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**Asset rich, but income poor:
Australian housing wealth and retirement
in an international context**

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Executive summary

It is often stated that the Australian elderly are ‘asset rich but income poor’. Is this still the case when compared with other rich nations? What patterns of housing wealth can be expected in future years?

This paper looks at patterns of own-home wealth across the life cycle in Australia and in several North American and Western European countries.

The Age Pension asset test

Though most countries have some form of tax concessions for owner-occupied housing, only in Australia is there a particular concession mainly focused on the elderly—the exemption of the owner-occupied home from the means test. For a given level of total wealth, the Age Pension is either reduced or is unchanged if the share of wealth held in one’s own home is reduced. Even though a ‘down-valuing’ of one’s home might increase investment income (and possibly non-housing consumption), the incentive to not do so is still strong for most pensioners.

An examination of Australian Bureau of Statistics (ABS) household wealth data does not find any clear evidence that people are rearranging their assets to avoid the asset test (there is some suggestion that single pensioners might be doing so). However, this could be because of definitional differences between the ABS and Centrelink wealth measurement.

In Sydney, home ownership rates increase by 10 percentage points between the ages of 40 to 59 years and 60 years and over, more than in other Australian cities. This is consistent with the greater incentive to be a home owner among pensioners in high housing cost locations. However, there is no particular pattern across the other capital cities or the remainder of Australia.

Housing wealth across the life course

Own-home housing wealth only comprises about half the wealth holdings of older Australians. In cross-sectional data, total wealth peaks in the pre-retirement years, and then declines thereafter. Own-home housing wealth also falls in the initial retirement years, but less than the other forms of wealth.

Though this provides some support for the hypothesis that in retirement the elderly run down their wealth generally, and housing wealth specifically, this pattern could be due to cohort effects. To address this, this paper uses data from the three most recent ABS Household Expenditure Surveys (1993–94, 1998–99 and 2003–04).

Across this period, there is no evidence of a change in home ownership between cohorts. Home ownership rates are also relatively constant in the retirement years.

With respect to own-home wealth, this has increased over the period as the average value of homes has risen significantly, particularly in the five years prior to 2003–04. Controlling for this change in house prices, the amount of own-home wealth for each cohort over the three years is plotted. The findings are as follows:

- Most cohorts tend to have the same housing wealth as the previous cohort when they were at the same age. The exception is between the currently retired and the ‘baby boomers’ who are currently aged in their late 50s. The latter group appear to have houses that are around 8 to 15 per cent more valuable on average than the older cohort at the same age (there is, however, one five-year cohort that exhibits a pattern inconsistent with this conclusion).

- ▶ Within the older cohorts, there is no evidence that people are running down their housing wealth. It is possible, however, that such an effect is masked by a selection bias (poorer people dying or entering nursing homes earlier).

From the Household, Income and Labour Dynamics in Australia (HILDA) survey, it is estimated that overall around 7 per cent of home owners move per annum. For those over 60 years, this is lower, at around 2 to 4 per cent. Some 0.7 per cent of all older home owners move to a smaller or cheaper house each year (1.1 per cent of pensioners)—though others report moving to a better house.

International comparisons

Using new data from the Luxembourg Wealth Study (LWS), the cross-sectional distribution of own-home housing wealth is compared in Australia and seven other rich nations (Canada, the United Kingdom (UK), the United States (US), Germany, Italy, Finland and Sweden).

When comparing countries, a focus on the wealth allocation patterns of the elderly can be misleading, as wealth data collections do not include the value of future pension rights (which are relatively low in Australia). Hence, attention here focuses on a comparison of a proxy for own-home housing consumption (5 per cent of the house value) with various estimates of non-housing consumption (disposable income or income minus housing expenditures).

Overall, Australia has a high home ownership rate, but several other countries have similar rates of home ownership. When house prices are adjusted to take account of the house price cycle, Australia is also typical in terms of the level of own-home wealth relative to national income. Both the UK and Italy have higher levels of relative housing wealth, and Germany has a similar level to Australia (despite having a low home ownership rate).

Across age groups, Australia stands out as having a relatively high level of home ownership among the elderly (the US also has a high rate). This translates into a relatively high level of average housing wealth in older ages. In most other countries, home ownership rates and housing wealth fall significantly after retirement age. Chiuri and Jappelli (2006) argue that much of this drop is due to cohort effects. In future years, countries such as the UK and Italy will probably also have high home ownership rates among their elderly.

In all countries, household incomes fall after 50 years of age. However, this fall is particularly steep in Australia because of the lack of earnings-related pensions in Australia and the immaturity of the superannuation system.

When combining this pattern with the high levels of retirement housing wealth in Australia, the results show that Australian housing wealth patterns are indeed atypical. Among the elderly, own-home ownership wealth is a much greater proportion of disposable income in Australia than in all the other countries. This conclusion also applies to low-income households (in the bottom quintile of income in each age range).

If total consumption of housing services (including rental housing) is examined and compared with the disposable income or the total consumption of each age group, then Australia is less distinctive. The UK elderly in particular also have a relatively high housing consumption share. However, Australia remains unusual in that the housing consumption share increases dramatically between the pre and post-retirement years.

Conclusions

Though this paper demonstrates a correlation between an unusual social policy environment and an unusual pattern of housing consumption in retirement, it cannot be assumed that the former causes the latter. Historically, the two features developed together, and can best be seen as complementary components of an overall retirement package.

Nonetheless, the fact that the housing wealth patterns of the Australian elderly are so divergent from those in other countries suggests that particular attention needs to be paid to this issue here. Policy options to increase the ability of the elderly to take better advantage of their housing wealth might include stamp duty concessions to enable down-valuing and a greater role for the state (or for new private sector institutions) in managing the risks associated with reverse mortgage and similar schemes. Moreover, in future years as superannuation schemes mature and the Australian aged enter retirement with a broader range of wealth holdings, it may be necessary to revisit the question of the special exclusion of the own home from the Age Pension asset test.

Similarly, though this paper has focused upon the situation of the average older person, the role of home ownership in protecting the living standards of (some of) the disadvantaged is an important question for future research and policy development.

1 Introduction

For the last half-century, home ownership has been considered a central pillar of Australian retirement planning. This has been reinforced by tax and benefit subsidies for owner occupation. Has this pattern led to an excessive proportion of the wealth of Australia's aged being locked up in housing? What patterns of retirement housing wealth can be expected in the coming years?

Castles (1998) has described the high home ownership rates in Australia (and New World English-speaking countries) as complementary to the relatively weak retirement income-transfer programs of those countries. Private saving via home ownership reduces expenditure requirements in retirement and hence the need for large income transfers across the life cycle (see also Yates 1991). However, even though the inclusion of the service flows from owner-occupied housing may increase average living standards and reduce inequality among the elderly (Ritakallio 2003; Whiteford & Kennedy 1995), it might also lead to a greater than optimal investment in housing—and hence a lower than optimal level of non-housing consumption in retirement.

In Australia, there is ample evidence of underutilisation of the housing stock in elderly families.¹ It is possible that much of this housing wealth will be retained and ultimately transferred via bequests to children rather than increasing the living standard of the elderly.²

The Australian Housing and Urban Research Institute (AHURI 2004) echo an often-stated view that:

... the majority of the elderly are asset rich but income poor. They have few means of using their assets to generate income and the present treatment of assets in pension policy is a disincentive to doing so.

The objective of this paper is to examine patterns of housing wealth among the aged in Australia over time and to compare Australian housing wealth patterns with those in North America and Western Europe. Do the Australian elderly hold particularly high levels of housing wealth? Does this lead to a relative overconsumption of housing? Though some older people might wish to hold onto their housing wealth in order to pass it onto their children, evidence that wealth holdings are different in Australia than in other countries can provide suggestive evidence that Australian institutions and policies are responsible for these different outcomes.

Ellis and Andrews (2001) compare aggregate housing wealth in Australia and other countries (including both owner-occupied and rented housing). From levels comparable to those of other countries in the 1980s, total housing wealth as a proportion of disposable income rose substantially in Australia in the wake of financial market deregulation. Though there are substantial tax concessions for owner-occupied housing in Australia (particularly capital gains tax exemption), similar or greater concessions are also common in most other rich nations. For example, France, Germany, Italy, the United Kingdom (UK), the United States (US) and Sweden all permit some mortgage interest to be tax deductible.

Ellis and Andrews focus on the role of urban structure to explain the high share of wealth held in the form of housing. Australia has more large cities and fewer medium size cities than other comparable countries. They argue that this pattern will lead to an increase in average housing prices, and that this pattern could explain around one-third to one-half of the gap between Australia and the US in the housing–income ratio.

Though concessions for housing are internationally widespread, one policy area where Australian policy is atypical is among the elderly, where wealth held in owner-occupied housing is exempt from the Age Pension means test. Only in Australia does a means-tested pension provide such a large share of retirement income. The exemption of owner-occupied homes from the asset and income tests could potentially discourage trading down to less valuable houses and might also increase the magnitude of bequests.³ It could also encourage pre-retirement households in Australia to direct a larger fraction of their saving to housing rather than to more liquid assets.

However, the existence of such behavioural impacts cannot be simply assumed. There are many other reasons why people might wish to maintain an investment in housing. Housing is a familiar asset and also provides significant consumption value. Retaining the 'family home' provides stability and (albeit inefficient) insurance against future large expenditure requirements such as for nursing care.⁴ More generally, the existence of policies such as the assets test exemption might itself have arisen from long-standing community attitudes towards the role of housing in maintaining retirement living standards.

