Pension
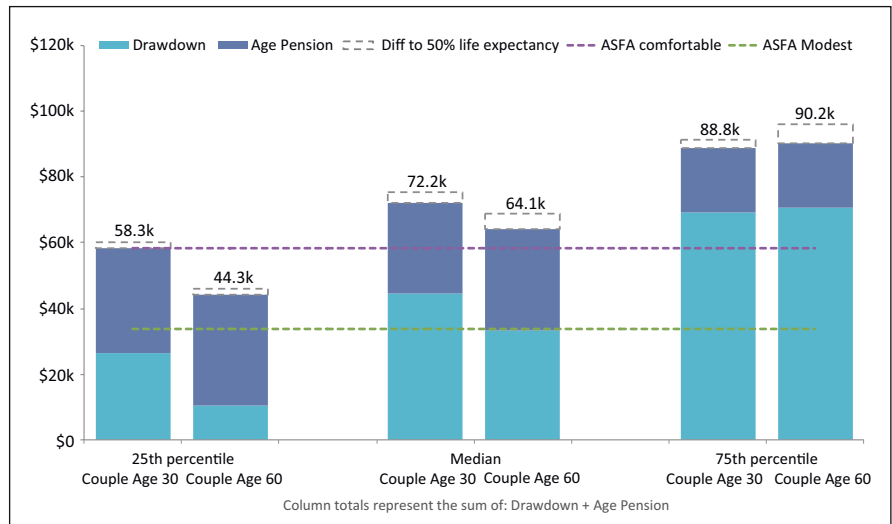
Graph 22. Estimated annual income to 90th life percentile (current dollars) – couples
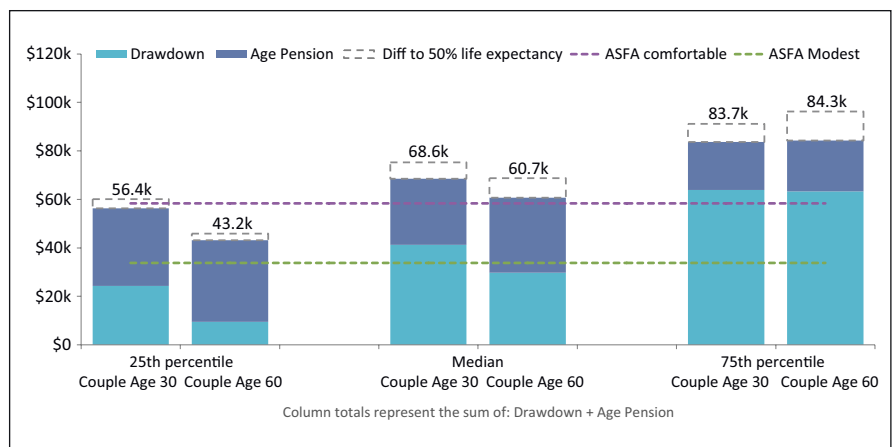
Column totals represent the sum of: Drawdown + Age Pension

These results show that to sustain an income to 75% life expectancy under the median investment scenario, the retiree would need to draw an income 4% to 7% lower compared to the income to 50% life expectancy. To sustain an income to 90% life expectancy, the income will need to reduce by 9% to 12%.

Unfortunately, reducing income in order to sustain that income to older ages does not eliminate the risk that the retiree will live beyond the time their assets are extinguished. It simply reduces the probability of it occurring. Some form of insurance or longevity pooling is required to overcome the risk.

The market for products that insure and pool mortality risks is developing and expanding and further innovation is likely. The products currently available are outlined in the following Appendix F.

Appendix F Insurance or longevity pooling options

F.1 Lifetime Annuities

Lifetime annuities provide certainty of a modest income for life. Usually, capital is returned if the annuitant dies in the early years of retirement. This capital return is paid for via a reduced guaranteed income.

The product provides a certainty of payment via guarantees backed by stringent capital and prudential requirements. Individual (idiosyncratic) longevity risk is fully guaranteed. Investment and inflation risks and the risk of systemic longevity improvement are borne by the issuing life insurance company with the annuitant exposed only to the resultant counterparty risk.

Lifetime annuities are simple and readily understood by consumers with a guaranteed level of income. They are generally non-commutable and lack flexibility to deal with emergencies. Income is stable and guaranteed, but generally lower, on an expected basis, than other options due to more cautious investment strategies and stringent capital and prudential requirements backing guarantees.

