

Getting the Measure of the Problem

Retirement income standards and real adequacy



cappa

Centre for Applied Policy
in Positive Ageing

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Executive Summary

Among the many contested features of Australia's retirement income system is how much money a person needs to get by. What a person 'needs' is inherently subjective, depending on personal values and informed by a person's income and spending patterns before retirement. What type of lifestyle the tax and transfer system should support is open to debate. Beyond alleviating poverty, what is the point at which the system is aiming? These are just some of the reasons why trying to use a measure of retirement income adequacy is laden with problems.

Existing research shows the limitations of various retirement income measures. One measure determines a desirable retirement income by reference to wages earned before retirement.

Another measure is based on a typical basket of goods consumed in retirement. The arbitrary nature of what constitutes the 'typical' basket is an inherent limitation of this measure. Another limitation, **the focus of this paper**, is that the basket of goods does not include ongoing housing costs for people who are renting or who have mortgage debt in retirement¹. This is of particular concern given the growing number of Australians in these two categories.

This paper uses three scenarios to quantify and illustrate the additional costs in retirement for people paying private rent or servicing mortgage debt.

The **first scenario** is a single woman living in Melbourne and in private rental. We found that at age 65, this person had an additional \$8,670 per year in housing costs, and an additional \$3,680 per year at age 85. The number of people in this woman's situation are growing at a rate of 19%.

We also found that a likely superannuation balance for this woman in 2015 is \$73,629. Over the course of this woman's life, the difference between a 'modest'² standard of living in retirement that includes housing costs and the income she is likely to derive from her superannuation balance is \$173,034.

The **second scenario** is a couple living in Sydney who have mortgage debt. We found that this couple had an additional \$4,419 per year in housing costs in early retirement but had paid off their debt by the time they had both reached 85. The number of households in this situation is growing at a rate of 22.7%.

¹ Renting or mortgage repayments are referred to as 'housing costs' for the purposes of this paper.

² This refers to a 'modest' standard of living as defined by the Retirement Standard developed by the Association of Superannuation Funds of Australia (ASFA).

We also found that a likely superannuation balance for this couple in 2015 is \$241,867. Over the course of their lives, the excess above a 'modest' standard of living in retirement that includes housing costs and the income they are likely to derive from their joint superannuation balance is \$2,290.

The **third scenario** is a single man living in regional New South Wales and in private rental. We found this person had an additional \$8,390 per year in housing costs at age 65 and an additional \$3,540 per year at age 85. The number of people in this man's situation are growing at a rate of 7.5%.

We also found that a likely superannuation balance for this man in 2015 is \$134,820. Over the course of this man's life, the difference between a 'modest' standard of living in retirement that includes housing costs and the income he is likely to derive from his superannuation balance is \$170,251.

The scenarios we modelled in this paper show that retirement income needs look very different when you include housing costs. A notable, and growing, proportion of our society has a higher cost of living in retirement than is contemplated by the existing basket of goods measure. These are often the same people who have been disadvantaged by the superannuation system in accumulation phase. The evidence in the paper strongly suggests that for a growing cohort of retirees, current adequacy standards lack relevance to their situation and therefore lack utility for policymakers.

For measures of retirement income adequacy to be useful they need to be both broadly applicable and speak to the circumstances of people. The existing basket of goods measure which is predicated on outright home ownership does not apply to growing numbers of Australians. This has a negative impact on the quality of public debate, on policy design and, ultimately, on quality of life for these people as they age.

Introduction

“When the dispute over the Means Test was in progress there was a disgusting public wrangle about the minimum weekly sum on which a human being could be kept alive. So far as I remember, one school of dieticians worked it out at five and ninepence, while another school, more generous put it at five and ninepence halfpenny. After this there were letters to the papers from a number of people who claimed to be feeding themselves on four shillings a week.”

George Orwell, *The Road to Wigan Pier* (1937)

Retirement income adequacy is one of the most vexed policy issues facing Australia today. As average life expectancies continue to grow, income must stretch further. As large numbers of baby boomers move into older age, more people will find themselves in retirement, figuring out how to fund their post-work lives.

Too often, the public discourse around retirement incomes focuses merely on building superannuation balances and notional projections of annual income that balance is capable of delivering. The debate is then prone to becoming focused on the assumptions behind, and sufficiency of, different balances. Is \$1 million enough to retire on? Does a person really need \$1 million to retire?