Previous research in this area has pointed to the income-equalising nature of this housing wealth among the retired population. Whiteford and Kennedy (1995) examined the living standards of the aged in a number of OECD countries, taking into account both cash and non-cash (education, health and housing) income sources. Imputed income from housing had a strongly equalising effect among the aged, particularly in Australia and the US (and to some extent Canada), but not in European countries.⁵ This reflects the relatively high levels of home ownership among the elderly in Australia and the US. Similarly, Ritakallio (2003) concluded that taking housing costs into account substantially narrowed the gap in aged poverty between Australian and Finland.

Matching this high level of home ownership, however, is the relatively low disposable income of the average Australian older person. In the mid-1990s, the Australian elderly had the lowest relative incomes (compared to national averages) across 19 OECD countries (Förster & Pellizzari 2000, Table 2.3).⁶ Including housing in the calculation increases the resources of the Australian elderly up to a more internationally typical level, but this potentially implies an unbalanced pattern of consumption (compared to the international norm). Does this suggest a greater role in Australia for policies and procedures that can better finance non-housing consumption in old age? These could include home equity withdrawal products or a greater facilitation of trade-downs to smaller dwellings.

Though home equity withdrawal products have only recently started to appear, the question of the extent to which the elderly do drawdown their housing wealth has attracted considerable research interest. In the US, there is mixed evidence. Haider et al. (2000) found some evidence that retirees do tend to move their wealth into non-housing forms. Fisher et al. (2007), on the other hand, conclude that home equity continues to increase after retirement with few retirees leaving home ownership or increasing their housing debt.

Chiuri and Jappelli (2006) compared home ownership rates across different age groups in several countries and found that home ownership rates decline with age in most countries but are relatively flat in Australia and the US. In many countries, however, this is mainly a cohort effect, with cohort-adjusted ownership rates in most countries being much flatter over time (though generally still declining). They were not able to test for trading down (while still remaining a home owner) and, like most of the studies in this area, their data was confined to private households. This means that they did not examine the transition into nursing homes or similar non-private dwellings. (This limitation is shared by the data presented later in this paper.)

Overall, it seems that in some countries there is evidence that some elderly release housing equity by moving house, but this only applies to a minority of households, with most elderly people reluctant to leave their long-term family home. Disney and Whitehouse (2002, p. 32) summarise these results:

The evidence that pensioner households use house moves to release equity is strong, but many elderly households are reluctant to move at all, even when they have high potential values of housing equity. Large houses (relative to income) are both a blessing and a curse.

How should Australia deal with this mixed blessing? What role do the particular incentives of the Australian tax benefit system play in generating this pattern of resource holdings for the elderly? What is the outlook for the next generation of retired Australians?

This paper begins by looking at within and between-cohort patterns of housing wealth in Australia. It then turns to compare Australian patterns with those in seven other countries. The paper concludes that the Australian elderly are indeed comparatively asset rich but income poor. Australia thus faces a unique challenge to develop policies that will best enable older people to improve their standard of living by taking advantage of this housing wealth.

2 The wealth-allocation incentives arising from the Australian Age Pension asset test exemption

In Australia, around 75 per cent of people over the Age Pension age receive at least some social security payments. Most of these people are receiving a means-tested Age or Service Pension (Whiteford and Angenent 2002). For both pensions, payments are subject to both an income and an asset test. The definition of assets is very comprehensive, with the exception that the value of the owner-occupied home is not included.⁷ For the pension recipients who are subject to this asset test, this structure can provide a strong financial incentive to keep as much of their wealth as possible in the form of owner-occupied housing.

Figure 1 illustrates the wealth allocation incentives associated with the Age Pension. The figure describes the policy settings as at January 2007 and at January 2008. Apart from indexation, the 2007 arrangements are very similar to the policies in place when the 2003–04 data shown below was collected. The January 2008 figure takes account of the changes to the asset test rules in late 2007.

The figure shows the amount of pension received by single pensioners with different levels of total wealth and different allocations between housing and complying annuities (in 2008, long-term asset-tested income streams). The assumptions underlying the figure have been made to approximate the situation of a single widow aged in her early 70s contemplating moving to a cheaper home and shifting some of her housing wealth into an annuity.⁸ These assumptions are an extreme simplification of the wide range of options facing a person in this situation and so the figures should only be taken as indicative of the structure of financial incentives, rather than their precise form.⁹

In particular, the changes at the end of 2007 halved the asset test withdrawal rate, but also removed some concessions for placing investments in complying annuities. This had the effect of increasing the relative attractiveness of other investment options that are not shown in this figure. The wide variety of these options make them difficult to summarise in a figure such as this, but it should be borne in mind that this change has had the effect of improving their attractiveness in relation to own-housing wealth (though own-housing wealth is still much favoured).

For the situation shown in Figure 1, the pension is always either reduced or unchanged if the share of wealth held in housing is reduced. In some circumstances this is due to the operation of the income test and in other cases the asset test.

On the other hand, ‘down-valuing’ and investing the surplus in an income-producing annuity always increases the total income of the pensioner.¹⁰ In this figure, the annuity income is assumed to be 10 per cent of the stock of wealth not held in housing—which is always more than the loss of pension. However, this is gained at a cost of poorer quality housing and/or less wealth to liquidate at a later stage (for example, to buy into a nursing home), or to keep as part of an estate. For some people, these items might be valued at less than their market value; for example, the house might be too large and too expensive to maintain. In this case the pensioner might still decide to move to a smaller house. Nonetheless, compared to a situation where owner-occupied housing did not have any special status under the pension asset test, many people face a very strong incentive to keep a higher fraction of wealth in housing.

Figure 1: Single age pensioners: wealth allocation and pension entitlement

Figure 1a: January 2007

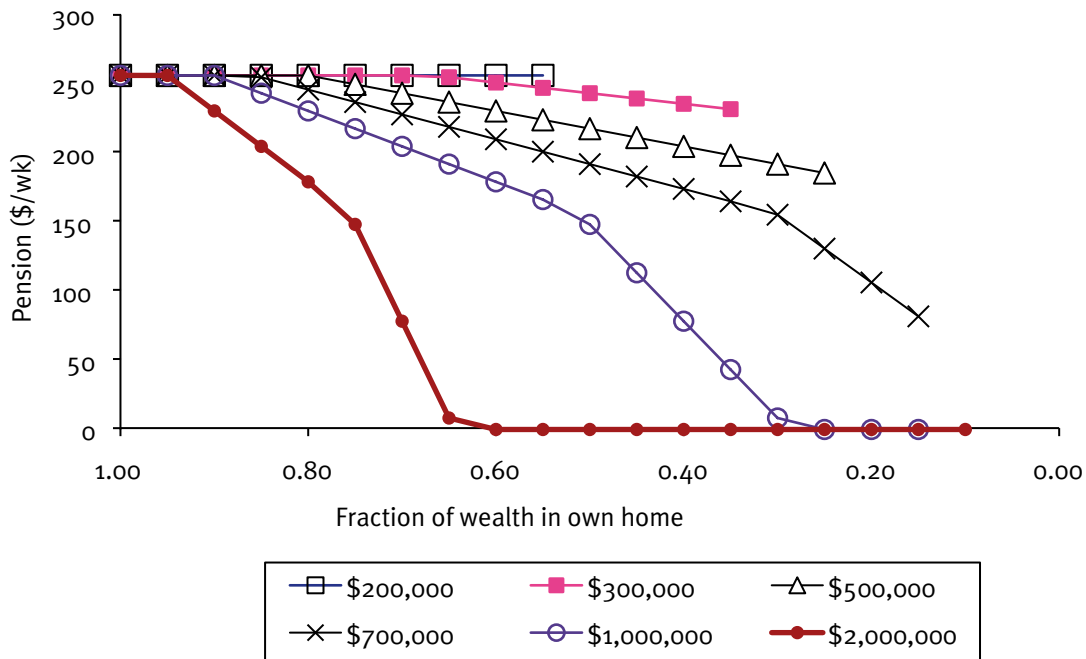
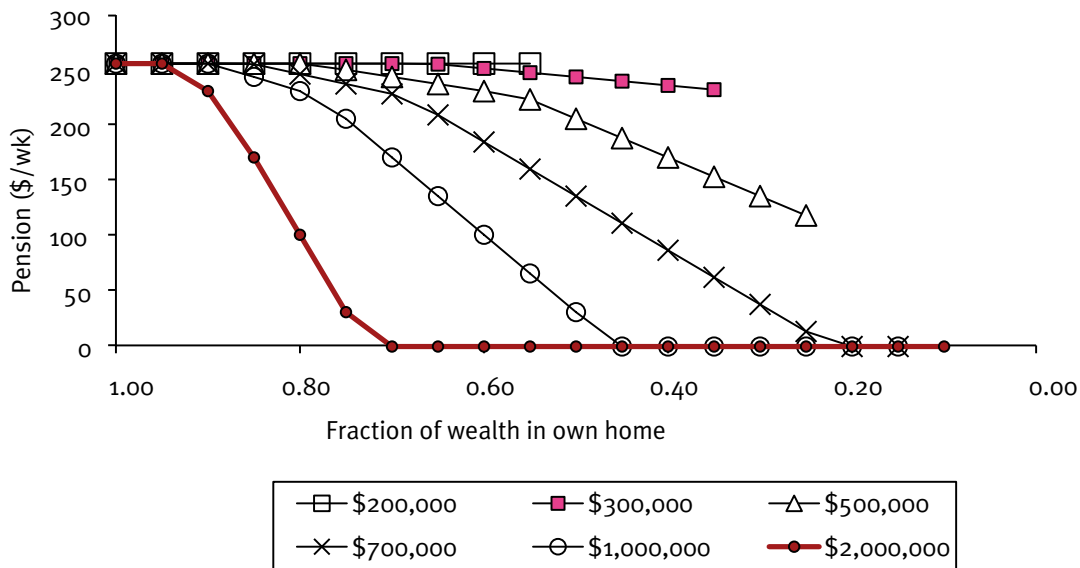


Figure 1b: January 2008



Note: The following assumptions are made. The pensioner is a home owner, with all wealth split between owner-occupied housing and a complying annuity ('asset tested income stream—long term' in 2008). Data points with housing wealth less than \$100,000 are not shown. The pensioner has an annual annuity income of 10 per cent of the wealth transferred to the annuity and a 15-year life expectancy. She has no other income and no transaction costs are included. As a point of comparison, the mean net worth of people aged 65 to 74 years in 2003–04 was around \$630,000 (see Figure 3).