For consumers, lifetime annuities are simple to understand and do not require ongoing advice. If a lifetime annuity operates in conjunction with an Account Based Pension (ABP), the ABP provides the flexibility for dealing with emergencies, bequests or changed circumstances. They may not be appropriate for particular socio-economic groups that exhibit lower life expectancy unless impaired annuities are available.

F.2 Deferred Lifetime Annuities

Deferred Lifetime Annuities (DLA) provides income security for those who live to an advanced age and good short term income when paired with an ABP. A DLA starts making life-long annuity payments to retirees who reach the vesting age, typically 80 to 85 years old. Those who die before that age do not receive a benefit.

As for lifetime annuities, the product provides a certainty of payment via guarantees backed by stringent capital and prudential requirements. Individual (idiosyncratic) longevity risk is fully guaranteed. Investment and inflation risks and the risk of systemic longevity improvement are borne by the issuing life insurance company with the annuitant exposed only to the resultant counterparty risk.

For consumers, DLAs are simple to understand and do not require ongoing advice. DLA's are a form of insurance for income at a later stage of life and therefore are less 'income efficient' than lifetime annuities.

If a DLA operates in conjunction with an ABP, the ABP provides the flexibility for dealing with emergencies, bequests or changed circumstances. They may not be appropriate for particular socio-economic groups that exhibit lower life expectancy unless impaired life annuities are available.

F.3 Group self-annuitisation

Group self-annuitisation (GSA) potentially delivers the most income in retirement although the level is not guaranteed.

The concept of group self-annuitisation is to share longevity risk within a group of people without external guarantees from insurers. Individuals invest capital into the pool and are paid an income that varies with investment returns and mortality experience within the pool. The cost for participants can be expected to be low as there is no reserving required. There is no counterparty risk because surviving participants simply receive the benefit of asset transfers from those who die.

However, there are a number of issues and pooling risks that will need to be considered including:

• Ensuring a sufficiently large pool of lives to stabilise the mortality returns.

• Adverse-selection which might cause only people who expect to live longer than average to join (Similar to annuities and DLAs).

• The risk of systematic longevity improvement.

• Investment and inflation risks.

The design of the product is important in determining whether products are commutable and have any flexibility to deal with emergencies. Income would be expected to be higher than for lifetime annuities, but the income will fluctuate in response to investment outcomes and mortality experience. Like all longevity pooling products (including annuities and DLA's) these products may not be suitable for particular socio-economic groups that exhibit lower life expectancy.

Appendix G ASFA Retirement Standards

There are two broad approaches to assessing the adequacy of retirement incomes:

- A Budgetary Measure: this takes the approach of determining the spending needs of retirees at various standards of living. It provides an absolute measure of adequacy.

- A Replacement Measure: this takes the approach of assessing what proportion of pre-retirement income will be necessary to maintain retirees' standards of living in retirement. It provides a relative measure of adequacy.

Each approach has its benefits and drawbacks. We have chosen the Budgetary Measure approach because of the need to consider adequacy across a broad range of incomes in a public policy context. We have used the ASFA Retirement standard as the reference for retirement spending needs because it is a well constructed and broadly accepted standard. The standard has been developed by ASFA as a benchmark to objectively outline the annual budget needed by Australians to fund a modest or comfortable standard of living in the retirement years.

The Modest retirement standard is higher than the Age Pension but covers only fairly basic activities and needs. The Comfortable standard enables a retiree to be involved in more leisure and recreational activities and have a better standard of living including better household goods, cars, private health insurance and holiday travels.

[11] According to ABS Housing Occupancy and Costs, average housing costs as a percentage of gross household income for couples is approximately 15%.Singles and sole parents on average pay higher amounts than couples, approximately 22%. These translate to around 28% to 34% of post-retirement expenditures, assuming a replacement rate of 62.5%.

Both standards look at retirees who are home owners[11], age 65 to 80, and relatively healthy, and incorporate expenditures on: Communications, Private health insurance, Energy, Clothing, Household goods and services, Recreation and Transportation. Table 10 lists the detail of the budgets.

Table 10. Budgets for various households and living standards (December Quarter 2014)*

	Modest lifestyle – single	Modest lifestyle – couple	Comfortable lifestyle – single	Comfortable lifestyle – couple
Housing – ongoing only	$69.47	$66.68	$80.52	$93.33
Energy	$41.07	$54.55	$41.68	$56.53
Food	$77.13	$159.76	$110.18	$198.32
Clothing	$17.69	$28.71	$38.28	$57.43
Household goods and services	$26.70	$36.21	$75.12	$88.00
Health	$40.29	$77.75	$79.93	$141.06
Transport	$93.92	$96.58	$139.96	$142.62
Leisure	$74.51	$111.00	$225.79	$309.42
Communications	$9.32	$16.32	$25.62	$32.60
Total per week	$450.09	$647.57	$817.07	$1,119.32
Total per year	**$23,469**	**$33,766**	**$42,604**	**$58,364**

These standards are based on home owners. Rents can increase expenditure for low income couples by up to 30% so renters require higher incomes for the same level of retirement adequacy.