This focus is at the expense of thinking about what a person’s likely income needs are after they have retired. It also obscures the fact that existing measures of the income needed in retirement do not capture the critical demands which people have on their income in retirement, notably housing.

There are a number of ways of estimating the income needed for retirement. One is to aim for a retirement income which is a percentage of consumption before retirement, known as a ‘replacement rate.’ A second measure is to target a level of wealth which funds different levels of income in retirement. A third approach is to model a weekly basket of goods which a person is likely to consume in retirement. This third approach is widely, although by no means exclusively, used to benchmark retirement income adequacy. It does not include rental or mortgage costs, leading to an underestimation of the real income needed for the growing numbers of Australians with housing costs in retirement.

All measures of income adequacy have their limitations. Indeed, retirement income adequacy measures are inherently limited, applying standards of ‘need’ to heterogeneous groups of people with varying expectations of how they want to live as they age, and with varying life expectancies. Orwell’s quote from *The Road to Wigan Pier* speaks to this, and alerts us to the dangers of a lowest common denominator approach to the concept of ‘adequacy.’

Equally, measures of income adequacy are necessary for the public to understand their retirement income needs and for policymakers to diagnose the extent and nature of any inadequacy of retirement savings (Burnett et al, 2014: 4). This paper has been prepared to illustrate the importance of capturing housing costs in retirement income standards in order to highlight the limitations of existing measures. This will quantify a realistic retirement income for people renting and with mortgage debt, and contribute to a more accurate public discussion around retirement income adequacy.

Existing Measures and their Limitations

There are a number of different ways of measuring retirement income adequacy. This section gives a brief overview of these measures and their limitations.

None of the existing measures of retirement income adequacy pay sufficient regard to the changing circumstances of Australians, foremost of which is the increasing number of people moving into retirement with mortgage debt or living in private rental. These housing costs place additional pressures on retirement income needs.

The **first** is a 'replacement ratio' which says that retirement income is best understood as a percentage of pre-retirement wages. The idea behind the replacement ratio is that a person's income in retirement should be a reasonable proportion of their pre-retirement wages. It is not a full replacement of wages because people do not tend to have the same sorts of costs in retirement like raising children or paying a mortgage. In Australia the gross replacement ratio is currently 60.2% for men and 55.8% for women, against an OECD average of 57.9% and 57.2% respectively (OECD, 2013: 135). Treasury's preference is for a replacement ratio of 75% because the superannuation guarantee is largely designed to improve income adequacy for middle and lower income earners (Gallagher, 2009).

Despite targeting a certain percentage of pre-retirement wages, the replacement ratio approach doesn't adequately take into account that income needs change as people age. Analysis by Burnett et al shows that the income replacement ratio tends to be higher for low-income groups and lower for high-income groups, despite the latter group having higher consumption levels (Burnett, J et al, 2014: 6). The replacement ratio is also contingent on the point in time in which wages are measured, which tends to be predicated on a linear increase in pay over a working life, so you end on your highest income. This assumption simply does not apply to many people.

The **second** measure, Treasury's preferred model, is based on a comparison of potential expenditure before and after retirement. It is an after-tax measure which takes account of the drawdown of capital during retirement and, as a result, takes better account of the contribution of retirement savings to maintain living standards in retirement (Treasury, 2002).

A **third** measure of retirement income adequacy is to model a basket of goods which a 'typical' individual or couple might consume in a week. The basket includes essentials like food, clothing and utilities, as well as expenditure on non-essentials like alcohol and travel. Using the same basket of goods, the measure indicates what a 'modest' and a 'comfortable' basket might look like. For example, cask wine is part of a 'modest' budget while bottled wine is part of the 'comfortable one'; having little money to run an air conditioner is 'modest' while using a range of electronic equipment like air conditioning is 'comfortable' (ASFA, 2015: 3). The model contains estimates for a typical basket of goods a person would consume in early retirement, and then further into old age as expenditure patterns change, for example the likelihood that aged care spending will go up.