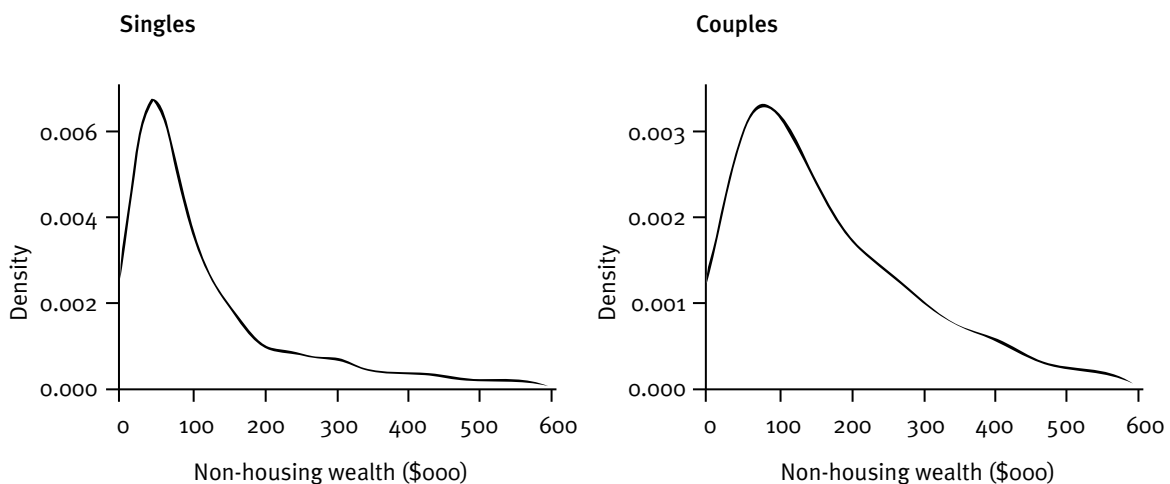
Source: Author's calculations.

However, this is not the case for all people. Those with low levels of total wealth are relatively unaffected as most of any annuity income is within the pension income-test free area. Also, those with very high levels of non-housing wealth receive no pension, and so marginal changes in wealth allocation will not influence pension entitlement.

Figure 2 tests for evidence that non-housing wealth holdings have been adjusted to avoid these high effective marginal wealth tax rates. It shows the distribution of non-housing wealth among the home-owning aged, as measured in the 2003–04 Australian Bureau of Statistics (ABS) Survey of Income and Housing Costs. At this time, the asset test withdrawal region ranged from approximately \$150,000 to \$300,000 for singles and \$210,000 to \$470,000 for couples (above these ranges, no pension is received). If people were avoiding holding wealth within the withdrawal region, then the density should be lower within these ranges. However, it is not clear what counterfactual density should be used to make such a comparison.

A simple approach would be to assume that the density should form a smooth curve across its range. If this assumption were to be made, then it does appear that, for singles, the density in the income range between \$150,000 and \$300,000 is somewhat lower than might be expected—though there is certainly no visible discontinuity at the ends of this range. For couples, however, there is no corresponding pattern. The density between \$200,000 and \$500,000 is, if anything, greater than might be fitted with a smooth curve.

Figure 2: Distribution of non-housing wealth: single and couple home owners over Age Pension age, 2003–04



Note: Households receiving the Service Pension are excluded as the questionnaire design for the survey appears to allow for some misclassification between the Service and the War Disability Pensions (the latter is not subject to an assets test). The figures show kernel density estimates.

Source: ABS Survey of Income and Housing Costs 2003–04, Confidentialised Unit Record File.

However, there are several difficulties with this analysis. First, depending on the form in which they hold their non-housing assets, some people will be mainly affected by the income rather than the asset test,¹¹ and so there will be no particular reason to avoid holding assets in the asset test phase out range. (In 2003–04 the income test had a lower effective rate but was spread over a wider range.)

Second, the measurement of wealth in the ABS survey is likely to be different from that used for the pension asset test. Indeed, substantial numbers of people with assets above the assets test threshold are still recorded in the survey as being in receipt of Age Pension.

Some of this could reflect differences in scope between the Centrelink rules and the ABS data collection. Apart from the home, certain other assets are also exempt from the assets test. These include complying income stream products and proceeds from the sale of the principal home that are intended to be reinvested in another home within 12 months (24 months in some circumstances). More generally, it is plausible that the ABS survey

will record higher values of assets than are assessed under the Centrelink rules. Recipients have an incentive to present lower valuations to Centrelink but not to the ABS. For all these reasons, a lack of correspondence should not be seen as surprising, even if there were a behavioural effect.

This discussion, and the calculations in Figure 1, apply best to the financial incentives associated with downsizing to a lower valued property. The incentives to become a renter rather than a home owner depend upon the value of the dwelling. To compensate for the fact that they do not receive an exemption for their housing wealth, renters are subject to an asset test on their other wealth with a substantially higher threshold (\$121,000 higher in January 2008). This compensation is the same in all regions, and so renting is relatively less attractive in those regions with high house prices. Does this lead to higher home ownership rates among the retired in those regions with highest housing prices?

Table 1 shows home ownership rates across Australian capital cities for the pre-retirement population aged 40 to 59 years and for those aged 60 years and over. (Home ownership throughout this paper includes both people who own their home outright and those who are still paying off mortgages.) Mean house prices are also shown, with Sydney having a significantly higher house price, followed by Melbourne, the Australian Capital Territory (ACT)/Northern Territory (NT), Brisbane and Perth, with the remaining cities having lower house values. The 60 years and over population does have a relatively high home ownership rate in Sydney, but the rate is similar in Melbourne and Hobart. More interesting is that the home ownership rate in Sydney increases most between the pre and post-retirement years (by 10 percentage points). This provides some evidence that the relatively insignificant concession to renters in Sydney might make home purchase a relatively more attractive option in retirement. However, the pattern across the other cities does not follow any particular pattern and so this should not be treated as any more than suggestive of an incentive effect.¹²

Table 1: Home ownership rates across Australian capital cities, 2003–04

City	Mean house price (\$000)	Home ownership rate (%) by age of household reference person		
		40 to 59 years	60 years and over	Difference
Sydney	590	74	84	10
Melbourne	369	86	86	0
Brisbane	328	73	79	6
Adelaide	265	79	79	1
Perth	307	79	78	-1
Hobart	248	80	84	4
ACT and NT	363	75	76	1

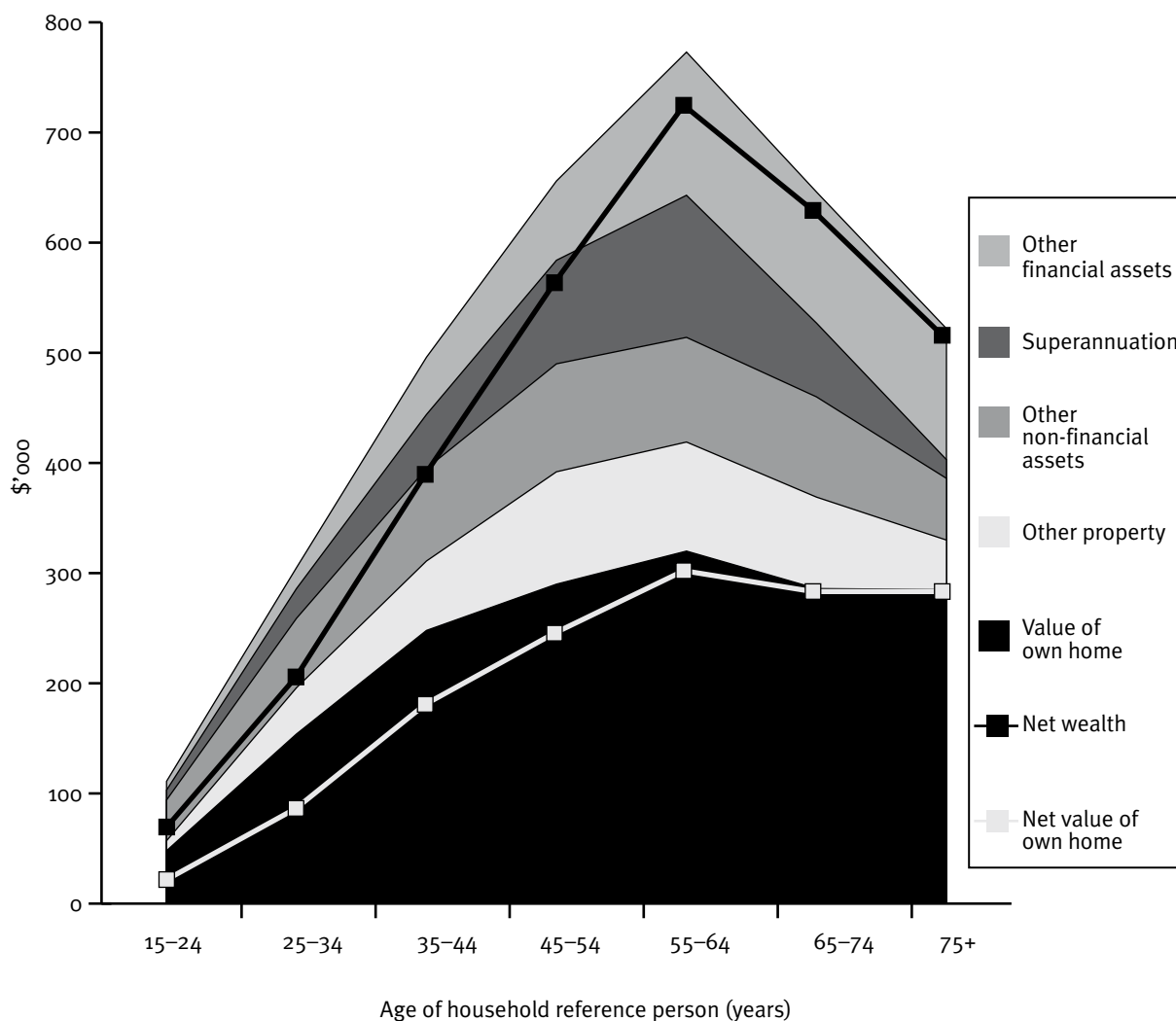
Source: ABS Survey of Income and Housing Costs, 2003–04, Confidentialised Unit Record File.