ASFA has also recently published research on retirement standards for older cohorts of retirees (home owners in their late 80s to early 90s, but still healthy). It has found that as people age, their spending requirements change as they are often unable to engage in the same types of activities. Their cost patterns change in that:

- Older retirees tend to face increased costs related to care and support arrangements, and medical expenses.

- They have reduced expenditure on entertainment and transport.

These factors results in slightly (about 10%) lower overall expenditure for older retirees compared to those aged 65 to 80, but with the expenses incurred for different items.

We have therefore used the established ASFA Retirement Standards for our modelling at all ages.

Appendix H Terminology

The following is a simplified description of some of the terms used in this report:

Cohort	This is a group of people with common characteristics whose position and outcomes can be considered over time. In the context of this paper, cohorts are determined on two characteristics:
	• Age cohorts: These are groups of people whose ages at the start of the modelling process are within 5 year groups.
	• Wealth cohorts: These are groups of people selected according to their wealth. The population is separated into ten groups – deciles.
	Outcomes for each Age/Wealth cohort are then projected using the model.
Decile	A decile is a group comprising 1/10th of the population. The groups are selected by ranking the individuals on some measure (in this case on wealth) from lowest to highest and then splitting the population into 10 groups of equal number.
Percentile	A percentile is a group comprising 1/100th of the population. The groups are selected by ranking the individuals on some measure (in this case on wealth) from lowest to highest and then splitting the population into 100 groups of equal number.
	The 50th percentile of wealth, for instance, represents the position where half the population (50%) has lower wealth and half has higher wealth. The 95th percentile represents the position where 95% of the population has lower wealth and 5% has higher wealth. The 5th percentile represents the position where 5% of the population has lower wealth and 95% has higher wealth.
Quinquennial	A grouping of people into 5 year age bands.

Appendix I Market Size and Projections

Size of superannuation assets including projections

Table 11. Summary of projections results (2014 dollars)

Market segment	Today 30 June 2014 ($M)	(%)	In 5 years 30 June 2019 ($M)	(%)	In 15 years 30 June 2029 ($M)	(%)
Not-for-Profit Funds						
Corporate Funds	6,119	1.1	6,447	0.8	0	0.0
Industry Funds	14,268	2.5	80,991	10.5	271,201	19.2
Public Sector Funds	65,890	11.3	90,774	11.8	141,530	10.0
Subtotal	86,277	14.8	178,211	23.2	412,731	29.3
Commercial Retirement Products						
Commercial Retirement Products	178,253	30.7	209,502	27.3	375,981	26.6
Self-Managed Super Funds						
Self-Managed Super Funds	316,870	54.5	380,046	49.5	622,222	44.1
Total retirement market	**581,400**		**767,759**		**1,410,935**	