The basket of goods approach to measuring retirement income adequacy avoids the limitations associated with a measure linked to wages. The income which people earn immediately before retirement is just that: a point in time measurement of earnings from employment. This type of measurement might have been appropriate when workers could expect job progression and reliable wages over their lives. With the nature of work changing rapidly, and many people forced out of the workforce before they would wish to leave or into different work, this approach has less and less applicability.

The basket of goods approach, the most widely known of which is the 'ASFA Retirement Standard,' assumes that an individual or a couple owns their home outright. It does not have to do this. The most recent version of the Standard builds in two baskets of goods – one at age 65 and one at age 85. Splitting the retirement costs into two points in a person's life acknowledges that spending changes over a person's life, and as Australians live longer, understanding costs at 85 and above is going to become more relevant.

The new Standard also acknowledges ongoing housing costs as people age, including things like home maintenance (ASFA 2015: 5). This is welcome, however problems with the Standard remain given the increasing number of Australians moving into retirement with housing costs. Those renting in retirement increased 42.8% between the 2006 Census and 2011 Census (HAAG), and property debt among people aged 50-64 rose 123 per cent between 2002 and 2010. Notably, the property debt increases were due to higher borrowing against the properties rather than adding value to the properties (Kelly, 2012: 19). This will have flow-on effects as this group of people move into older age, having to service housing debt as well as funding their retirement.

In its recent study on retirement incomes, the Productivity Commission noted that among people in early retirement (age 60-64), where the growing number of households with mortgages was concentrated, there was no significant change in the debt-to-value being carried (Productivity Commission, 2015: 153). That is, the growth in mortgage debt levels among older people does not appear to be as a result of these households leveraging themselves more highly.

The Productivity Commission has noted a study by Bray (2013) which found that Australians who are carrying mortgages into later stages of life also tend to have the means to sustain this debt, including by continued workforce participation (Productivity Commission, 2015: 89). This analysis is limited by the fact that it does not take into account issues like age discrimination and early redundancy which preclude many people from servicing debt by working for longer.

Both replacement ratios and budget standards are limited in that they only seek to assess the effectiveness of the retirement income system on the income it provides, not capturing the value a retiree places on not having to work (that is, leisure) and other services they may receive (Henry, 2010).

A more holistic view of people's circumstances needs to be taken into account so that the retirement income needs of Australians who rent or are paying off their homes are understood. Policy silos tend to prevent us thinking more broadly and more accurately about the crossovers between things like retirement incomes, housing, health and aged care (ACOSS, 2015:16). The next section of this paper looks specifically at income needs in retirement, and argues that a more realistic measure would begin with the inclusion of housing costs.

As Bradbury & Gubhaju note, there is a 'long tradition' in Australia of taking housing into account when looking at the living standards of older Australians. They note that, 'early work using this 'income after housing costs' measure includes the Commission of Inquiry into Poverty (1975) and Bradbury, Rossiter and Vipond (1986). More recent work includes McNamara, Tanton and Phillips (2007)' (Bradbury & Gubhaju, 2010: 1). This paper builds on that body of work and also seeks to introduce this model to a wider audience because it is imperative that ordinary Australians have an understanding of the limitations of retirement income adequacy measures in order to plan for their income needs as they age.

Retirement Income Needs

Our Scenarios

It is generally understood that people dependent on the age pension are more susceptible to increasing consumption costs in retirement because their income is fixed. It is also well understood that certain groups of people have higher consumption costs in retirement, for example people who rent in the private rental market. Three scenarios give dimensions to what these costs are.

We chose these scenarios because they capture the growing number of Australians moving into retirement carrying housing costs. While around 80% of those people who have retired own their home outright, this proportion of people is declining over time. Home ownership rates for older Australians, like home ownership rates overall, are projected to fall to 55% by the middle of the century (Senate Economics References Committee, 2015: 189). It is therefore important to consider the retirement income needs of the growing proportion of people to whom the assumption of outright home ownership in retirement does not apply.

Using the Household Income and Labour Dynamics (HILDA) survey, we extracted the average housing costs (either rent or mortgage repayments) for people aged 65 to 84 and 85 and over. Given that housing costs vary by geography, we looked at the average rental costs in Melbourne, the average mortgage in Sydney and the average rental costs in regional NSW. We looked at Melbourne and Sydney to capture the higher housing costs of those cities, and because of the large population growth in those areas. We looked at regional NSW in order to capture housing costs in an area outside of Australia's major cities. The data we used for this exercise does not permit an analysis which is more localised than major city and regional state area.

