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Superannuation and economic inequality among older Australians: evidence from HILDA

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Abstract

This article seeks to identify the effect that the current superannuation system has on economic inequality in later life. The analysis uses income and wealth data from the Household Income and Labour Dynamics in Australia (HILDA) survey, collected between 2002 and 2014, to examine wealth inequality, which includes the balance of a superannuation accumulation account, and income inequality, which includes private pension income. The main findings are that inequality in superannuation holdings is considerably higher than wealth inequality among older Australians and that inequality increases with age, but overall the age pension and home ownership have had a moderating effect on income and wealth inequality over this period.

Key words: Economic inequality; superannuation; income distribution; wealth distribution

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1. INTRODUCTION

This article examines the extent of economic inequality among Australians over 55 years of age, and seeks to identify the effect, if any, that the current superannuation system is having on economic inequality in later life. It examines inequality by reference to wealth, which includes the balance of a superannuation accumulation account, and by reference to income, which includes private pension income. It uses income and wealth data from the Household Income and Labour Dynamics in Australia (HILDA) survey, collected between 2002 and 2014.

Economic inequality encompasses income inequality and wealth inequality. Income inequality refers to the distribution of income across a given population. Wealth inequality is a measure of the distribution of net worth across a population. Wealth is concentrated among older age groups as it represents surplus earnings accumulated during working life. However, a significant proportion of this wealth is locked into non-productive assets and so older Australians are frequently 'asset rich but income poor'.

Superannuation is represented in both income and wealth distributions. Superannuation accumulation funds form part of the wealth data. However, if the purpose of superannuation is to support a person in their retirement (Financial System Inquiry Panel, 2014), the asset must be converted to an income flow as an annuity or pension, and this income flow will appear in the income distribution data.

The retirement income system in Australia is built on three pillars: the Age Pension; the Superannuation Guarantee; and other retirement savings. Saving through the superannuation system, whether mandatory or voluntary, is supported by tax concessions. Recent debate has highlighted the unequal distribution of superannuation, and the consequential unequal distribution of tax concessions (Australian Treasury, 2015b, p. 90; Daley & Coates, 2015).

Government policy in a number of areas will need to address the aging of the population: the age dependency ratio (the ratio of those age 65 and over to those aged 15 to 64) is expected to decrease from 4.5 in 2014-15 to 2.7 in 2054-55 (Australian Treasury, 2015a). The extent of inequality among older Australians is important in designing policy in a number of core areas, including the age pension; health and aged care; housing; and—most importantly for this article—superannuation.

A recent report by the Organisation for Economic Co-operation and Development (OECD, 2017), *Preventing Ageing Unequally*, highlights concern that modern economies are tending to increase economic inequality in general and amongst the elderly in particular. The report (OECD, 2017, p. 15) says:

> "Ageing unequally" refers to inequality that develops throughout the life course and materialises in old age. It is often the result of specific episodes during people's lives that tend to cumulate their detrimental effects on health and income at old age. Ageing unequally is not a new phenomenon, but while the current generation of older people is experiencing higher incomes and lower poverty risks than previous ones in most countries, the younger generations are likely to face again higher inequality in old age. They are expected to live longer, but have been experiencing more unstable labour market conditions and widening inequalities in the distribution of earnings and household income.

The present study can be seen in this context as part of the necessary monitoring of inequality trends amongst the older population. It provides some benchmark data against which future trends can be measured.

This article proceeds as follows. Section 2 discusses the state of economic inequality in Australia in recent years. Section 3 reviews the development of the superannuation system, identifying the significant reforms and when they occurred. Section 4 sets out the methodology we used in our examination of the effect of superannuation on inequality among older Australians. Section 5 details our findings. Finally in section 6 we present our general conclusions and identify the implications of our analysis on the development of retirement income policy.

2. INEQUALITY IN AUSTRALIA

It is generally understood that income and wealth are each related to age but the two trajectories are importantly different. Income generally peaks in mid-life and falls in later life. Wealth rises with age more slowly than income and levels off or falls less sharply in later life. A typical life-cycle moves from an asset poor but income rich phase in early life to an income poor but asset rich phase in later life, with an income rich and asset rich phase in mid-life. The joint effect can be thought of as age-related economic well-being.

There has been much recent debate over economic inequality trends globally (Keeley, 2015; Piketty, 2014). The Australian data show that neither income nor wealth inequality overall is increasing in the period since 2000, although there does seem to be an increasing share of income and wealth at the top percentile level (Fenna & Tapper, 2015; Leigh, 2013; Wilkins, 2015 and OECD data (OECD.Stat)). However, there has been little analysis of trends in inequality among older Australians as a subset of the population. Two very different questions arise here. One, are older Australians more or less economically equal than the general population? Two, is the trend amongst the older population tending to decrease or increase inequality? The second question is especially apposite given that the Australian superannuation system is shaping retirement wealth and incomes as it progressively evolves. These two questions are the focus of this article.

3. THE DEVELOPMENT OF THE SUPERANNUATION SYSTEM

Australia's retirement income system is often described as being based on three pillars (Australia's Future Tax System Review Panel (Henry Review), 2009). However, the World Bank framework takes a broader policy perspective, identifying five tiers (World Bank, 2008):

1. a basic income safety net in retirement;
2. contributory pensions;
3. mandatory retirement savings schemes;
4. self-provision, which may be encouraged through tax concessions; and
5. a non-financial fourth pillar that includes housing and social services including health and aged care.

This extended framework acknowledges the importance of housing and social services in maintaining well-being into retirement.

The three pillars formalised in the Australian retirement income system are the basic income safety net, mandatory retirement savings, and self-provision. Contributory pensions were rejected as a policy option in Australia in the first half of last century. In 1972 the Hancock Inquiry recommended the introduction of earnings-related supplementary contributions to the age pension that could raise the pension to levels of around 30% of average weekly earnings (AWE) (National Superannuation Committee of Inquiry, 1976), but this proposal was rejected by the Fraser government. Accordingly the age pension is funded through general revenue and is not calculated by reference to pre-retirement income, occupation or contributions. In the Australian system self-provision is encouraged through voluntary additions to the mandatory level of superannuation.

Superannuation in Australia is often described as a maturing system. It has long been a feature of the Australian retirement income system, with schemes for white collar, public sector, and self-employed workers having been in place for many years; however by 1986 less than 40% of employees had superannuation coverage (Australian Treasury, 2001). Superannuation has been supported as a savings retirement vehicle through the federal income taxation system since its introduction in 1915. The *Income Tax Assessment Act 1915* allowed tax deductions for superannuation contributions paid by employers in respect of employees, and exempted the earnings of a superannuation fund, to the extent those earnings supported pension payments.

Employees paid under award agreements were included in award-based schemes from 1987 following the Accord Mark II agreement under which the unions deferred 3% of cost of living wage increases into superannuation: the precursor of the Superannuation Guarantee. The mandatory superannuation guarantee based on a proportion of employee earnings dates from only 1993, when it was introduced to provide ‘an equitable and attractive retirement income arrangement for ordinary Australians’ (Keating, 1991), with superannuation savings encouraged through favourable tax treatment. Notably, Keating did not envisage the mandatory superannuation as replacing the age pension, but a supplement that would maintain retirement income at around 30% of AWE.

Superannuation guarantee contributions were initially set at 3%, increasing to 9% by 2002. The first generation of workers to have had access to the superannuation guarantee for their entire working life will not begin to retire until around 2040. Accordingly a person who retired in 2002 will have been subject to the superannuation guarantee for nine years, at rates below 9% whereas a person who retired in 2014 will have accumulated significantly higher superannuation guarantee entitlements as they will have been covered for 21 years and contributions for half of that time will have been at 9%.

The next significant reform was in 2007. The ‘Simpler Super’ changes (*Tax Laws Amendment (Simplified Superannuation) Act 2007*) saw the exemption of pensions paid from superannuation fund earnings to a person over 60 and the introduction of generous contribution caps to replace reasonable benefit limits encourages contributions at a rate higher than that required to provide a comfortable level of income in retirement.