3 Australian home ownership and housing wealth patterns across the life course

How do the wealth-holding patterns of Australians vary as they age? Is housing still the main way in which private saving is used to support retirement? Is there any evidence of people drawing down on their housing wealth as they age?

Figure 3 shows the mean holdings of different forms of wealth in 2003–04, disaggregated by the age of the household reference person.

Figure 3: Mean household wealth holdings by age, Australia 2003–04



Source: ABS, *Household wealth and wealth distribution, Australia, 2003–04*, cat. no. 6554.0, Table 20.

Given the prominence in the Australian discourse on the importance of owning one's own home as a means of saving for retirement, perhaps the most striking feature of this figure is the low share of household assets held in the family home (the bottom shaded area in the figure). For the 65 to 74 year age group, only 44 per cent of gross wealth is held in their own home (55 per cent for those 75 years and over). Substantial asset reserves are held in the form of non-superannuation financial assets, other property and other non-financial assets (household contents, businesses, cars and so on).

All these measures of gross wealth do not deduct debt owed on the assets. However, overall, debt levels are a small fraction of gross wealth, and a negligible fraction for the retired population. Also, it must be remembered that these patterns are for the average household—many people in the bottom half of the distribution in particular will have negligible assets other than their own home.

Across the different age groups, total wealth peaks among households where the heads are in their pre-retirement years, with declines in most other forms of wealth thereafter (the steep decline in superannuation wealth partly reflects the shifting of superannuation pay-outs into the other wealth categories). Own-home housing wealth also falls in the initial retirement years, but less than the other forms of wealth (and net housing wealth falls by even less).

At face value, this figure provides some support for the hypothesis that the elderly run down their assets in retirement, including their housing wealth. This running down could take place either by selling and moving to a cheaper dwelling or by simply not maintaining the condition of the dwelling.

The wealth measures in the ABS surveys (and in most of the international surveys considered in the next section) are based upon respondent self-reports of the value of different assets. In principle, the reported value of their homes should take account of any depreciation due to lack of maintenance. However, whether respondents are sufficiently aware of the impact of this, or other influences, on the value of their homes, remains an open question.

Moreover, cross-sectional data such as this cannot be automatically interpreted as representing life-course patterns. The pattern of wealth holding for different age groups in 2003–04 represents a combination of cohort, history and selection effects that are difficult to disentangle. These are defined as follows:

- **Cohort effects:** Different birth cohorts will enter home ownership at different dates. If they enter at a relatively low point in the housing price cycle or live through a period of high income growth, then they might tend to have a higher level of housing wealth at a later date. Similarly, the growth in superannuation means that younger cohorts will tend to have higher levels of non-housing wealth.
- **History effects:** The large variation in house prices over time also means that the date at which the cross-sectional data is collected will also influence results. The year 2003–04 was towards the end of the housing boom of the early 2000s, with house prices around 20 to 25 per cent above their trend price-to-income ratio (Yates et al. 2008). If the wealth survey had been conducted five years earlier, housing wealth would have been an even smaller fraction of total wealth than shown in Figure 3.
- **Selection effects:** Differential mortality rates across wealth levels will also influence the patterns shown in Figure 3. If poorer people tend to die younger,¹³ then the older groups will tend to comprise people with greater wealth.

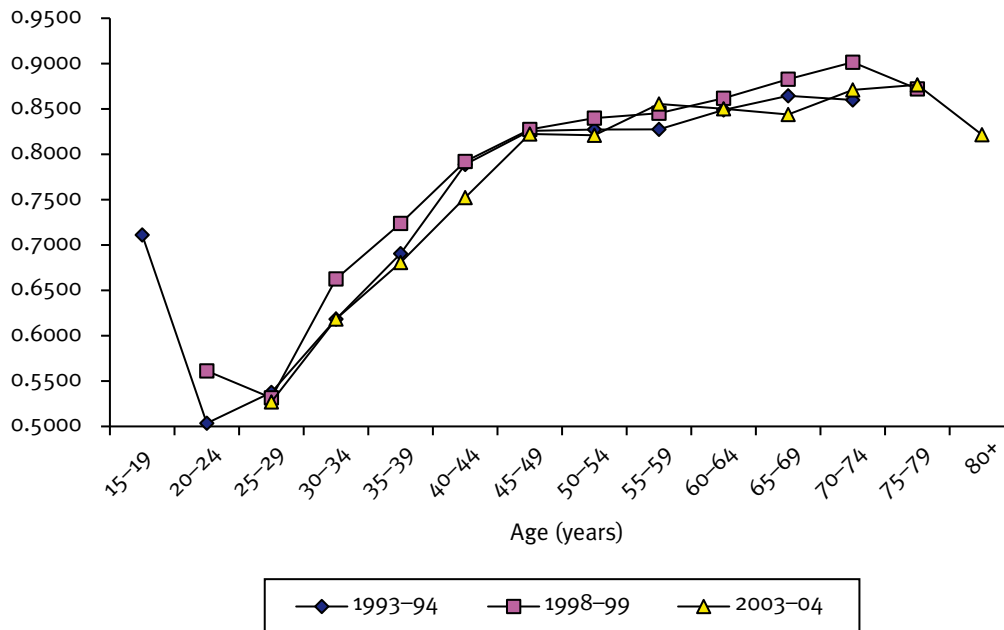
A related issue is how to best categorise by age. In Figure 3, this is done on the basis of the 'household reference person'. The ABS uses a complicated rule to determine this. The result is that in couple-only households this could be either the husband or the wife. In the more common case where the husband is nominated and is older than the wife, a household might move into a younger cohort after the death of the husband. In the remainder of this section this issue is addressed by categorising individuals based on their own age (though this is not possible for the cross-national comparisons later).

Figure 4 begins with home ownership rates, using data from the 1993–94, 1998–99 and 2003–04 ABS Household Expenditure Surveys (HES).¹⁴ The figure classifies individuals according to whether they

live in an owner-occupied home, even if they themselves are not the home owner. These surveys do not include people living in non-private dwellings such as nursing homes, though they do include people living in retirement villages with their own private kitchen.

Ownership rates have changed little since the early 1990s. There is some evidence of higher home ownership rates in the 1998–99 (that is, middle) survey. This is likely to represent either sampling variation or some minor methodological difference in the surveys.

Figure 4: Proportion of people living in owner-occupied housing by age, 1993–94 to 2003–04



Source: ABS Household Expenditure Survey Confidentialised Unit Record Files, 1993–94, 1998–99, 2003–04.

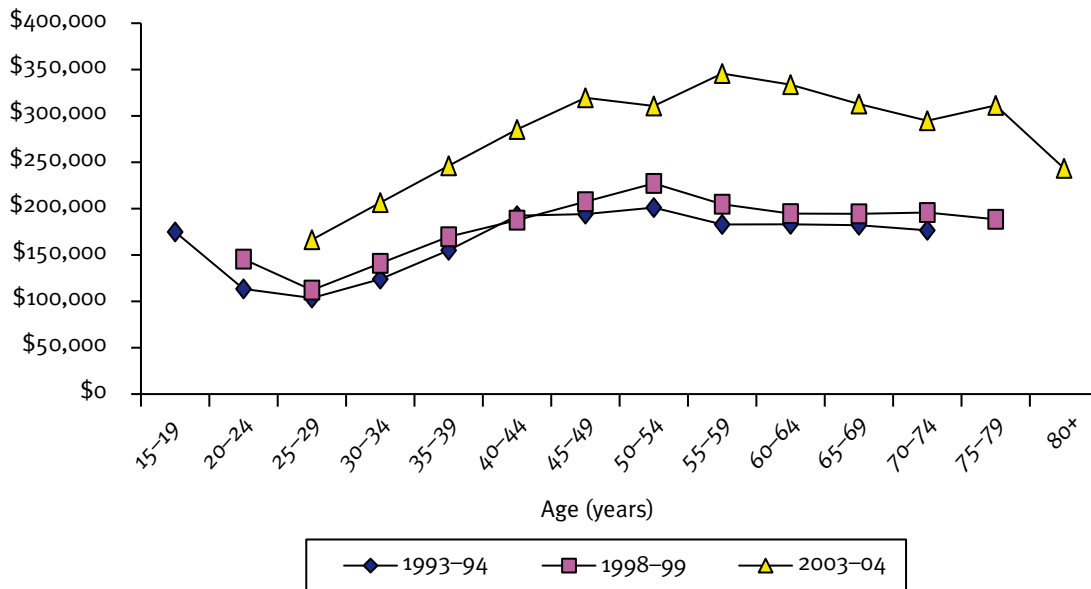
Figure 5 shows the average value of the house in which people of different ages live. This is defined as the expected sale price for the dwelling if it is owner-occupied, or zero if the house is rented.¹⁵ Gross home value (that is, ignoring mortgage debt) is shown because it is most closely related to the value of the housing consumption services provided by owner occupation.