We also established the proportion of the older (aged 65+) population which each scenario represents, and the rate at which this proportion is growing over time. This was done to understand the significance of the groups of people represented by each scenario.

Stella

Stella is a single woman, aged 59, renting a unit in a suburb of Melbourne.

Women in Stella's position represent 5% of the national population, a group which is growing at a rate of 19%.

Age 65: We found that on average, people in Stella's position have housing costs of \$167 per week, or \$8,670 per year.

Age 85: We found that on average, people in Stella's position have housing costs of \$70 per week, or \$3,680 per year.

Elizabeth and Joe

Elizabeth and Joe are a couple aged 59 and 56 respectively. They are paying off the mortgage of \$1,000 per month for a house in Sydney which is the average amount of mortgage debt for a house in that area.

People in Elizabeth and Joe's position represent 23% of the national population, a group which is growing at a rate of 22.7%.

Age 65: We found that on average, people in Elizabeth and Joe's position have housing costs of \$85 per week, or \$4,419 per year.

Age 85: We found that on average, people in Elizabeth and Joe's position do not have any housing costs.

Anton

Anton is a single man, aged 56, renting a unit in a town in regional NSW.

Men in Anton's position represent 2.3% of the national population, a group which is growing at a rate of 7.5%.

Age 65: We found that on average, people in Anton's position have housing costs of \$161.35 per week, or \$8,390 per year.

Age 85: We found that on average, people in Anton's position have housing costs of \$68 per week, or \$3,540 per year.

Table 1: Scenario Assumptions

	Scenario 1	Scenario 2		Scenario 3
Name	Stella	Elizabeth	Joe	Anton
Age at retirement	59	59	56	56
Work type	Clerical	Clerical	Professional	Manual
Work history by age	23-27 (FT) 31-42 (PT) 43-59 (FT)	23-29 (FT) 33-37 (PT) 38-59 (FT)	26 – 56 (FT)	18-56 (FT)
Housing situation	Private rental – Melbourne	Own home with mortgage – Sydney		Private rental – Regional NSW

Likely superannuation balances

For each of our three scenarios we then modeled a set of variables in the superannuation accumulation phase in order to establish what their superannuation balance might be. The purpose of this part of the modeling exercise was to establish the likely shortfall between retirement income and retirement income needs for people with housing costs in retirement.

We factored a number of variables into the accumulation phase that have an impact on superannuation balances. These were gender, relationship status, job type, hours worked (full-time/part-time) and retirement age.

Housing costs are not relevant to accumulation of superannuation, however assumptions around housing were used to estimate assets that, together with super, contribute to retirement income. For example, we assumed that a person who does not own their own home ahead of retirement will have minimal other assets.

The superannuation balance in each scenario is represented in today's dollars for a person retiring in 2015. Although the retirement age for each person is different, all three of our scenarios are people who have worked prior to the introduction of the superannuation guarantee in 1992. Naturally, this means that their superannuation balances will be lower than people retiring in the future who have had the superannuation guarantee throughout their working lives.

We assumed a long-term net return on investment of 6.0% and that workers earn the average wage for their job type and gender. A part time-wage was taken to be half of a full time wage.

Stella

During her working life Stella worked in accounts at a large public hospital. She worked full-time from age 23 until 27, followed by a period of three years out of the workforce to have children. After this time she returned to part-time work until her marriage dissolved at age 42. After her marriage ended Stella went back to full-time work and retired at age 59, the average age of retirement for a woman in her sort of work.

Stella does not own her home and has minimal other assets.

Estimated Superannuation Balance: \$73,629

Elizabeth and Joe

A married couple, the woman in a clerical job and the man in a middle professional job.

Elizabeth works full time from age 23 until age 29, followed by a period of three years out of the workforce to have children. She then returns to part time work until age 37, after which she works full time and retires at age 59, the average age of retirement for a woman in clerical work.

The man works full time from age 26 until age 56, when he takes an early redundancy package.

The couple have a mortgage on their home. They also own further assets, the value of which is the average amount for a couple in their situation.