Contributions to, and investment earnings of, superannuation funds have been taxed at a flat 15% rate since 1988. The tax rate applied to contributions is applied to

contributions from sources that have not been taxed, notably superannuation guarantee contributions and other voluntary contributions directly from salary (salary sacrifice contributions). As these contributions are taxed at a flat rate of 15%, where a person is paying a marginal tax rate that is over 15%, there is a tax advantage in diverting income into superannuation. However the second tax expenditure, 15% on the earnings of superannuation funds, creates a potentially greater opportunity to exploit the difference between personal marginal tax rates and the concessional tax rate paid by the superannuation fund. This arbitrage is increased when the fund goes into retirement phase as the earnings on assets set aside to provide a pension are exempt from income tax under section 295-385 of the *Income Tax Assessment Act 1997*.

Superannuation funds are used to support the 'self-provision' retirement income pillar, allowing members to make contributions from other forms of savings. The concessional rate of tax creates incentives to use superannuation as an investment vehicle, an outcome that is specifically encouraged by the policy, but also encourages the use of superannuation accounts as a form of wealth creation rather than as a retirement product.

Clearly some limitation on savings is an important part of superannuation policy. Prior to 2007 this was achieved by the application of reasonable benefit limits, which restricted the amount that could be withdrawn from superannuation at tax preferred rates. The reforms in 2007 simplified the system by removing maximum withdrawal limits but imposing caps on the amount that can be contributed to superannuation. However these caps were very generous, particularly in respect of non-concessional contributions (voluntary, post-tax contributions). This further encouraged the use of superannuation funds as a form of tax preferred savings.

In this context, concern has been expressed regarding the tax expenditures associated with the current superannuation savings regime (Australian Council of Social Service (ACOSS), 2012; Australian Treasury, 2015b, p. 90; Daley & Coates, 2015). In 2015 it was estimated that more than half of the superannuation tax expenditures were received by the wealthiest 20% of Australians who have a greater capacity to save into superannuation (Daley & Coates, 2015).

The most recent reforms, introduced with effect from 1 July 2017 (*Treasury Laws Amendment (Fair and Sustainable Superannuation) Act 2016*), addressed the escalating tax expenditures by reducing the contribution caps, and limiting the amount that can be held tax free in retirement phase. These reforms were introduced after 2014, and therefore are not reflected in the data analysed in this article.

A key element of the superannuation guarantee system is portability of benefits, in contrast to earlier schemes that were linked to employer support. This encourages savings in accumulation type schemes, as opposed to defined benefit schemes. In 1982 82% of superannuation funds were defined benefit funds, but by 2000 that percentage had dropped to 14%, with 86% being accumulation funds (Australian Treasury, 2001).

An accumulation fund is defined as 'a superannuation fund where your retirement benefit depends on the money put in by you and your employers and the investment return generated by the fund'.[3] A member account in an accumulation scheme is recognised as an investment asset that is accessible after a condition of access has been

[3] See Australian Securities and Investments Commission (ASIC), 'Glossary – accumulation fund', https://www.moneysmart.gov.au/glossary/a/accumulation-fund.

met, generally at retirement, death or upon reaching age 65. A retiree may draw on this as a lump sum or use it to generate an income stream as a pension or annuity.

A minority of retirees are entitled to a pension from a defined benefit scheme, which is 'a super fund where your retirement benefits are calculated by a predetermined formula. Retirement benefits are usually calculated using your average salary over the last few years before you retire and the number of years you worked in the company or public service…'.[4] These retirees are likely to be either former public sector workers and/or older retirees who were a member of a defined benefit fund before the changes consequential on the introduction of the superannuation guarantee.

For the purposes of this study, which is examining wealth and income inequality, this raises questions over the relationship between superannuation as an asset and the resulting income stream. Superannuation as an asset is a factor in wealth inequality, but as an income stream it is reflected in income inequality. This limitation is also noted by the OECD when discussing the high income inequality rate among the elderly in Australia (OECD, 2017, p. 249).

4. METHODOLOGY

The article identifies and examines trends in inequality from 2002 to 2014 amongst Australians over the age of 55, using the Gini index and the P75:P25 ratio. The Gini index or Gini coefficient is an index of the inequality among values of a frequency distribution. A Gini coefficient of zero represents perfect equality, while a Gini coefficient of one represents perfect inequality. The P75:P25 ratio compares wealth or income at the 75th percentile with wealth or income at the 25th percentile of the population (with the 75th being the wealthier/richer). Both the Gini coefficient and the P75:P25 ratio can be applied to give an indication of the inequality of the distribution of wealth or income.

The wealth module of the HILDA survey is released every four years, with data appearing in waves 2, 6, 10 and 14, collected in 2002, 2006, 2010 and 2014. The time period examined in this article is based on these data waves. The sample size is 36,848 observations over the four waves. For this analysis older Australians are grouped by age in five age bands: 55–59, 60–64, 65–69, 70–74, 75–79 and 80 and over. The resulting sample sizes are considered to be adequate for the level of analysis undertaken.

All monetary data used in the analysis are adjusted to the consumer price index (CPI) in 2014 dollars. Where the data is household data it has been equivalised for household size using the modified OECD equivalence scales which assign a value of 1 to the household head, 0.5 to each additional adult member of the household and 0.3 to each child (aged under 15).

The analysis uses both cross-sectional analysis and panel data to examine trends. The cross-sectional data provides a snapshot of the wealth and income of the participants at the time of the survey, and is used to examine changes across the survey population between each survey wave. Cross-sectional analysis is used to examine trends between age groups across the four waves of data.

[4] See ASIC, 'Glossary – defined benefit fund', https://www.moneysmart.gov.au/glossary/d/defined-benefit-fund.

HILDA panel data also allows analysis of changes between cohorts over time. As shown in Table 1, the panels are selected on the basis of their age at the commencement of the survey, but all reached retirement age during the period under review.

Table 1: Selection of Panels for Analysis

	2002	2006	2010	2014
Panel 1	50–53	54–57	58–61	62–65
Panel 2	54–57	58–61	62–65	66–69
Panel 3	58–61	62–65	66–69	70–73
Panel 4	62–65	66–69	70–73	74–77
Panel 5	66–69	70–73	74–77	78–81

Source: HILDA 2002–2014

Panel data analysis is used to observe financial trends by following the panel of participants through the four waves of data, and comparing them to the data for other panels at the same age.

5. FINDINGS

5.1 Wealth inequality

In the HILDA survey, net wealth is calculated as: the sum of (a) monetary wealth in bank accounts, superannuation, cash investments, shares, trust funds, and the cash-in value of life insurance policies, and (b) non-financial assets including the family home, other property, business assets, collectables, and vehicles, minus (c) debts comprising home debt, other property debt, credit card debt, HECS debt, other personal debt, loans from friends or relatives, and business debt.

The first stage of analysis is based on cross-sectional analysis, and examines the wealth of the participants in each data wave who were in the specified age group.

Our first finding (see Table 2) is that wealth inequality among Australians aged over 55 is lower than that for the general population.

Table 2: Equivalent Household Net Wealth Distribution by Age, HILDA 2002–2014, Gini Coefficients

Age Cohort		**55–59**	**60–64**	**65–69**	**70–74**	**75–79**	**80 and over**	**All households**
Data Wave	2002	0.57	0.57	0.55	0.52	0.51	0.55	0.60
	2006	0.52	0.56	0.58	0.57	0.50	0.51	0.60
	2010	0.50	0.56	0.56	0.52	0.58	0.49	0.60
	2014	0.51	0.56	0.54	0.58	0.57	0.52	0.61
	Average	0.53	0.56	0.56	0.55	0.54	0.52	0.60

Source: HILDA 2002–2014

In each of the older age groups there is some fluctuation in the figures over the four waves, with no clear trend emerging. However, wealth is consistently more equally distributed among the over-55s than among the general population.