No adjustment is made to take account of differing numbers of people in each household. In principle, it might be expected that the more people living in a household, then the lower the share of housing consumption received by each individual. On the other hand, many components of housing consumption are shared (they are ‘public’ goods within the household), and so it would not be appropriate to simply divide housing consumption on a per capita basis. Indeed, using a conventional consumer equivalence scale to divide on a per equivalent-person basis would also be inappropriate as housing is more public than the average consumption good. Consequently, this paper makes the simplifying assumption that housing is a pure public good, with each individual receiving a consumption value equal to the full consumption value of the house in which they live. Hence the figures here show the gross value of the person’s household, rather than some fraction of it based on the number of people in the dwelling. This simple approach is particularly reasonable for older households—which mainly comprise single people and couples.

In Figure 5 the dramatically higher level of housing wealth in 2003–04 is clearly apparent. Figure 6 takes the same data points but now joins them together to form cohorts. Each line of three data points represents the mean house value for a particular birth cohort over a 10 year period. That is, the right-most end of the line represents the mean in 2003–04, the middle point the mean for this cohort in 1998–99 when they were aged five years younger and the left-most point their mean in 1993–94.

Every cohort except the youngest experienced a dramatic rise in home value between 1998–99 and 2003–04. (The wealth of the youngest declined as they left their parents’ homes.) Moreover, almost all cohort profiles lie above that of the cohort immediately to their right. That is, at any given age, the cohort born later has a higher home wealth value. This cohort difference mainly reflects the housing boom in the 2000s (and this pattern could conceivably be reversed as the boom unwinds).

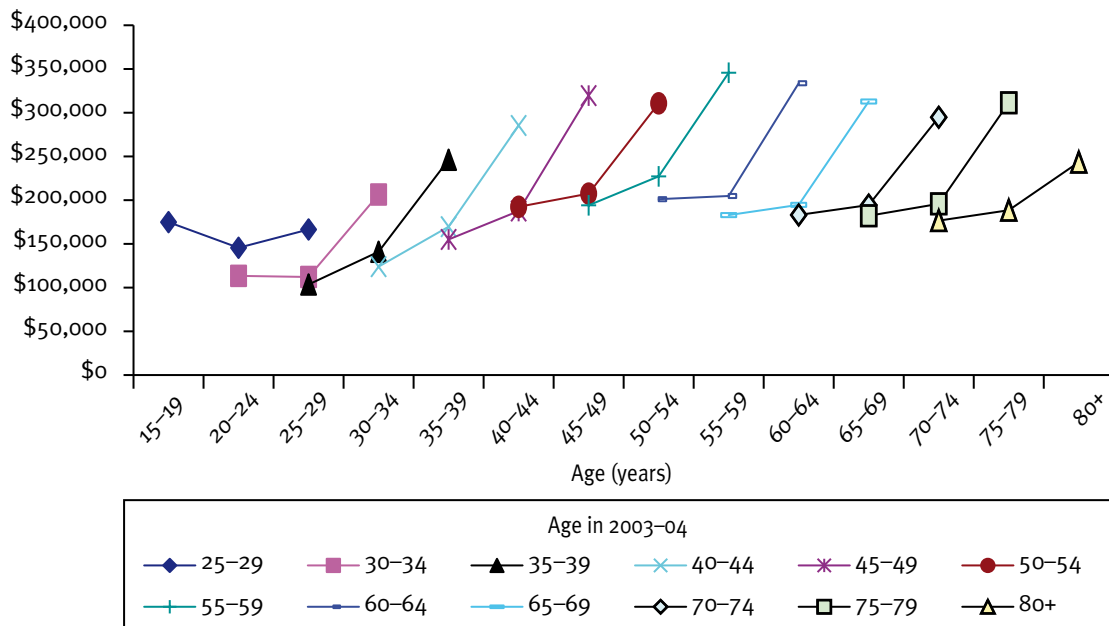
Figure 5: Average value of own home by age, 1993–94 to 2003–04 (\$2003–04)



Note: Averages are across individuals and are calculated from the own-home value of the household in which the person resides. Value set to zero for renting households. Estimates deflated to 2003–04 values using the Consumer Price Index (CPI).

Source: ABS Household Expenditure Survey Confidentialised Unit Record Files, 1993–94, 1998–99, 2003–04.

Figure 6: Average value of own home by cohort (\$2003–04)



Note: The 80+ cohort line is not defined consistently. In 1993–94 it represents people aged 70 to 74 years; in 1998–99 people aged 75 years and over; and in 2003–04 people aged 80 years and over. It is also the cohort most subject to selection effect biases because of differential mortality.

Source: Figure 5.

However, even though house price changes were very much in line with long-term trends between 1993–94 and 1998–99, an increase in wealth among the younger cohorts is still evident. That is, the second point in each cohort line generally lies above the first point of the cohort to the right. This reflects the fact that, over the long run, house prices have been steadily increasing in real terms and growing relative to incomes (Ellis & Andrews 2001; Yates et al. 2008). Though there were some falls in home ownership for younger cohorts (mainly) in the years prior to 1993–94, these younger cohorts have continued to invest in housing and hence have been achieving a higher level of housing wealth at each age than their older cohorts. However, this is not necessarily a desirable outcome from their point of view, as it might mean that they have been forced to reduce non-housing consumption in order to enter a high-priced housing market.

It is unlikely that the increase in house value over this 10-year period represents an increase in dwelling quality. There may have been some increases in dwelling size, but average land quality may well have deteriorated as cities grew in size. Rather, it makes more sense to treat the increase in house value as a change in the price of owner-occupied housing. A simple way to control for house price changes is thus to deflate house prices by the mean house price as at the survey year, rather than by the Consumer Price Index (CPI). This assumes that the history effect (mean house prices at time of observation) is the same across all age groups.¹⁶

If it is assumed that house price changes over time represent the price of housing rather than its quantity or quality, this adjustment provides an indication of the extent to which different cohorts hold different quantities of owner-occupied housing and whether this is changing over time. Figure 7 is thus calculated in the same way as for Figure 6, except that house values are deflated by the change in house prices rather than by the overall CPI.¹⁷

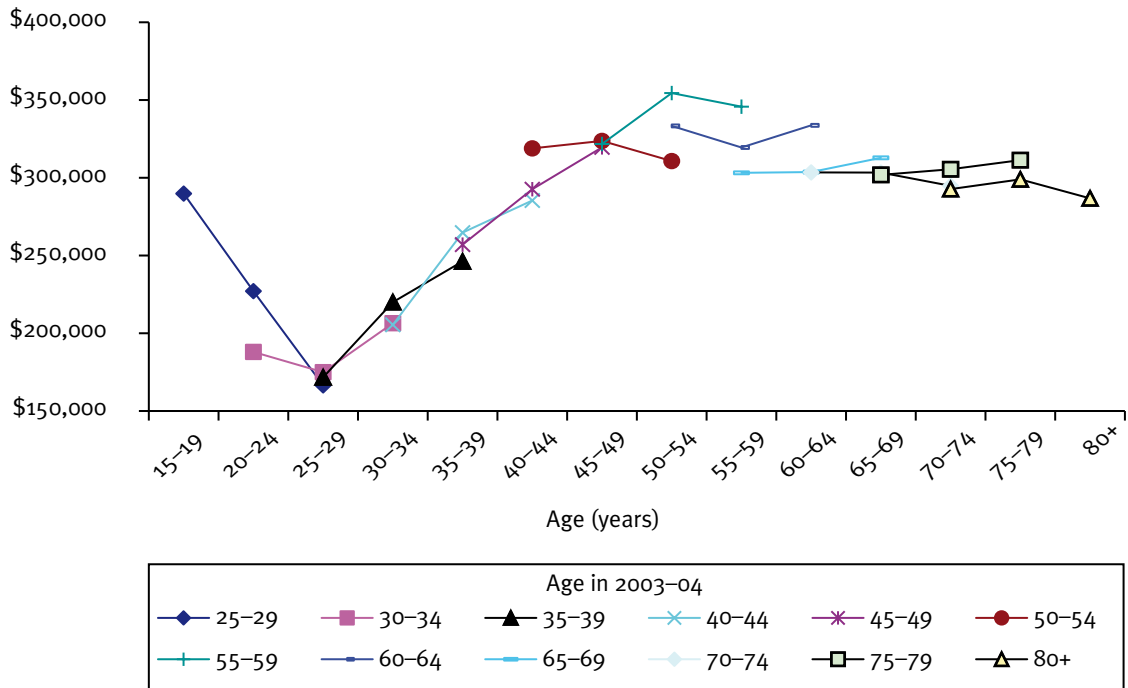
Figure 8 is the same as Figure 7, except that it is restricted to people living in owner-occupied housing, while Figure 9 replicates Figure 7 for women only (thus controlling for one of the main selection issues among the elderly). For the most part, the conclusions to be drawn from Figure 7, Figure 8 and Figure 9 are similar. There are some cohorts that have noticeably higher levels of average housing wealth. This is ascertained by comparing the different cohort lines at particular age points. Where the cohort lines are close to one another, this means that the different cohorts are managing to consume similar quantities of owner-occupied housing at each age. This is the case for cohorts in the younger half of these figures. This data does not support the hypothesis that the younger cohorts (on average) are missing out on entering the housing market.¹⁸

In general, the four older cohorts also have overlapping housing wealth profiles. The estimates for the five-year age windows are not very precise, and so the differences that do exist are probably due to sampling variation.