Estimated Superannuation Balance (Combined): \$241,867

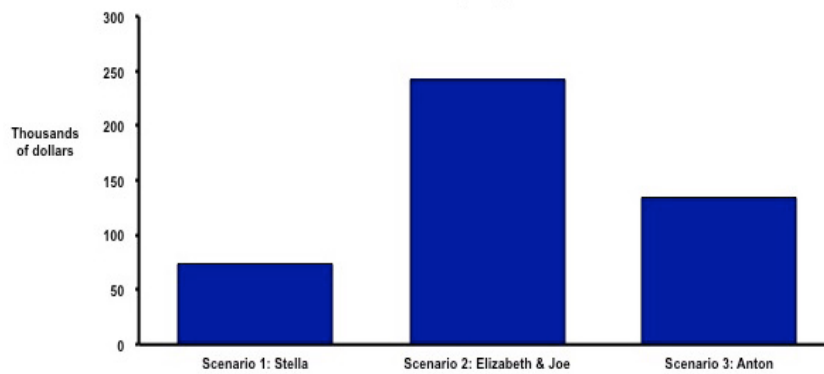
Anton

Single man in manual work, who works full time from age 18 until age 56, the average age of retirement for a man in manual work.

He lives in the family home with a mortgage until his marriage dissolves at age 47, receiving a 50% share of the equity in the home when the marriage ends. He does not have any further assets.

Estimated Superannuation Balance: \$134,820

Figure 1:
Estimated Superannuation Balance at Retirement (2015)

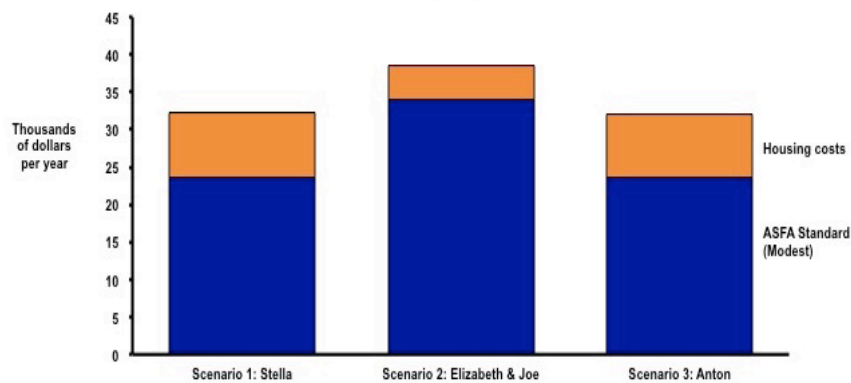


Source: ABS, APRA, Per Capita analysis

Assumptions

For each of these scenarios we assumed a starting superannuation balance of zero. Workers earned the average salary for their work type. Superannuation contributions were limited to the superannuation guarantee level. Wages growth was an average of the rate of growth for each age bracket for each year. The real rate of return on superannuation was of 4.3%³ per annum. The average retirement age was calculated by reference to the type of work.

Figure 2:
Estimated Living Costs at Age 65 (2015)



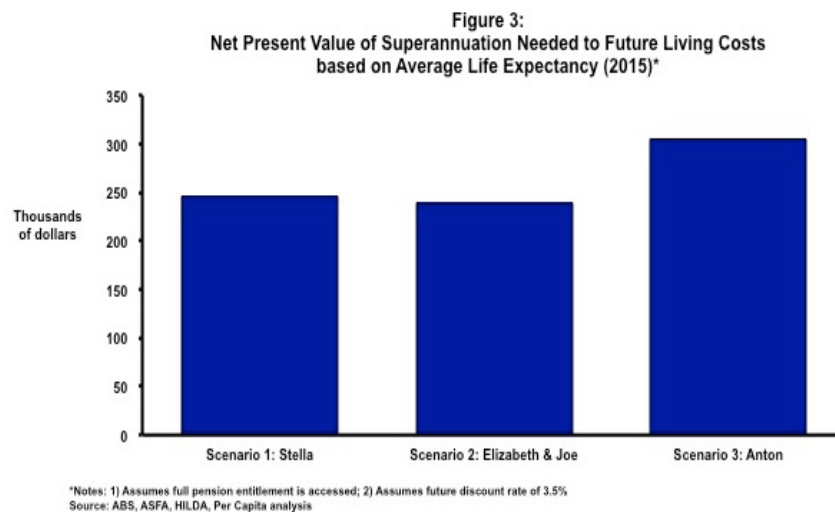
Source: ASFA, HILDA, Per Capita analysis

³ We used an average real rate of return across all fund types as reported by APRA. The rate of return is calculated using the net earnings after tax, divided by cash flow adjusted net assets (APRA, 2013: 25).