Chart 1 and Table 3, using the P75:P25 ratio, show that the spread of wealth has narrowed over the four waves of the survey in these age groups between 2002 and 2014. However, the trend over this period is generally U-shaped. Generally speaking, inequality fell after 2002 and rose after 2010. The lowest ratio was generally in either 2006 or 2010, with the exception of the 60–64 age group in which the ratio fell between 2010 and 2014 to the same level as in 2006, and the 70–74 age group in which the ratio rose consistently over this period. There is no clear reason that can be linked to the superannuation system that might explain this U-shaped pattern.

Chart 1: Household Net Wealth P75:P25 Ratio by Age: HILDA 2002–2014

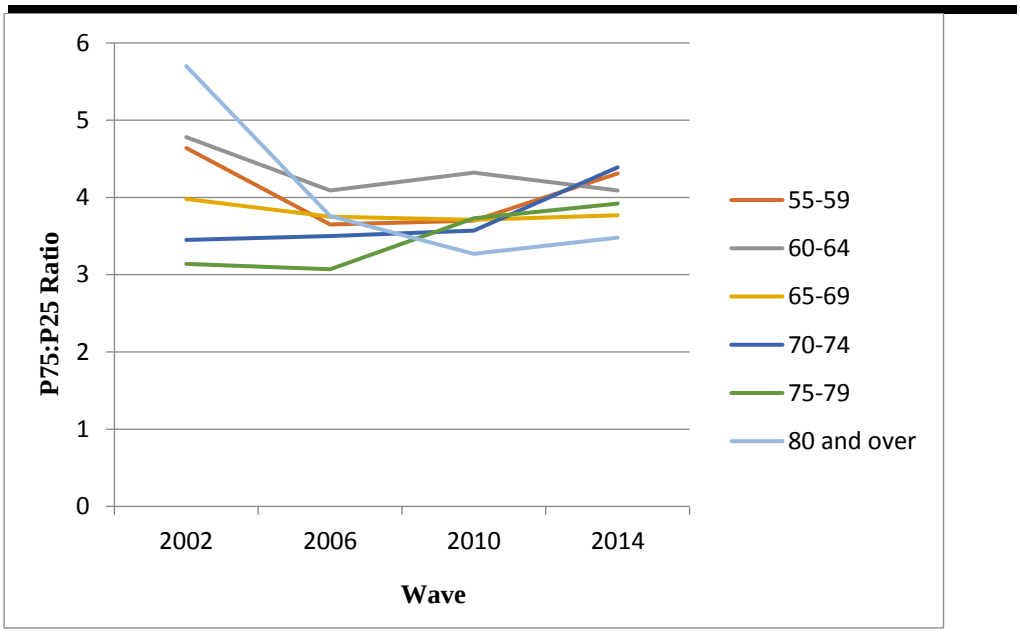


Table 3: Distribution of Household Equivalent Net Wealth by Age, 2002–2014, HILDA, P75:P25 Ratios

	Age Cohort	**55–59**	**60–64**	**65–69**	**70–74**	**75–79**	**80 and over**
Data Wave	2002	4.64	4.78	3.98	3.45	3.14	5.70
	2006	3.65	4.09	3.75	3.50	3.07	3.76
	2010	3.70	4.32	3.71	3.57	3.73	3.27
	2014	4.31	4.09	3.77	4.39	3.92	3.48

Source: HILDA 2002–2014

5.1.1 Superannuation

The relevant HILDA variables identify superannuation holdings as a component of household net worth. For superannuation holdings to be valued as an asset the superannuation must either be held as an accumulation account or the capital value of the retirement income stream must be able to be determined, as in a case where an annuity has been purchased. However, it is problematic to determine the capital value of a defined benefit scheme as such a scheme provides an income stream for life, based on factors determined at the time of retirement. Accordingly, the value of defined benefits will not be included in the wealth data.

Table 4 shows the Gini coefficients for superannuation holdings among people aged 55 and over.

Table 4: Distribution of Household Equivalent Superannuation by Age, HILDA 2002–2014, Gini Coefficients

	Age Cohort	**55–59**	**60–64**	**65–69**	**70–74**	**75–79**	**80 and over**
Data Wave	2002	0.67	0.72	0.81	0.87	0.90	0.89
	2006	0.67	0.68	0.76	0.81	0.87	0.89
	2010	0.61	0.71	0.75	0.79	0.88	0.90
	2014	0.59	0.68	0.73	0.78	0.85	0.91

Source: HILDA 2002–2014

Consistent with other analysis (Clare, 2014), we see that superannuation holdings are unequally distributed and that this inequality increases with age. However, there is also a reduction in inequality over time within each age group, with the exception of households with head aged 80 and over.

In these age groups, superannuation holdings are more unequal than wealth in general, as can be seen in Table 5. (Here the net wealth and superannuation figures are non-equivalised, and hence the Gini coefficients are slightly higher than those shown in Tables 2 and 3.)

Table 5: Comparison of Net Wealth Distribution with Superannuation Distribution by Age, HILDA 2002–2014, Gini Coefficients

	Age Cohort	55–59		60–64		65–69		70–74		75–79		80 and over	
	Asset	Super	Wealth	Super	Wealth	Super	Wealth	Super	Wealth	Super	Wealth	Super	Wealth
Data Wave	2002	0.67	0.57	0.72	0.57	0.81	0.55	0.87	0.52	0.90	0.51	0.89	0.55
	2006	0.67	0.52	0.68	0.56	0.76	0.58	0.81	0.57	0.87	0.5	0.89	0.51
	2010	0.61	0.5	0.71	0.56	0.75	0.56	0.79	0.52	0.88	0.58	0.9	0.49
	2014	0.59	0.51	0.68	0.56	0.73	0.54	0.78	0.58	0.85	0.57	0.91	0.52

Source: HILDA 2002–2014

The finding that inequality in superannuation holdings is related to age in each wave is consistent with the maturing of the superannuation system outlined in the introduction. Older cohorts of retirees are likely to fall into one of two groups: in most cases they would have no superannuation coverage before the introduction of the superannuation guarantee in 1993, but a minority would have been a member of a pre-existing scheme. This dichotomy would result in higher levels of superannuation inequality among older age groups.

The cross-sectional analysis also shows that inequality declined in each age group up to age 80 over the period from 2002 to 2014. This finding is also consistent with the maturing of the superannuation system as successive waves have accrued larger superannuation accounts through the application of the superannuation guarantee for longer periods of time.

As shown in Table 6, the proportion of assets held in superannuation by each age group has increased considerably between data waves. Each wave shows that holdings decrease with age, consistent with retired people drawing down on their superannuation in retirement. However, the proportion of wealth held in superannuation by each age group has increased between each wave, consistent with savings being directed to superannuation prior to retirement.

Table 6: Proportion of Assets held in Superannuation by Age, HILDA 2002–2014

	Age Group	55–59	60–64	65–74	70–74
Data Wave	2002	22%	17%	12%	8%
	2006	26%	22%	14%	11%
	2010	27%	25%	17%	11%
	2014	33%	28%	22%	17%

Source: HILDA 2002–2014

Although superannuation is increasing over time as a proportion of assets, it is still distributed more unequally than total wealth within the same age group, as was shown in Table 5. Therefore, we conclude that other assets must have a moderating effect on wealth inequality.