There is an apparent gap, however, between the cohort of people aged 55 to 59 years in 2003–04 and the older cohorts. This younger cohort has accumulated around an 8 to 15 per cent greater stock of housing wealth than the older cohorts had when they were the same age. The data suggests that the cohorts that are even younger will have the same patterns of housing wealth accumulation as this middle-aged cohort. This different cohort pattern could be due to rising real incomes and/or the state of the housing and housing finance markets when people first entered it. The fact that this pattern is also evident in Figure 8 suggests that this arises from the value of housing held by owners, rather than from changing rates of home ownership.

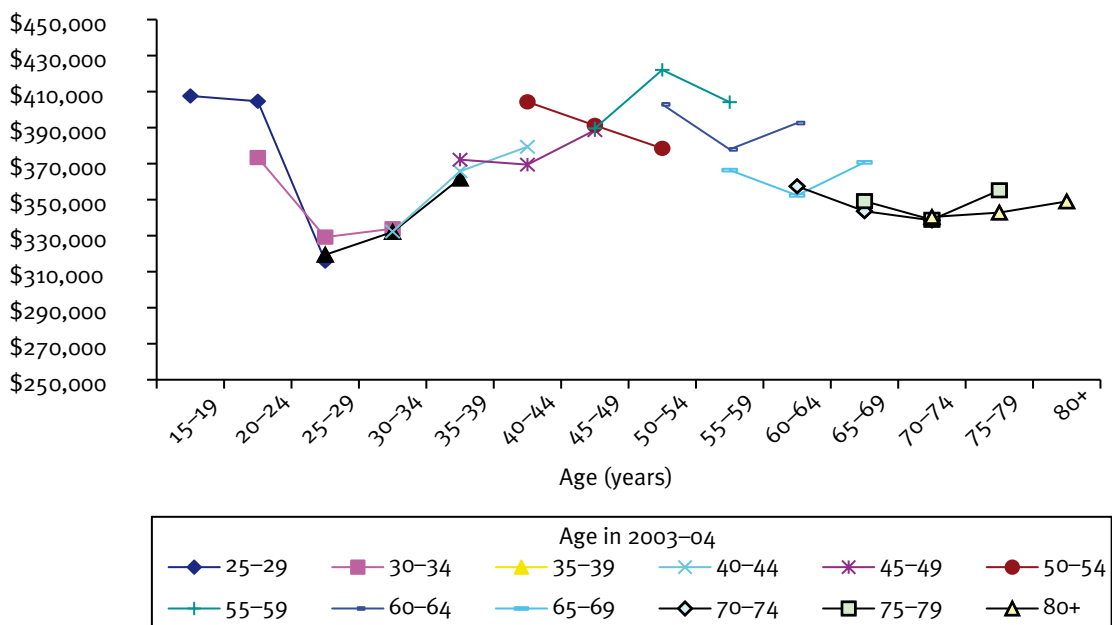
One caveat is the divergent pattern for the cohort aged 50 to 54 years in 2003–04. This cohort has a lower level of housing wealth at age 50 to 54 years than both the other older cohorts. It should also be remembered that these estimates are averages and might not reflect the situation of all subpopulations.

Figure 7: Average value of own home by cohort (\$2003–04, deflated by mean house values)



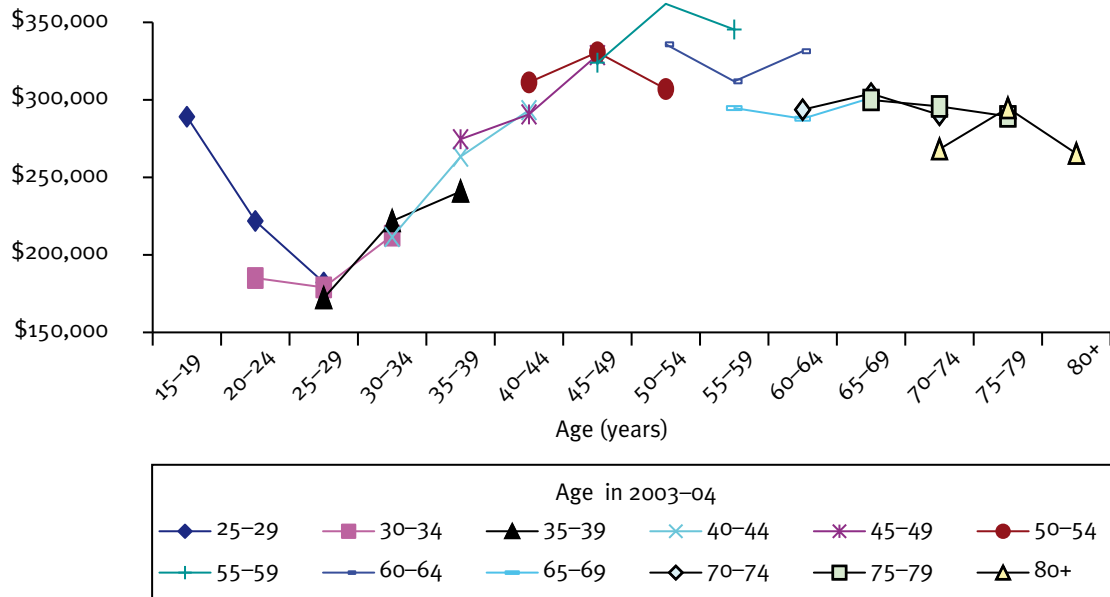
Note: Calculated as for Figure 6, except that house prices are deflated by the mean value of own home (estimated across owner-occupied households) in each year (\$163,840, \$192,146 and \$352,978, respectively). The home value is set to zero for people in renting households.

Figure 8: People living in owner-occupied housing: average value of own home by cohort (\$2003–04, deflated by mean house values)



Note: Calculated as for Figure 7, but only for those people living in owner-occupied housing (they are not necessarily the home owner themselves).

Figure 9: Women: average value of own home by cohort (\$2003–04, deflated by mean house values)



Note: Calculated as for Figure 7, except for women only. The home value is set to zero for people renting.

Overall, this cohort analysis does not provide any evidence of housing wealth de-accumulation in the post-retirement years. Though few of these cohorts have precisely flat age–wealth profiles, the irregularity shown is quite possibly due to sampling variation. If there was a general tendency for people to reduce the stock of housing wealth as they aged, a downward slope within each 3-point segment would be expected. There is no evidence of this. Given the precision of the estimates, however, a small downward trend of housing wealth in retirement cannot be ruled out.

These estimates do not take account of any possible selection effect. If poorer people were to die or move to non-private dwellings earlier, then an increase in the mean housing wealth of the remaining population would be expected. It is possible, therefore, that this type of differential mortality might mask a small fall in housing wealth among those who remain alive in their own home.

Nonetheless, returning to the cross-sectional view presented in Figure 3, this cohort analysis suggests that the fall in mean own-home wealth shown there between ages 55 to 64 years and 65 to 74 years is mainly due to the wealth levels of the different cohorts rather than any tendency for people within each cohort to run down their housing wealth in retirement.

To conclude this analysis, a more direct look at the extent of trading down housing in retirement is undertaken. Table 2 shows information from the HILDA survey on the percentage of home owners who move. Overall, about 7 per cent of home owners move per annum. For those over 60 years, this is lower, at around 2 to 4 per cent.

Table 2: Percentage of home owners moving house over a 12-month period

Age (years)	%
15–19	9.3
20–24	16.4
25–29	15.7
30–34	11.0
35–39	8.5
40–44	5.9
45–49	5.8
50–54	4.2
55–59	4.8
60–64	3.9
65–69	3.5
70–74	2.7
75–79	2.4
80 and over	3.0
All	7.0

Note: Data pooled over five waves. The population is people who were living in an owner-occupied dwelling in wave t, who responded to the survey in wave t+1 (approximately 12 months later).

Source: HILDA, release 5.0.

The HILDA survey also collects information on the reasons for moving. Table 3 looks at home owners aged 60 years and over and shows the percentage reporting different reasons for moving (as a percentage of all, including non-movers). None of the response options specifically address whether people are moving to less valuable housing, but it is noticeable that 0.7 per cent of all older home owners say that they are moving to a smaller or cheaper house each year (1.1 per cent of pensioners). Cumulated over the whole of the retirement period, this could amount to a substantial fraction downsizing. Against this, it should be noted that there are several prominent categories of response that might involve more expensive housing (larger/better place, place of my own, better neighbourhood, closer to amenities, change of lifestyle) and that a smaller dwelling might not be a cheaper one.