Source: Rice Warner
Superannuation Market
Projections 2014

Appendix J Insights

<table>
<tr><td colspan="11">For Richer, For Poorer</td></tr>
<tr><td>Percentile</td><td colspan="2">5</td><td colspan="2">25</td><td colspan="2">50</td><td colspan="2">75</td><td colspan="2">95</td></tr>
<tr><td colspan="11">Couples – Age 60</td></tr>
<tr><td colspan="11">Projected wealth ($k)</td></tr>
<tr><td>Superannuation</td><td>37</td><td>40%</td><td>166</td><td>29%</td><td>527</td><td>44%</td><td>1,105</td><td>52%</td><td>1,172</td><td>27%</td></tr>
<tr><td>Non super savings</td><td>6</td><td>7%</td><td>33</td><td>6%</td><td>101</td><td>8%</td><td>234</td><td>11%</td><td>1,731</td><td>40%</td></tr>
<tr><td>Home equity</td><td>49</td><td>54%</td><td>381</td><td>66%</td><td>571</td><td>48%</td><td>799</td><td>37%</td><td>1,473</td><td>34%</td></tr>
<tr><td>Total</td><td>92</td><td></td><td>580</td><td></td><td>1,199</td><td></td><td>2,138</td><td></td><td>4,376</td><td></td></tr>
<tr><td colspan="11">Income ($k)</td></tr>
<tr><td>Drawdown</td><td>3</td><td>7%</td><td>12</td><td>27%</td><td>38</td><td>56%</td><td>81</td><td>84%</td><td>176</td><td>100%</td></tr>
<tr><td>Age pension</td><td>34</td><td>93%</td><td>34</td><td>73%</td><td>30</td><td>44%</td><td>15</td><td>16%</td><td>–</td><td>0%</td></tr>
<tr><td>Total</td><td>36</td><td></td><td>46</td><td></td><td>69</td><td></td><td>96</td><td></td><td>176</td><td></td></tr>
<tr><td>ASFA Household Income Standards</td><td colspan="10">Income as % of ASFA</td></tr>
<tr><td>Modest $33.8k</td><td colspan="2">108</td><td colspan="2">136</td><td colspan="2">204</td><td colspan="2">285</td><td colspan="2">520</td></tr>
<tr><td>Comfortable $58.4k</td><td colspan="2">62</td><td colspan="2">79</td><td colspan="2">118</td><td colspan="2">165</td><td colspan="2">301</td></tr>
<tr><td colspan="11">Couples – Age 30</td></tr>
<tr><td colspan="11">Projected wealth ($k)</td></tr>
<tr><td>Superannuation</td><td>296</td><td>71%</td><td>501</td><td>64%</td><td>817</td><td>61%</td><td>1,246</td><td>59%</td><td>2,214</td><td>51%</td></tr>
<tr><td>Non super savings</td><td>10</td><td>2%</td><td>32</td><td>4%</td><td>89</td><td>7%</td><td>158</td><td>7%</td><td>1,073</td><td>25%</td></tr>
<tr><td>Home equity</td><td>113</td><td>27%</td><td>255</td><td>32%</td><td>434</td><td>32%</td><td>701</td><td>33%</td><td>1,017</td><td>24%</td></tr>
<tr><td>Total</td><td>419</td><td></td><td>788</td><td></td><td>1,340</td><td></td><td>2,105</td><td></td><td>4,304</td><td></td></tr>
<tr><td colspan="11">Income ($k)</td></tr>
<tr><td>Drawdown</td><td>16</td><td>32%</td><td>28</td><td>47%</td><td>48</td><td>64%</td><td>74</td><td>82%</td><td>175</td><td>100%</td></tr>
<tr><td>Age pension</td><td>34</td><td>68%</td><td>32</td><td>53%</td><td>27</td><td>36%</td><td>17</td><td>18%</td><td>–</td><td>0%</td></tr>
<tr><td>Total</td><td>50</td><td></td><td>60</td><td></td><td>75</td><td></td><td>91</td><td></td><td>175</td><td></td></tr>
<tr><td>ASFA Household Income Standards</td><td colspan="10">Income as % of ASFA</td></tr>
<tr><td>Modest $33.8k</td><td colspan="2">148</td><td colspan="2">178</td><td colspan="2">223</td><td colspan="2">270</td><td colspan="2">517</td></tr>
<tr><td>Comfortable $58.4k</td><td colspan="2">86</td><td colspan="2">103</td><td colspan="2">129</td><td colspan="2">156</td><td colspan="2">299</td></tr>
<tr><td>Wealth as % of 60 year old</td><td colspan="2">455</td><td colspan="2">136</td><td colspan="2">112</td><td colspan="2">98</td><td colspan="2">98</td></tr>
<tr><td>Income as % of 60 year old</td><td colspan="2">137</td><td colspan="2">131</td><td colspan="2">110</td><td colspan="2">95</td><td colspan="2">99</td></tr>
</table>

NOTE: • %'s may not add up to 100% due to rounding
        • income is the PV of annual income over expected life