What is the shortfall for each of the scenarios?

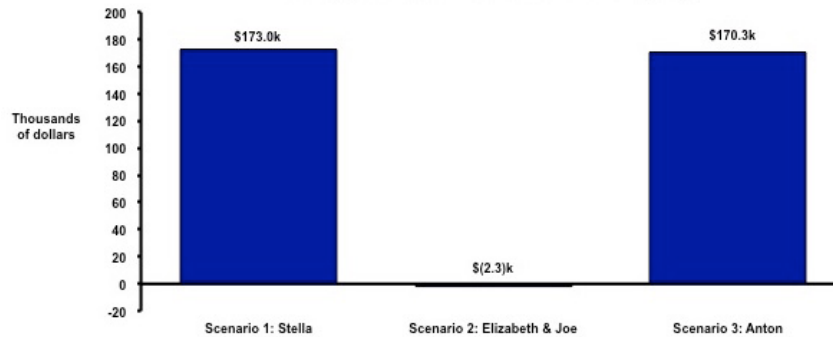
Having modeled the retirement income needs for three scenarios and the likely superannuation balance each person has moving into retirement, we could then estimate how far below a certain standard of living these people will fall in retirement.

The standard from which we measured the shortfall for each scenario is the ASFA Modest Standard plus housing costs (private rental or mortgage repayments, as applicable). This standard represents a standard of living which is 'better than the Age Pension but still only able to afford fairly basic activities.' We took this point to measure the shortfall rather than the ASFA Comfortable Standard because this higher figure represents an aspirational standard of living in retirement. It is questionable whether the lifestyle contemplated by the Comfortable Standard is one which should be supported through the tax and transfer system, whether by superannuation tax concessions or the age pension. It is also unlikely that the Comfortable Standard is applicable to the sorts of low-income, low-asset wealth people contemplated in our scenarios.



Having said this, we do not make the suggestion through focusing on the ASFA Modest Standard that this measure, plus housing costs, is the point at which retirement income adequacy should be measured. This paper simply shows what that very basic standard of living is more likely to look like, with housing costs factored in. This is important because of the growing numbers of Australians moving in the later stages of their lives renting or with mortgage debt to service.

Figure 4:
Shortfall between Net Present Value of Required Future Superannuation and Superannuation Balance at Retirement (2015)



Source: ABS, ASFA, HILDA, Per Capita analysis

Assumptions

In each scenario we assumed an average life expectancy for the person's gender. We used cohort life expectancies that factor in changes in morbidity patterns over a person's life. A discount rate of 3.5% was applied which is the average real rate of return for a balanced superannuation fund for the last 10 years. A part time wage was taken to be half the wage of a full time wage.

Analysis/Suggestions for Change

The ASFA Standard for the + 85 year olds should be rejigged to account for later life housing arrangements like nursing home costs. (While the value of the home is ignored by the age pension test and most government means testing it is not ignored when nursing home operators are estimating the price of their services for potential customers).

Conclusion

The fastest growing group of Australians is those in older age. This feature of our demography is well understood. It is therefore crucial that policymakers and the public understand the particular dimensions of how those people are living and what their financial needs are.

Two growing cohorts of Australians are those renting in retirement and those servicing mortgage debt. Neither of these situations are contemplated by widely used measures of retirement income adequacy, foremost of these being the ASFA Standard. It should be noted that the growth of these cohorts has been occurring for some time; it is not a new phenomenon. It with a degree of urgency, then, that our public discussion around retirement income must include the housing costs of these groups of people.

This paper has been prepared to demonstrate the inadequacy of retirement income adequacy measures, in particular the baskets of goods approach, and to quantify the precise dimensions of the shortfall. We looked at single people in the rental market, men and women, in regional Australia and in a major city. We also looked at a couple living in a major city paying off mortgage debt. The people in these scenarios represent people who are moving into retirement now, with basic savings and assets.