5.1.2 Panel data analysis: superannuation

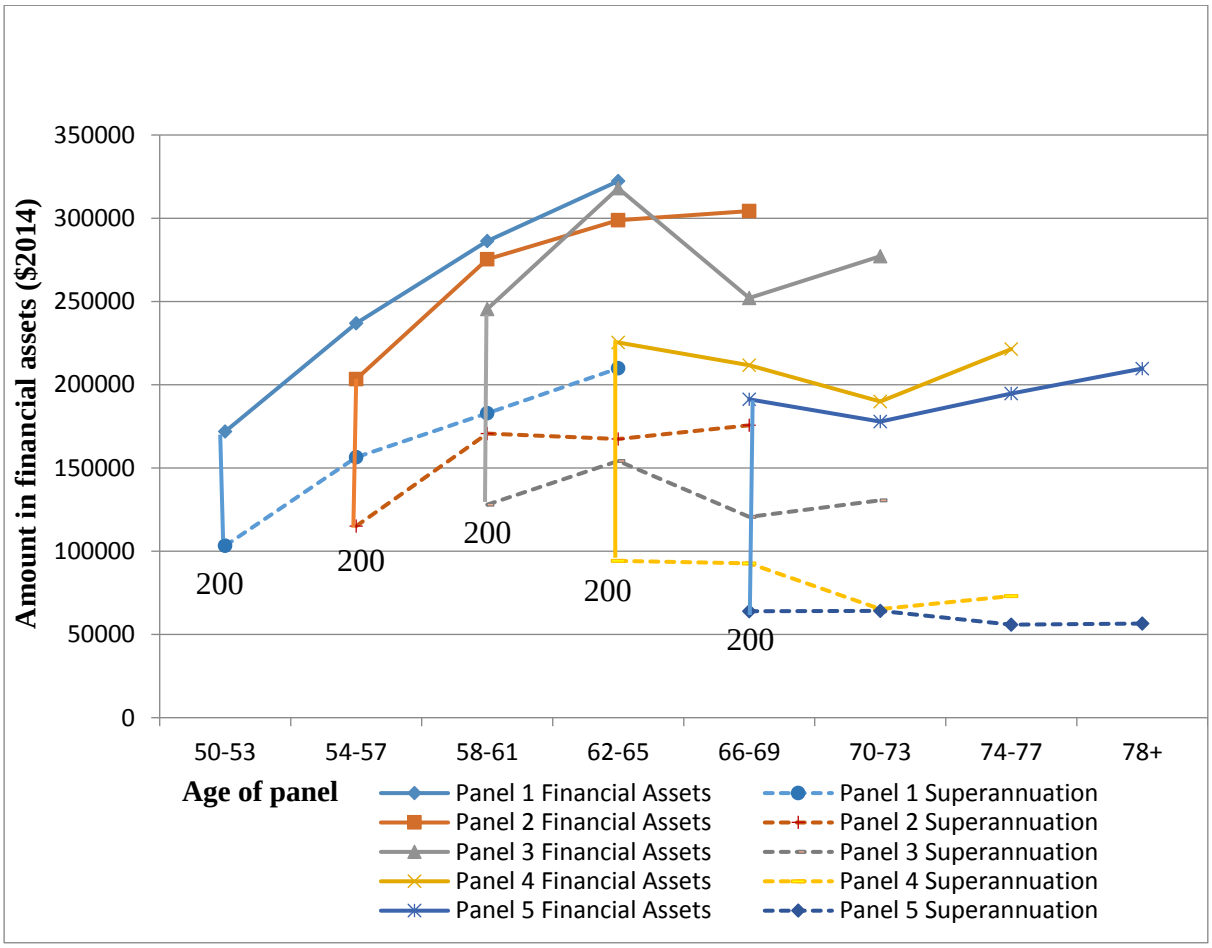
Panel data analysis was used to examine financial asset holdings in more detail. Table 1 provides details of the panels which were based on age in each wave of data. The panel analysis in Chart 2 shows several trends.

The median balance held in superannuation is higher in the younger age groups, consistent with the maturation of the superannuation system. Superannuation balances decrease in the older age groups, consistent with withdrawals during retirement. However, the median balance of all financial assets, including superannuation, showed a similar increasing trend across panels. This is consistent with other research findings that older Australians are net savers (Cassells et al., 2015).

Panel 3, those aged 58–61 in 2002, showed a higher level of financial assets in 2006, but also recorded a decline between 2006 and 2010, which corresponds to reaching retirement age (ages 62–65 for most workers) during the Global Financial Crisis.

The panel data also show that the trend to reduce balances around the time of retirement is less pronounced in younger age panels: the median asset balance for panel 2 has levelled off when the age group reaches retirement age (ages 65–69).

Chart 2: Trends in Financial Assets by Panel, HILDA 2002–2014



Source: HILDA 2002–2014

5.1.3 The home

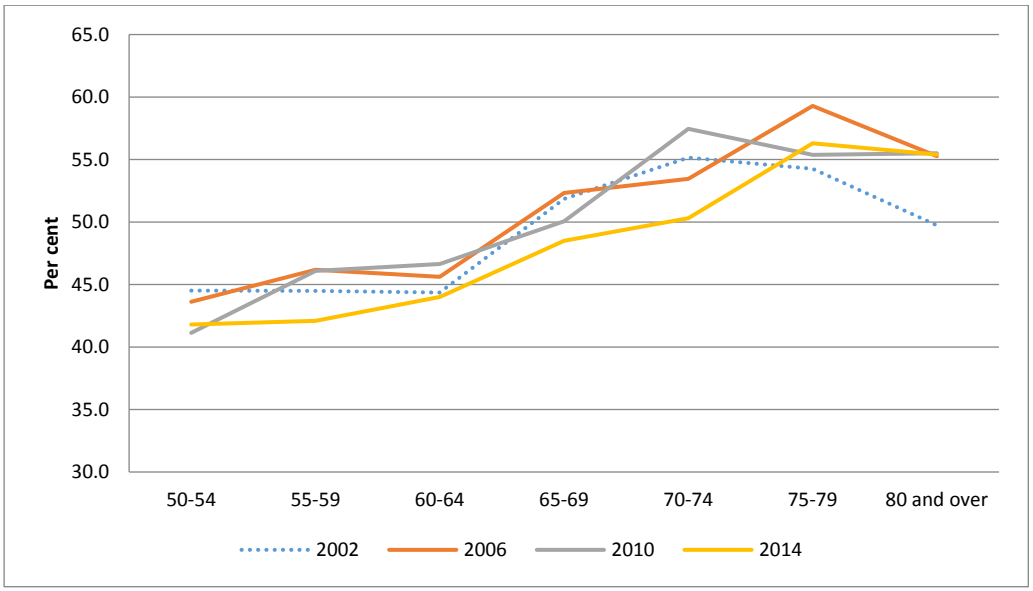
Given that the level of inequality in superannuation holdings significantly exceeds the overall Gini coefficient, the data were then re-examined to identify other asset holdings that may have an equalising effect in later life.

HILDA identifies the home as an asset separately from investment properties, and mortgages on the home are also recorded separately from mortgages on other property. The data in this analysis is based on the home and excludes investment properties. The net value of the home is the market value reduced by the mortgage attributable to the home.

Consistent with the literature (Dockery et al., 2015, p. 58; Productivity Commission, 2015b), we found that the most valuable asset held by most older Australians is the home. Home ownership levels among Australians aged 65 and over were 85.5% in 2014 (Australian Bureau of Statistics (ABS), 2015). Chart 3 shows that the net value of residential property increases as a proportion of net wealth until around age 70, at which

stage it levels off or decreases slightly. This reflects the reduction in housing debt among older age groups and the increased value of residential property relative to more liquid assets that will be consumed first in retirement.

Chart 3: Net Value of the Home as a Per cent of Net Wealth by Age, HILDA 2002–2014



Source: HILDA 2002–2014

Table 7 shows the Gini coefficients for equivalent net housing assets by age. In general these are below the Gini scores for equivalent net wealth by age, as can be seen by comparing them with the findings in Table 8.