Table 3: Home owners aged 60 years and over, reasons given for moving

Reason for moving (multiple choice permitted)	Main source of income		All
	Pension or benefit	Other	
		%	
To start a new job with a new employer	0.11	0.09	0.09
To be nearer place of work	0.00	0.01	0.01
To be close to place of study	0.00	0.00	0.00
Work transfer	0.00	0.00	0.00
To start own business	0.00	0.00	0.00
Decided to relocate own business	0.01	0.05	0.03
To get a larger/better place	0.37	0.31	0.34
To get a smaller/less expensive place	1.06	0.45	0.73
To get a place of my own/our own	0.20	0.07	0.13
To get married/moved in with partner	0.02	0.06	0.04
To live in a better neighbourhood	0.38	0.40	0.39
To be closer to friends and/or family	1.00	0.50	0.72
To look for work	0.00	0.00	0.00
Marital/relationship breakdown	0.06	0.11	0.08
Property no longer available	0.14	0.09	0.11
Evicted	0.00	0.00	0.00
To follow a spouse or parent/whole family moved	0.00	0.12	0.06
To be closer to amenities/services/public transport	0.47	0.06	0.24
Seeking change of lifestyle	0.58	0.71	0.65
Health reasons	0.72	0.24	0.46
Temporary relocation	0.10	0.11	0.11
Moved to Australia (NFI)	0.00	0.00	0.00
Government housing (no choice)	0.00	0.00	0.00
Travelling/returned from overseas	0.04	0.00	0.02
Personal/family reasons (NFI)	0.09	0.00	0.04
Work reasons (NFI)	0.00	0.02	0.01
Housing/neighbourhood reason (NFI)	0.00	0.05	0.03

Notes: The last six reasons are coded from the open response category. NFI=no further information. Data pooled over five waves. The population is people who were living in an owner-occupied dwelling in wave t, who responded to the survey in wave t+1 (approximately 12 months later) and who were aged 60 years and over in wave t+1. The table shows the percentage of this population who reported the different reasons for moving in the past year. The denominator of the percentage includes people who did not move. People are defined to have a main source of income of pension or benefit if their household income from pension or benefits was greater than half their household gross income in year t.

Source: HILDA, release 5.0.

Returning to the questions posed at the head of this section, it shows that, though housing is still important, it is by no means the only way that people save for retirement. Among those aged 65 to 67 years in 2003–04, only 44 per cent of their gross wealth was held in their own home. Financial assets, other property and assets were also important. These are average patterns, however. The median household is likely to have a much greater share of their wealth held in housing.

The examination of own-home wealth of different birth cohorts across the 1998–99 to 2003–04 period does not find any evidence of Australians drawing down on their housing wealth as they age. It is possible, nonetheless, that a small fall in housing wealth might exist, but that this is being hidden by differential mortality patterns. More extensive longitudinal data will be needed to resolve this question. Direct survey questions on reasons for moving house do not resolve this. Though substantial numbers of retired people report moving to smaller or cheaper housing, others report moving to houses that might be more expensive.

4 International comparisons: the Luxembourg Wealth Study

How do these life-cycle patterns of housing wealth compare with those in other high-income nations? To date, there has been little internationally comparable information on the quantum of wealth held in owner-occupied housing. The remainder of this paper draws upon data from the new Luxembourg Wealth Study (LWS) to provide an overview of housing wealth patterns in Australia and seven other countries. The LWS seeks to provide a harmonised household-level database containing information on household wealth, income and demographic characteristics.

The data sources for these countries are shown in Table 4. In addition to seven of the LWS countries, the table contains data from two recent Australian household surveys which have collected house-value data: the 1998–99 ABS Household Expenditure Survey and the 2003–04 ABS Household Income and Expenditure Survey. The first of these is the same survey as used in Section 3. The second is the larger survey of which the 2003–04 HES used in Section 3 was a sub-sample. In Section 3 the objective was to ensure comparability between the surveys over time. Here, the larger 2003–04 survey is used in order to improve precision. The 1998–99 survey is also included to test the sensitivity of the results to the house price cycle.

The LWS data are mainly drawn from household surveys similar to those in Australia, but in the Nordic countries the data are drawn from a combination of interview and administrative register data. The LWS surveys were conducted between 1998 and 2002, around the same time as the two Australian surveys. Two surveys from the US are included in the LWS. The Panel Study of Income Dynamics (PSID) version is used here because of its larger sample size and information on housing expenditures.

Table 4: Data sources

Country	Year ^(a)	Source (all except Australia via the LWS)	Approximate sample size (households)	Special features
AU98	Australia 1998–99	ABS: Household Expenditure Survey	7,000	
AU03	Australia 2003–04	ABS: Household Income and Expenditure Survey	11,000	
CA99	Canada 1999	Survey of Financial Security	16,000	Family unit. Oversample of high-income areas
UK00	UK 2000	British Household Panel Survey	5,000	
USP01	US (PSID) 2001	Panel Study of Income Dynamics	7,000	
FI98	Finland 1998	Household Wealth Survey	4,000	Interview and register data
SE02	Sweden 2002	Statistics Sweden: Wealth Survey	18,000	Interview and register data
GE02	Germany 2002	Socio-Economic Panel	12,000	Oversample of high-income areas
IT02	Italy 2002	Bank of Italy: Survey of Household Income and Wealth	8,000	

(a) The year indicated is the year in which the survey was conducted. The value of the stock variables such as household wealth and demographic composition apply to this year. In most countries, the flow variables such as income refer to a previous time period, such as the previous financial year. This difference has been ignored in the analysis here.

Some key reference indicators for these countries and years are shown in Table 5. The PPP (purchasing power parity) index is an index of the number of units of the national currency (in the specified country and year) that would be needed to buy the same quantity of goods as would be purchased by one US dollar in the US in 2002.

Column 6 uses this index to calculate gross domestic product (GDP) per capita on a common currency basis. The US has the highest living standard when calculated on this basis, followed by Australia in 2003–04. Australian real incomes in 1998–99 were 11.4 per cent lower when calculated on this basis. Too much weight should not be placed on these precise values. If GDP is deflated by the CPI, the real income gap between the two years is somewhat less at 9.4 per cent.¹⁹

Column 7 presents an alternative indicator of national living standards, disposable income per household, as recorded in the different surveys. Here the US again has the highest income, followed by Canada and then the two Australian surveys. These different rankings represent the different size of the state in different countries (for example, low taxes and services in the US means a relatively higher disposable income), but also might reflect differences in the coverage of household incomes in the surveys.

Table 5: Key reference indicators

LWS code	Country	Year	GDP/capita (‘000, national currency, current prices)	PPP index (US 2002)	GDP/capita (‘000 USD 2002)	Disposable income/ household (‘000 USD 2002)	House price to rent ratio relative to long-term average	Cohort effect on home ownership (%pt per year)
1	2	3	4	5	6 (=4/5)	7	8	9
AU98	Australia	1998–99	32.1	1.215	26.4	30.5	1.06	0.00
AU03	Australia	2003–04	41.7	1.401	29.8	32.5	1.68	0.00
CA99	Canada	1999	32.3	1.119	28.9	35.7	1.08	0.07
UK00	UK	2000	16.3	0.607	26.8	30.2	1.00	0.98
USP01	USA (PSID)	2001	35.5	0.983	36.1	50.4	1.04	0.15
GE02	Germany	2002	26.0	0.959	27.1	28.3	0.96	0.33
IT02	Italy	2002	22.7	0.825	27.5	28.0	1.06	1.13
FI98	Finland	1998	23.8	0.923	25.8	24.9	1.08	0.59
SE02	Sweden	2002	265.7	9.365	28.4	25.5	1.20	0.53

Source: Columns 4 to 6: OECD (extracted 26 October 2007); the Australian data are based on averages of the two calendar years; the Finland data are in 1999 Euros.

Column 5: the PPP price index is calculated as the multiple of the PPP index (relative to US\$) for the given year and the US implicit price deflator for GDP (relative to 2002).

Column 7: LWS and ABS, see Table 4.

Column 8: OECD 2005.

Column 9: calculated from Chiuri & Jappelli 2006, Figure 2.

%pt=percentage point.

Column 8 of the table presents information on the cyclical state of the housing market in the given year in each country. This shows the mean dwelling sale price relative to mean dwelling rent compared to the long-term average of this ratio. As noted earlier, in Australia, 2003–04 was at the end of an extremely strong growth in real housing prices, and this is clear in this table with prices compared to rents almost 70 per cent above their long-term trend. The growth in this ratio from 1998–99 to 2003–04 (58 per cent) is similar to the growth in real house prices used to deflate housing wealth data in Section 3 (56 per cent). In no other countries were house prices so much at variance with their long-term averages. (The boom in US house prices came after 2001.)

Finally, column 9 is a summary of the work of Chiuri and Jappelli (2006). They compare cross-sectional with cohort-adjusted patterns of home ownership rates between 50 and 80 years of age. In most countries, cross-sectional data shows a significant drop in home ownership rates across this age range. When they take account of cohort differences in home ownership, however, this drop is generally smaller. Column 9 is calculated as $1/30$ of the gap between the cross-sectional and cohort-adjusted home ownership change across this age range. For example, they find that home ownership rates for the UK elderly fall by about 30 percentage points between 50 and 80 years of age. Once they adjust for cohort effects, they find essentially no drop in home ownership with age. The story in Italy is similar, though with smaller cohort effects in the other countries. In Section 6 these results are used to make an approximate adjustment to the cross-sectional data to estimate what the pattern might be like if cohort effects on ownership rates could be removed.

5 Describing cross-national patterns of housing wealth

This comparison begins with an overview of the wealth portfolio allocation of the elderly in eight countries. Table 6 presents some initial results published from the LWS. This table suggests that the share of wealth held in the form of owner-occupied housing is not particularly high in Australia (only 56 per cent).²⁰ Finland, Germany, Italy and the UK all have higher housing wealth shares and only the USA and Sweden have significantly lower shares. On the other hand, the percentage of the population living in owner-occupied housing is very high in Australia (83 per cent, equal-highest with the US).