The purpose of this paper is to introduce greater accuracy in our public discussion around retirement incomes, particularly for Australians retiring without much. The conversation has to include housing costs for the growing number of Australians who don't find themselves owning their home outright in retirement. This needs to inform both policy design and the public as they plan for retirement.

This paper has not looked at the policy levers which respond to the need to factor in housing costs into retirement income needs. In relation to renting, such levers include assessing the adequacy of Commonwealth Rent Assistance and other measures directed to increasing the supply of affordable housing that factor in lifelong design principles. In relation to increasing mortgage debt, the policy measures include financial literacy around the implications of carrying mortgage debt into retirement and the potential impact on funds available for aged care in later life.

How well Australia prepares for an older society is determined in large part by the quality of policy design. This, in turn, is dependent on an accurate discussion around the real income needs in retirement which includes all groups of Australians, not just those fortunate enough to own their home.

References

- ABS (2015). *Average Weekly Earnings*. cat. no. 6302.0. ABS, Canberra.
- ABS (2014). *General Social Survey*. cat. no. 4159.0, ABS, Canberra.
- ABS (2013). *Retirement and Retirement Intentions*. cat. no. 6238.0. ABS, Canberra.
- ACOSS (2015). Submission to Government's Retirement Incomes Review, available from <http://bettertax.gov.au/files/2015/08/Australian-Council-of-Social-Service-Submission-4.pdf>.
- AIHW (2007). *Older Australians at a Glance*. 2012 update, Income, Wealth and Expenditure, available from <http://www.aihw.gov.au/publication-detail/?id=6442468045&tab=2>.
- APRA (2013). Australian Prudential Regulation Authority 2013, Superannuation Fund Level Rates of Return, Issued January 2014, APRA, Sydney.
- ASFA (2015). *ASFA Retirement Standard Summary*, available from file:///Users/emilymillane/Downloads/ASFA-RetirementStandard-Summary%20(6).pdf.
- Bradbury, B & Gubhaju, B (2010). *Housing Costs and Living Standards Among the Elderly*. Occasional Paper No. 31, Department of Families, Housing, Community Services and Indigenous Affairs. Canberra: Commonwealth of Australia.
- COTA (2014). *Submission to Inquiry Into Affordable Housing*, March. Canberra: COTA National Policy Office.
- Burnett, J, Davis, K, Murawski, C, Wilkins, R & Wilkinson, N (2014). *Measuring Adequacy of Retirement Income Savings*. Melbourne: Melbourne Institute.
- Gallagher, P (2009). *Treasury Approaches to Measuring Retirement Income Adequacy*. Presentation to Super Policy Forum, Institute of Actuaries of Australia, available from <http://actuaries.asn.au/Library/Phil%20Gallagher.pdf>.
- Housing for the Aged Action Group (HAAG). *Older Persons Housing Fact Sheet*, available from <http://www.older tenants.org.au/publications/older-persons-housing-fact-sheet>.
- Henry Review of Taxation (2010). Consultation Paper, Appendix D: Measures of Retirement Incomes, available from: http://taxreview.treasury.gov.au/content/ConsultationPaper.aspx?doc=html/publications/Papers/Retirement_Income_Consultation_Paper/Appendix_D.htm.

Kelly, S (2012). "Household Savings and Retirement: Where Has All My Super Gone?" Report for CPA Australia, available from https://www.melbourneinstitute.com/downloads/hilda/Bibliography/Other_Publications/2012/Kelly_household-savings-retirement.pdf

OECD (2013). *Pensions at a Glance: OECD and G20 Indicators*. OECD Publishing.

Petersen, M & Jones, A (2013). "Address Later Life Homelessness." Report for the Institute for Social Research, the University of Queensland, available from https://www.melbourneinstitute.com/downloads/hilda/Bibliography/Other_Publications/2012/Kelly_household-savings-retirement.pdf.

Senate Economics References Committee (2015). *Out of Reach? The Australian Housing Affordability Challenge*. May. Canberra: Commonwealth of Australia.

Treasury (2002). *Submission to Senate Inquiry into Superannuation and Standards of Living in Retirement*, available from <http://rim.treasury.gov.au/content/submission/ERContribution-01.asp>.

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