Table 7: Distribution of Equivalent Net Wealth in the Home by Age, HILDA 2002–2014, Gini Coefficients

	55–59	60–64	65–69	70–74	75–79	80 and over
2002	0.52	0.48	0.50	0.47	0.48	0.58
2006	0.47	0.48	0.44	0.51	0.47	0.53
2010	0.48	0.48	0.48	0.43	0.51	0.49
2014	0.53	0.51	0.46	0.48	0.44	0.49
Average	0.50	0.49	0.47	0.47	0.47	0.52
Average for equivalent net wealth	0.53	0.56	0.56	0.55	0.54	0.54

Source: HILDA 2002–2014

Table 8: Comparison of Equivalent Net Wealth by Age with Equivalent Net Wealth in the Home by Age, HILDA 2002–2014, Gini Coefficients

		55–59		60–64		65–69	
		Home	Wealth	Home	Wealth	Home	Wealth
Data Wave	2002	0.52	0.57	0.48	0.57	0.50	0.55
	2006	0.47	0.52	0.48	0.56	0.44	0.58
	2010	0.48	0.5	0.48	0.56	0.48	0.56
	2014	0.53	0.51	0.51	0.56	0.46	0.54
		70–74		75–794		80 and over	
		Home	Wealth	Home	Wealth	Home	Wealth
Data Wave	2002	0.47	0.52	0.48	0.51	0.58	0.55
	2006	0.51	0.57	0.47	0.5	0.53	0.51
	2010	0.43	0.52	0.51	0.58	0.49	0.49
	2014	0.48	0.58	0.44	0.57	0.49	0.52

Source: HILDA 2002–2014

ABS data (see Table 9) show that over this period the Residential Property Housing Index grew at a substantially faster rate than CPI and the increase in house prices was widespread despite regional variations in timing.

Table 9: Increase in Residential Property House Index, ABS

Increase from June quarters	2002–06	2006–10	2010–14
Increase in Residential Property House Index: 8 capital cities	31%	35%	11%
CPI	12%	11%	10%

Source: (ABS, *Consumer Price Index*, Cat. 6401.0; *Residential Property Price Indexes*, Cat. 6416.0)

Accordingly, the net value of residential housing moderated the unequal distribution of other assets, including superannuation accounts due to the high rates of home ownership in this age group and the widespread growth in the value of residential housing over this period.

It must be noted that non-home owners have not benefited from this increase in the value of housing; and changes in debt ratios of home owners will also be reflected in net asset values. These factors would be reflected in inequality measures.

5.2 Income inequality

Turning to income inequality, we find that disposable income inequality is higher among older Australians than among the general population. Disposable income is private income plus government cash transfers minus income taxes.

Based on the cross-sectional data we examined HILDA disposable income data from 2002 to 2014. Table 10 shows the Gini coefficient for equivalent disposable income across all age groups from age 55.

Table 10: Equivalent Disposable Income Distribution by Age, HILDA 2002–2014, Gini Coefficients

	Age	55–59	60–64	65–69	70–74	75–79	80 and over	Total population aged 55 and over
Data Wave	2002	0.38	0.38	0.39	0.34	0.29	0.35	0.34
	2006	0.37	0.42	0.45	0.42	0.31	0.30	0.34
	2010	0.32	0.35	0.43	0.42	0.28	0.30	0.33
	2014	0.32	0.42	0.39	0.39	0.33	0.37	0.33
	Average 2002-2014	0.35	0.39	0.42	0.39	0.30	0.33	0.34

Source: HILDA 2002–2014

There is some change in inequality in the lower age groups which is difficult to explain by reference to policy changes. It is likely that this is related to the number of people in the sample that describe themselves as retired at each point in time. After retirement income declines significantly as employment income decreases and is only partially substituted by pension and investment income, therefore the difference in income between retired and employed respondents would be reflected in higher levels of inequality.[5]

[5] Wilkins (2018, p. 33) comments on:

> …the high level of [disposable income] inequality among people aged 65 and over, and more particularly, the large increase in inequality between 2003 and 2008. Since 2008, the Gini coefficient for this age group has remained in excess of 0.34. Later retirement could potentially explain some of this rise, since a growing minority of the age group is not retired (and therefore receiving higher incomes). However, it may also be that growth in the number of retirees with significant superannuation holdings and other assets has increased inequality among this age group.

This valuable study was received too late to be fully considered here.

Table 11: Proportion of Respondents Retired in Each Wave by Age, HILDA 2002–2014

	Age	55–59	60–64	65–69	70–74	75–79	80 and over
Data Wave	2002	31%	58%	79%	89%	93%	93%
	2006	25%	50%	78%	84%	92%	93%
	2010	19%	41%	73%	89%	90%	94%
	2014	19%	38%	69%	87%	93%	95%

Source: HILDA 2002–2014

Table 11 shows a trend to deferred retirement, with fewer respondents taking retirement before age 65. Reasons for this would include the financial uncertainty created during the Global Financial Crisis, the increase in pension eligibility age for women and proposals to increase the pension eligibility age for men, although this change does not affect men born before 1956.

We note that the findings in relation to disposable income do not take account of social transfers in kind, such as public expenditures on health and housing, or consumption taxes. The ABS measure of final income is more comprehensive: 'household private income plus social assistance benefits in cash (e.g., age and disability support pensions, Family Tax Benefit) and social transfers in kind less income taxes and taxes on production (e.g., GST and taxes on alcohol and cigarettes)'.[6] This is particularly significant in relation to older Australians as the value of government expenditure on health care received increases with age (Tapper & Phillimore, 2014).

Table 12 shows the Gini coefficient for final income using ABS data. This is not directly comparable to the HILDA data, but it does show a lower level of income inequality by comparison with disposable income. In the older age groups this reduction of inequality is quite noteworthy. The trend over time is towards increased equality.

[6] ABS, *Household Income and Wealth*, Australia, Cat. 6523.

Table 12: Distribution of Equivalent Final Income by Age, Gini coefficients, 2003–04 and 2009–10, ABS

	All households	55–64	65–74	75+	Trend with Age
2003–04	0.24	0.30	0.21	0.16	More equal
2009–10	0.23	0.28	0.17	0.13	More Equal
Trend over time	More Equal	More Equal	More Equal	More Equal	

Source: ABS (2012, microdata and calculations therefrom)

The next stage of the inequality analysis examines the P75:P25 ratio to determine whether income is more evenly distributed across the population. In Table 13 the HILDA data are segmented into age groups. The trends can be examined over time and by age.

Table 13: Equivalent Disposable Income Inequality Ratio: P75:P25, HILDA 2002–2014

	55–59	60–64	65–69	70–74	75–79	80+	Trend across age
2002	2.62	2.76	2.29	1.93	2.05	1.79	More equal
2006	2.31	2.53	2.39	1.99	1.90	1.87	More equal
2010	2.00	2.33	2.30	1.95	1.76	1.88	More equal
2014	2.11	2.48	2.17	2.02	1.94	1.78	More Equal
Trend Across time	More equal	More equal	More equal	Less equal	More equal	Flat	

Source: HILDA 2002–2014

Overall, there are two trends evident in Table 13. Firstly, in each wave the P75:P25 ratio tends to decrease with age after age 60, although in 2002 there is an increase in the ratio between 70–74 year olds and 75–79 year olds. Secondly, within most age groups the P75:P25 ratio declined between 2002 and 2014. There was some volatility, with age groups other than 65–69 and over 80s reaching the lowest ratio in 2010 and moving upward to 2014, but with the exception of the 70–74 age group the overall trend is downward.

5.2.1 Public transfers

Although there are significant differences in salary and wage income, public transfers, in particular the Age Pension, tend to reduce inequality after Australians have retired. As income from salary and wages decreases as a proportion of total income, income from transfer payments increases. As shown in Table 14, in each wave the income received from transfer payments increased with age as a proportion of equivalent gross income.