For Richer, For Poorer										
Percentile	**5**		**25**		**50**		**75**		**95**	
Male Single – Age 60										
Income ($k)										
Drawdown	**0**	2%	**6**	21%	**16**	44%	**46**	76%	**114**	100%
Age pension	**22**	98%	**22**	79%	**20**	56%	**14**	24%	**–**	0%
Total	**23**		**28**		**36**		**60**		**114**	
ASFA Household Income Standards	Income as % of ASFA									
Modest	**$23.5k**		97		120		155		256	486
Comfortable	**$42.6k**		53		66		85		141	268
Male Single – Age 30										
Income ($k)										
Drawdown	**10**	31%	**18**	45%	**31**	64%	**46**	78%	**119**	100%
Age pension	**22**	69%	**21**	55%	**18**	36%	**13**	22%	**–**	0%
Total	**32**		**39**		**49**		**59**		**119**	
ASFA Household Income Standards	Income as % of ASFA									
Modest	**$23.5k**		138		167		207		253	508
Comfortable	**$42.6k**		76		92		114		140	280
Income as % of 60 year old		142		139		133		99		105
Female Single – Age 60										
Income ($k)										
Drawdown	**1**	4%	**4**	14%	**13**	36%	**32**	64%	**71**	94%
Age pension	**22**	96%	**22**	86%	**22**	64%	**18**	36%	**4**	6%
Total	**23**		**26**		**35**		**50**		**75**	
ASFA Household Income Standards	Income as % of ASFA									
Modest	**$23.5k**		99		111		149		212	321
Comfortable	**$42.6k**		55		61		82		117	177
Female Single – Age 30										
Income ($k)										
Drawdown	**6**	21%	**10**	32%	**17**	44%	**28**	61%	**55**	85%
Age pension	**22**	79%	**22**	68%	**21**	56%	**18**	39%	**10**	15%
Total	**28**		**33**		**38**		**46**		**65**	
ASFA Household Income Standards	Income as % of ASFA									
Modest	**$23.5k**		121		140		164		196	277
Comfortable	**$42.6k**		67		77		90		108	153
Income as % of 60 year old		122		126		110		93		86

Key

Projected Wealth

$ Total assets

- Superannuation
- Non super savings
- Home equity

Income*

$ Total annual income

- Drawdown
- Age Pension

	25th percentile	Median percentile	75th percentile

Older Cohort – Age 60

Couple
- Wealth: $580k | $1.199m | $2.138m
- Income: $46k | $69k | $96k

Male
- Income: $28k | $36k | $60k

Female
- Income: $26k | $35k | $50k

Risks

- Smaller risk from reduction in indexation of Age Pension.
- Little exposure to investment risks
- Risk of reduced benefits

- Exposed to investment and inflation risk
- Need to release housing value
- Risk of reduced benefits.

- Exposed to investment risk on substantial asset holdings.

Younger Cohort – Age 30

Couple
- Wealth: $788k | $1.340m | $2.105m
- Income: $60k | $75k | $91k

Male
- Income: $39k | $49k | $59k

Female
- Income: $33k | $38k | $46k

Risks

- Significant risk from reduction in indexation of Age Pension.
- Minor investment risks
- Risk of reduced benefits

- Investment and inflation risk
- Lower housing value yield
- Higher taxes to support current retirees while less support in own retirement

- Exposed to investment risk on substantial asset holdings.

* Income is the present value of annual income over expected life

Appendix J Insights CONTINUED

Across wealth cohorts…

There is a strong reliance on **Age Pension** for **half the older population**. It comprises:

93% of *total retirement income* for 5th percentile;

73% for 25th percentile and;

44% for 50th percentile

Tapping into **home equity** may help lower wealth groups. **As a percentage of their current wealth, home equity is:**

66% for 25th percentile

48% for 50th percentile

37% for 75th percentile

Lower and medium wealth groups in younger cohorts will have a higher proportion of their total wealth in superannuation, with home equity proportions falling.
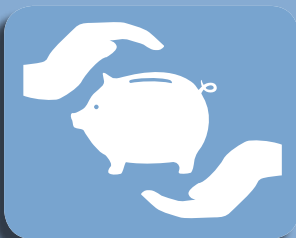
Wealth and income comparison

A full Age Pension ($816k) provides a base level of income for lower wealth groups. These figures show the less affluent are currently heavily reliant on Age Pension.

Older, high wealth (75th percentile) groups have
3.6 times the wealth
of lower wealth groups (25th percentile)
but only twice the income

This reduces to
2.7 times the wealth and
1.7 times the income for younger cohorts

Intergenerational comparisons…

The **Superannuation Guarantee** is making younger generations in lower wealth groups less dependent on Age Pension. As a percentage of their total retirement income, the Age Pension will be:

68% for 5th percentile

53% for 25th percentile

36% for 50th percentile

Currently it is **93%, 73%** and **44%** respectively

Although it's improving, **females** are a **lot more dependent** on the age pension than males

For Single Females the Age Pension is projected to be:
79% of total retirement income for 5th percentile;
68% for 25th percentile and
56% for 50th percentile.

Currently it is **96%, 86%** and **64%** respectively

For Single Males the Age Pension is projected to be:
69% of total retirement income for 5th percentile;
55% for 25th percentile and
36% for 50th percentile.

Currently it is **98%, 79%** and **56%** respectively

Notes