Table 14: Fraction of Disposable Income from Public Transfers by Age and Wave, HILDA 2002–2014

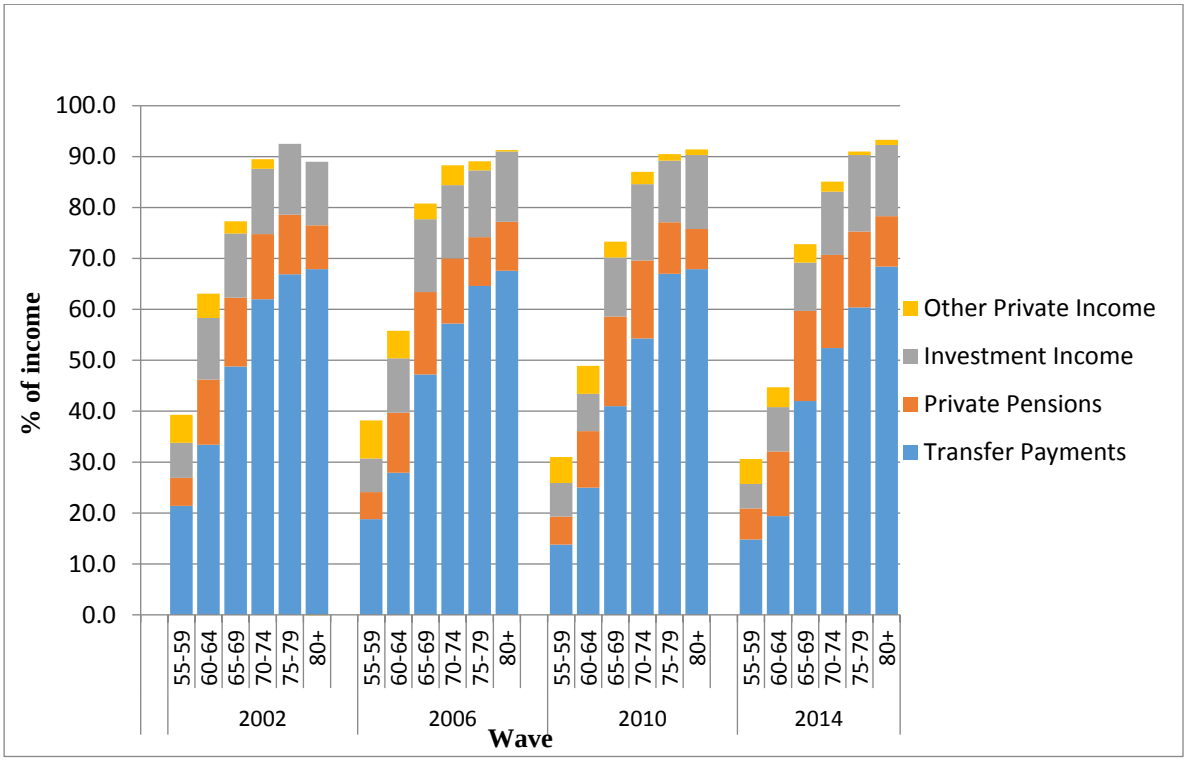
Age Groups

Year	55–59	60–64	65–69	70–74	75–79	80+
2002	21.4	33.4	48.8	62.0	66.9	67.9
2006	18.8	27.9	47.2	57.2	64.6	67.6
2010	13.8	25.0	41.0	54.3	67.0	67.9
2014	14.8	19.4	42.0	52.4	60.4	68.4

Source: HILDA, 2002–2014

Chart 4 illustrates the proportion of gross (pre-tax) income that is made up of private pension income and investment income relative to transfer payments. In all waves the proportion of investment income remains relatively stable. Private pension income is generally highest in the 65–69 age group, although in the 2014 wave there is a small increase from 17.7% to 18.3% in the 70–74 age group.

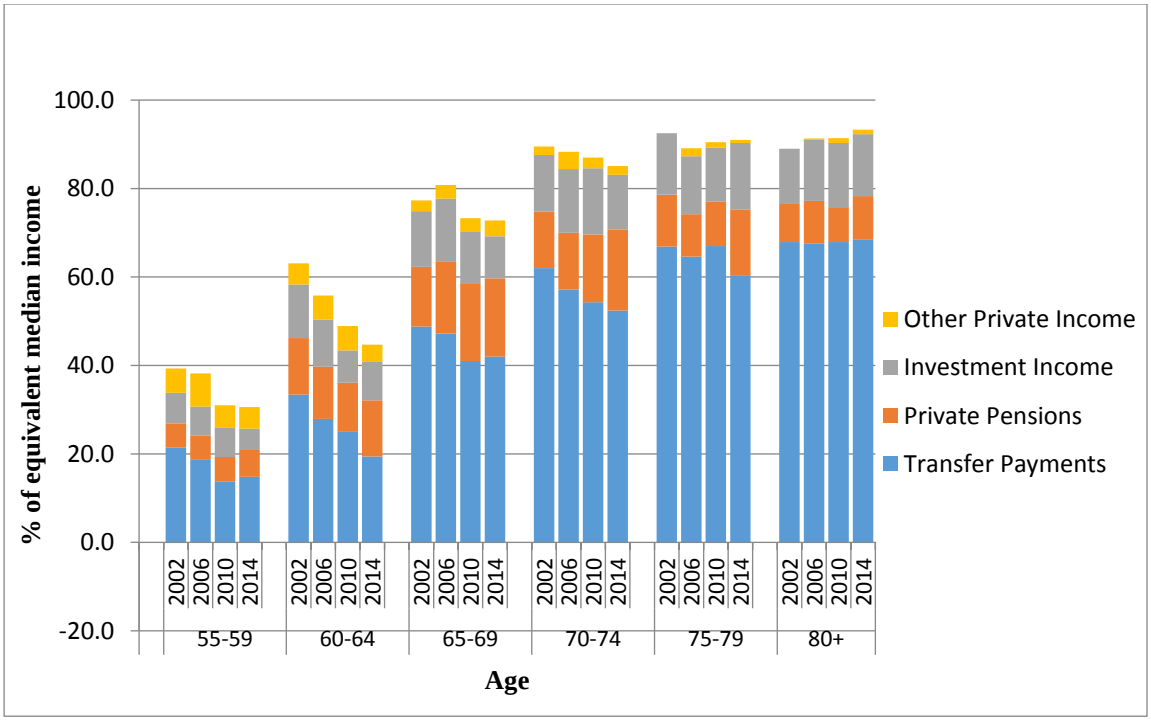
Chart 4: Sources of Gross Income (Excluding Salary and Wages) in each Wave by Age, HILDA 2002–2014



Source: HILDA, 2002–2014

Comparing age groups across the four waves, Chart 5 shows the proportion of income from transfer payments has generally decreased in each wave as a proportion of equivalent gross income in each age group up to the 75–79 year age group. The proportion of income from transfer payments is highest and most stable in the 80 years and over age group, with a relatively small overall decline in the 75–79 age group. The overall trend is down despite some fluctuation between 2006 and 2010 in the 75–79 age group and between 2010 and 2014 in the 55–59 and the 65–69 year age groups.

Chart 5: Sources of Gross Income (Excluding Salary and Wages) by Age, HILDA 2002–2014



Source: HILDA, 2002–2014

Our analysis shows that the provision of the Age Pension has an equalising effect on the income of older Australians. The other two pillars of the retirement income system, private pensions and investments, contribute less than 30% of income in retirement for Australians aged 55. It must be noted that income classified as private pension income in the HILDA survey is defined more broadly than superannuation pensions, as it also includes payments received from workers compensation or disability insurance. Such payments are usually only payable until the recipient reaches age pension age at age 65.

Among people aged 65 and over, the proportion of income reported from private pensions has increased over the duration of the study. There is a reduction in the proportion of income received from private pensions between 2002 and 2006 in the 75–79 age group; and between 2006 and 2010 in the 80+ age group; however the trend is an increase between 2002 and 2014 in every age group. The age groups to receive the highest proportion of income from private pensions were the two middle age groups. The 65–69 age group received the highest proportion from 2002 to 2010, but in the 2014 data wave the 70–74 age group received a slightly higher proportion.

5.3 The top quintile

Analysis by the Association of Superannuation Funds of Australia (ASFA) (Clare, 2015) shows that a small number of people have very high levels of superannuation savings. There is also evidence that more than half of superannuation tax expenditures are received by the wealthiest 20% of households (Daley & Coates, 2015) and that the

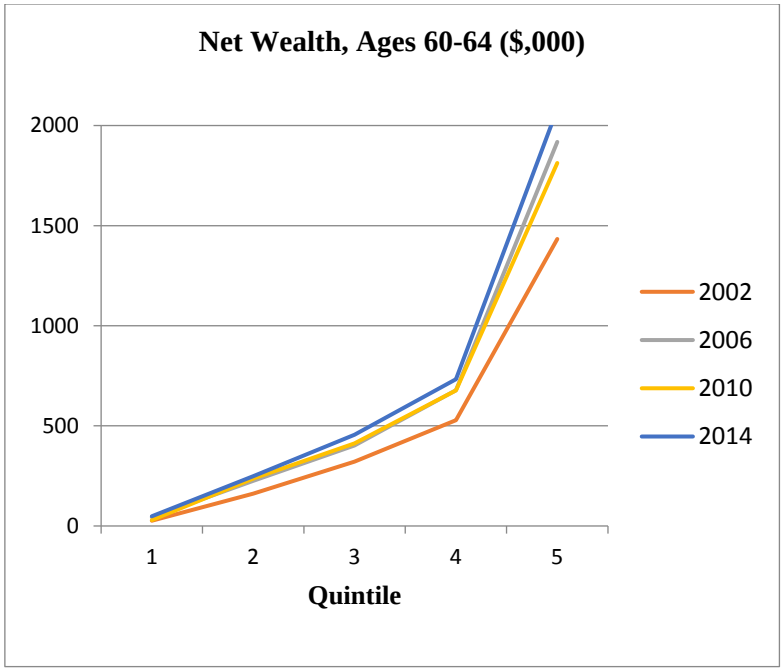
wealthiest 20% of Australian households own 75% of total household savings, including 68% of superannuation assets (Cassells et al., 2015). Accordingly, the final analysis returns to the original question: what is the extent of inequality among older Australians, and what effect, if any, has the current superannuation system had on economic inequality between 2002 and 2014?

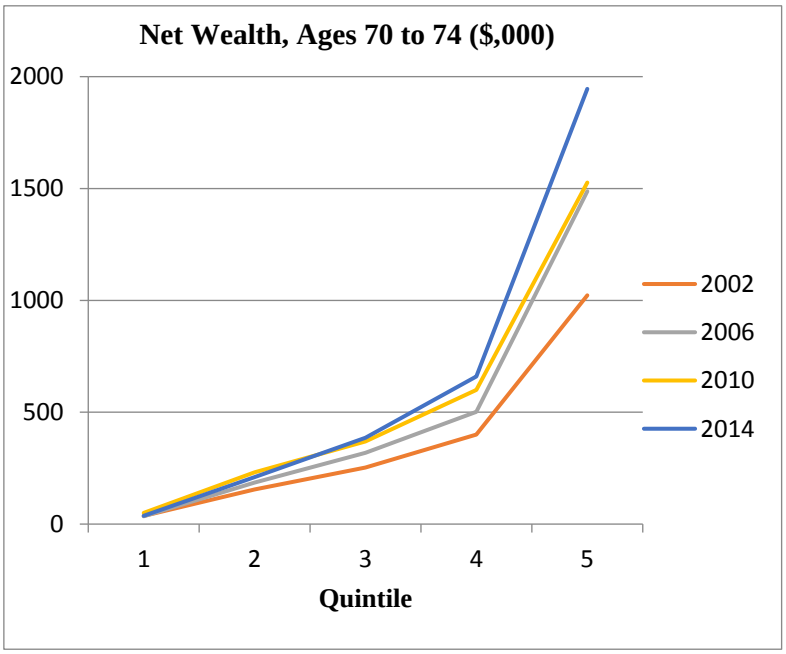
Our analysis shows that superannuation is becoming slightly more equal, and that the effect of housing and the age pension provide a protective effect.

Quintile analysis was applied to test this finding (see Charts 6 and 7 below). When mean wealth and disposable income are plotted against quintiles in the older age groups, the mean wealth and disposable income increase slightly across the first four quintiles, consistent with the protective effects conferred by relatively high home ownership levels and targeted access to the age pension. However, in the top quintile mean wealth and disposable income increase dramatically.

The data also show that mean wealth and disposable income decrease with age: there is a reduction in both. For example in 2014 the mean income in the top quartile was 3.34 times the mean income of the middle income for people aged 60–64, but this reduced to 3.26 for people aged over 80. The difference in net wealth is more significant at 4.57 times for 60–64 year olds, down to 3.97 times for people aged over 80.

Chart 6: Quintile Analysis of Net Wealth for Certain Age Groups, HILDA, 2002-2014





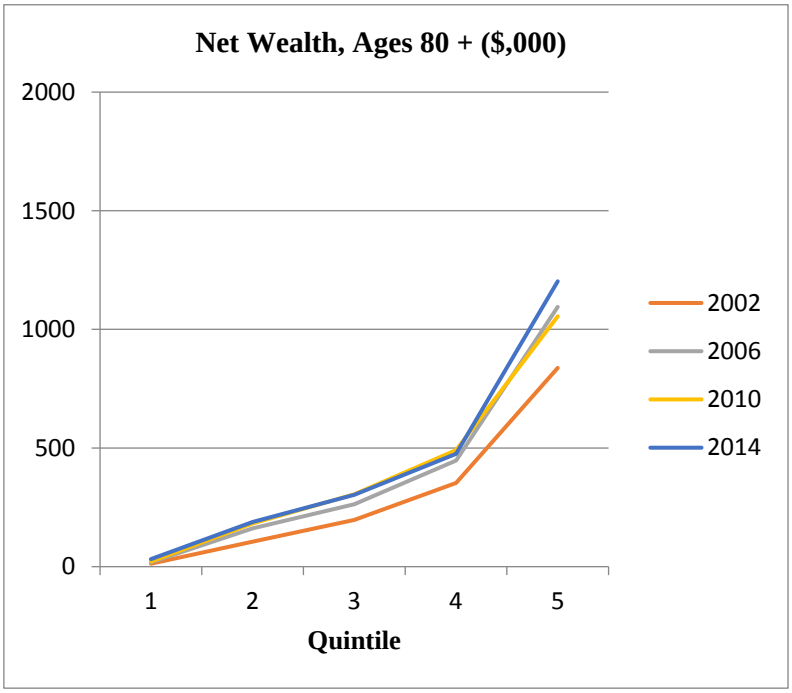
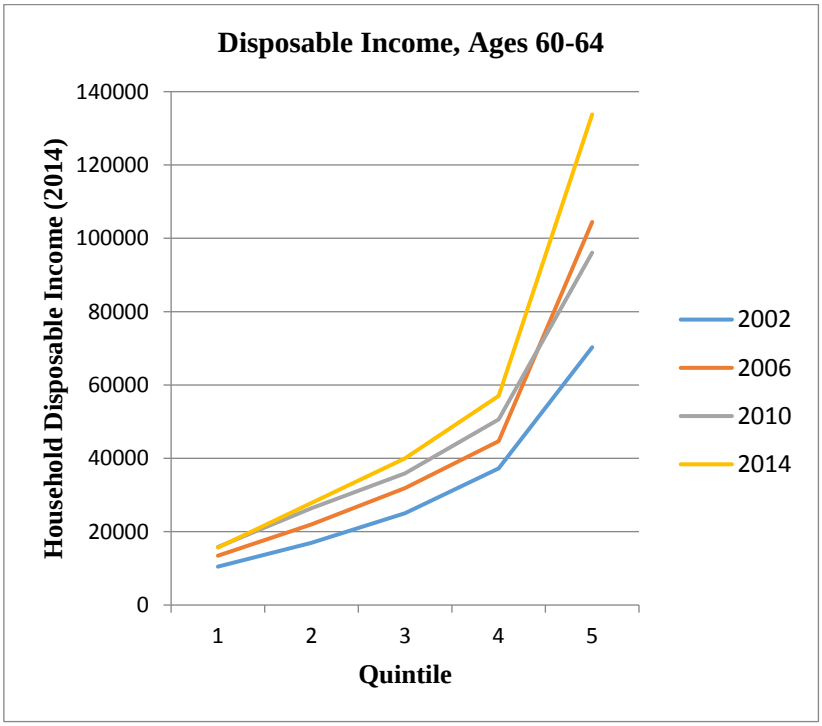
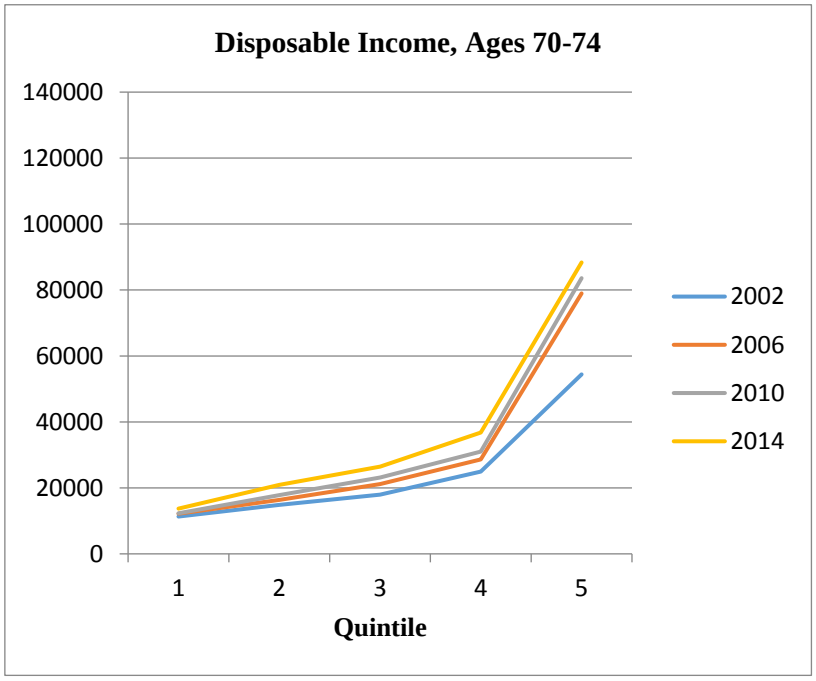
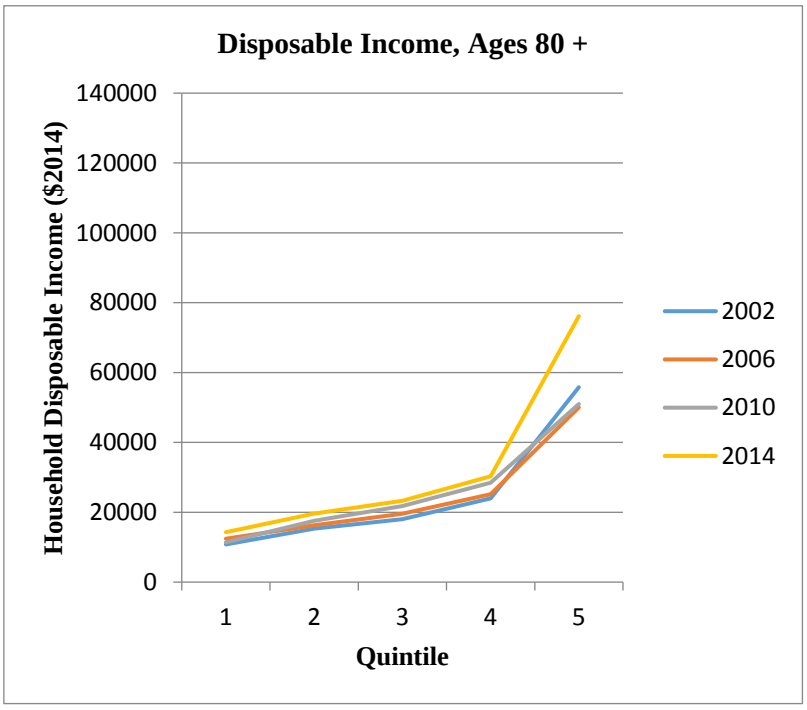


Chart 7: Quintile Analysis of Disposable Income for Certain Age Groups, HILDA, 2002-2014







Source: HILDA 2002–2014

6. CONCLUSIONS AND POLICY IMPLICATIONS

Our examination of the HILDA data shows that trends in income and wealth inequality among older Australians have not changed significantly between 2002 and 2014. There has been some volatility in trends in inequality, which is likely to be attributable to prevailing global economic conditions that have affected the value of and return on investments that form the basis of superannuation investment portfolios, and for this reason it has not been possible to discern any changes in trends that can be directly related to the 2007 changes to superannuation policy.

We have also noted that despite the overall levels of inequality among older Australians being stable, there is a significant disparity in wealth and income between the top 20% of the population and the remaining 80% of the population across all age groups, and this disparity is increasing.

However inequality in superannuation holdings is considerably higher than wealth inequality among older Australians, and that inequality increases with age. This is consistent with the maturing superannuation system for three reasons:

- the inequality in superannuation between the 40% of employees with superannuation coverage and those without coverage prior to the introduction of the superannuation guarantee would have persisted until retirement.
- following retirement, as people draw on their superannuation accounts, those with lower balances will exhaust those balances more quickly, which would exacerbate the existing inequality; and
- the data used to measure wealth inequality recognises the value of superannuation is an asset, which is more appropriate for accumulation funds than defined benefit funds. As noted earlier, pre-1986 superannuation funds were more likely to be defined benefit funds which would not be reflected in the data.

As discussed in section 3, wealth inequality amongst the elderly is moderated by home ownership. This has important policy implications as there is evidence that home ownership rates are falling significantly among younger Australians (Wilkins, 2017, p. 89). Levels of indebtedness are also increasing among Australians approaching retirement (Productivity Commission, 2015b, p. 75), with superannuation being accessed to retire that debt on retirement (Productivity Commission, 2015a, p. 46). As fewer Australians enter retirement owning a home, non-home owners will need to apply accumulated superannuation to the provision of housing, which will dilute the equalising effect of the superannuation system.

Our study also shows that disposable income inequality among older Australians is higher than across the general population, but this is moderated by direct and indirect transfers. Older Australians are major beneficiaries of income support through the age pension in addition to health and aged care programs, which are not measured specifically in this study.

6.1 Research limitations

There are three limitations to note here.

First, as the inequality measures used are the Gini coefficient and the P75:P25 ratio, our findings are not informative about the outliers: the top 5% and the lowest 5% of the population. Regardless of whether the superannuation changes are reducing inequality among the population as a whole, policy measures need to address the circumstances of those in most need.

Second, the data spanned the period of the Global Financial Crisis (2007-2009). To the extent that superannuation balances are affected by changes in the value of investments, this external shock will be reflected in the data. As growth in superannuation balances is a combination of investment growth and mandatory contributions, we have not been able to control for this factor.

Third, the relationship between wealth inequality and income inequality is complex, and out of scope of this research. We do not know how closely the two forms of material well-being are correlated at the household level (OECD, 2017, p. 249). Superannuation assets are identified as wealth, but the purpose of superannuation is to support the conversion of this asset to an income stream. This relationship cannot be identified in the HILDA modules used in this project.

6.2 Policy implications

This study shows that as people age, reliance on the age pension becomes more universal (Chart 5), consistently making up more than 60% of the income of people over the age of 75. As access to the age pension becomes more tightly means tested, there is some concern among older Australians that access to the age pension will not be maintained, either through increased means testing or decreased rates of payment. This study addresses the period to 2014, so our data does not take account of the changes to means testing of the age pension that have occurred since that date, specifically the 2017 changes to the thresholds and taper rates; or the more targeted 2015 changes to the assessment of certain private pensions. However, it does reinforce the importance of the age pension as the first pillar of the retirement income system.

Our conclusion is that inequality is not increasing among older Australians, although the top 20% continues to hold a disproportionate share of both wealth and income. However, this takes account not only of the well-recognised three pillars of age pension, superannuation guarantee and voluntary savings, with tax preferences if saved into superannuation. It is also a function of housing and social services, which are incorporated in the extended World Bank framework. Threats to any of these will affect levels of inequality.

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