Table 6: Wealth portfolio allocation of the elderly in eight countries (%)

	Australia	USA	Canada	Finland	Germany	Italy	Sweden	UK
Principal residence (% home owners)	56 (83)	35 (83)	55 (74)	60 (77)	66 (52)	65 (77)	47 (58)	69 (69)
Investment real estate	13	21	12	23	20	18	12	5
Financial assets (excluding trusts)	32	44	33	17	14	17	41	26
Total assets	100	100	100	100	100	100	100	100
Total debt	2	6	5	1	6	4	11	2
Home-secured	0	5	4	1	4	0	n.a.	1
Net worth	98	94	95	99	94	99	89	98

Note: Wealth is expressed as percentage of total assets (rounded to the nearest percentage). For Australia, the population is households where the reference person is aged 65 years or over. For other countries, the population is households where either the head or spouse is aged 65 years or over. Excluded from the LWS data are life insurance and unrealised pension assets; business assets and debt; and vehicles, household durables and collectibles. Some of the latter items are available in the ABS data, but are not included here for comparability (they are included in Figure 3). For Australia, superannuation account balances are included but not entitlements to defined benefit plans or other income streams.
n.a.=not available.

Source: Australia, 2003–04: ABS 2006, Tables 20 and 21; other countries, 1998–2002: Sierminska, Brandolini & Smeeding 2006, Tables 1 and 3, using the beta version of the LWS.

However, a focus on wealth allocations of this type can be misleading. If a broader view of wealth as including all rights to future consumption is taken, the value of future pension entitlements as part of wealth holdings should also be included.²¹ These entitlements include both public pension entitlements as well as private pensions that deliver income streams rather than lump-sum assets.²² Though most retired Australians receive at least some Age Pension and some receive superannuation pensions, these income stream entitlements are generally larger in the other countries shown in Table 6. If these entitlements were included as part of wealth, the share of housing would be substantially smaller in these other countries.

An alternative approach is to focus on the corresponding consumption patterns of the elderly. If the Australian elderly are keeping too large a share of their wealth in housing, this is potentially a problem mainly because of its impact on their consumption patterns—it prevents them using the wealth for other forms of consumption.

An accounting framework for the examination of the relationship between housing and consumption is illustrated in Figure 10. This describes the relationships between the economic concepts of disposable income,

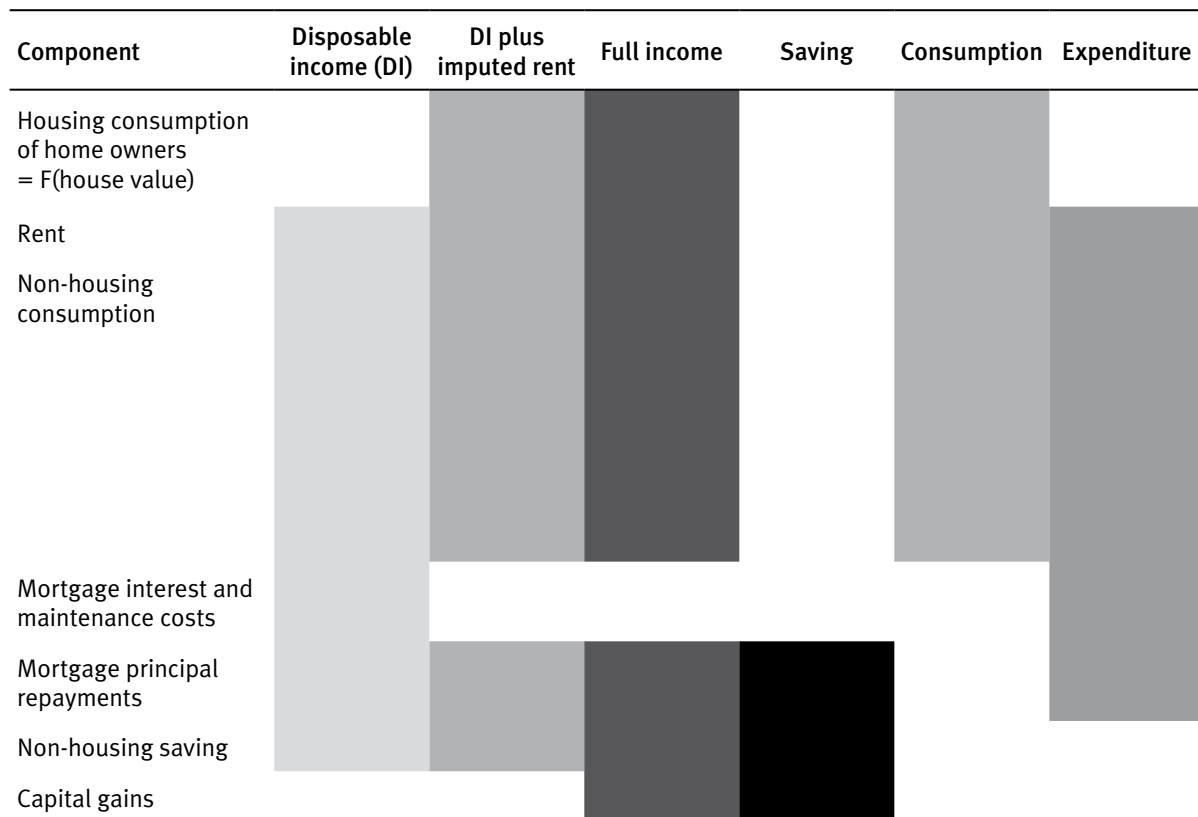
imputed rent, full income, saving, consumption and expenditure. The first column shows the allocation of household **disposable income** to non-housing consumption (purchases of goods and services other than housing), rent, mortgage repayments (interest and principal) and non-housing saving (the increase in value of other assets). Cash saving can be negative if people are drawing down on their non-housing assets, in which case the sum of non-housing consumption, rent and mortgage repayments will be greater than disposable income.

Unlike most other assets, housing also provides consumption services as well as being an investment. **Imputed rent** is the income that the household could be receiving if it were renting its home to itself. It can be defined as the gross rent that would be obtained for the dwelling, minus the maintenance costs and (inflation-adjusted) interest costs of financing the dwelling. One way of estimating gross rent is as a function of the value of the house (and land).²³ In Australia, 5 per cent of the gross house value has commonly been used as an estimate of the likely rental value of a dwelling (at least in periods with ‘normal’ house prices). Here, it is assumed that this fixed fraction of dwelling value (adjusted for the house price cycle) is a reasonable estimate of rental value in all the countries. Because there is no direct evidence that the same percentage is applicable to each country, in discussing these results the focus is mainly on how patterns across age groups differ between countries rather than placing too much emphasis on the absolute level of housing wealth or imputed rent.

The ‘**full income**’ concept shown in the figure adds capital gains to disposable income and imputed rent. (It does not include the other non-housing elements that some might include in such a concept, see note to the table.) **Saving** is defined as those flows that add to the stock of the household’s wealth. Here this includes (real) mortgage principal repayments, non-housing saving and capital gains.

Consumption, which is the focus here, is full income minus saving. It has two components, housing and non-housing consumption. As shown in the final column, this is different from **expenditure**.

Figure 10: Housing-related income and consumption concepts



Note: Excludes non-housing durables, state and employer-provided non-cash income, value of home production and the value of leisure. Mortgage components assumed be on an inflation-adjusted basis.

It can be seen from this figure that non-housing consumption can be estimated in several ways. One approach is to subtract rent, mortgage interest, maintenance, mortgage repayments and non-housing saving from disposable income. Another is to collect data on non-housing expenditure. There is no comparable expenditure data available across these countries, but the first approach can be approximated by deducting rent and mortgage payments from disposable income. This omits the deduction of household maintenance and non-housing saving. The latter might be negative for the elderly as people draw down on their assets. Note, however, that some forms of asset drawdown, such as income from annuities, are included in disposable income, and so would be included in this measure of non-housing consumption.

The key variables used in this paper are thus defined as follows:

- **Disposable income:** total household cash income minus income tax and compulsory employee social security contributions. Negative incomes are set to zero.
- **Equivalent disposable income quintile within age group:** equivalent income is calculated as disposable income divided by the square root of the number of people in the household (top-coded to 6 to match the Australian data). Households are sorted by equivalent income within each five-year age group and then the lowest fifth in each age group are placed in the first quintile group.
- **Age of female household head:** because of data limitations, it is not possible to categorise people according to their individual age. Therefore the ages of the household head and the spouse of the head are used to classify households. Where the household head does not have a spouse, the head's age is used. Where the head is partnered, the age of the female partner is used. This approach is used to maximise household continuity as the members age (because the male partner is more likely to die first). **Exception:** In **Canada** the age is the age of the household head (probably mainly the male in couples, but information on this is not available).
- **Rent:** annual rent paid for the dwelling. In the UK this is gross rent paid before reductions due to housing benefit.²⁴ Not used in **Germany** because of concerns about the quality of the rent data in the current version of the file.
- **Housing costs:** rent plus mortgage principal and interest payments (ideally, maintenance expenditures should also be included).²⁵ **Exceptions:** In **Canada, Finland** and **Sweden**, mortgage principal payments are not included. Not available in **Germany**.
- **Owner-occupied housing wealth:** the market value of the dwelling (usually as estimated by the respondent). It is set to zero where the dwelling is not owned by any household members. For farms, only the value of the dwelling and immediate surrounding land area is included.
- **Home ownership:** households with positive owner-occupied housing wealth are defined as home owners.
- **Own-housing consumption:** 5 per cent of **owner-occupied housing wealth** adjusted for the house price to rent ratio (that is, divided by column 8 of Table 5).
- **Housing consumption:** **Own-housing consumption** plus **rent**.
- **Non-housing consumption:** **Disposable income** minus **housing costs**. Note the definitional differences in **housing costs** in some countries.
- **Total consumption:** **Housing consumption** plus **non-housing consumption**.

Figure 11 presents several different indicators of home ownership wealth (for all ages) across the different countries. In most countries, home ownership rates are between 60 and 70 per cent. Australia, the UK and Italy are at the upper end of this range. Home ownership rates are much lower in Sweden and especially Germany, where only 40 per cent of households own their own home.

Figure 11: Home ownership and own-home values

Figure 11a: Home ownership

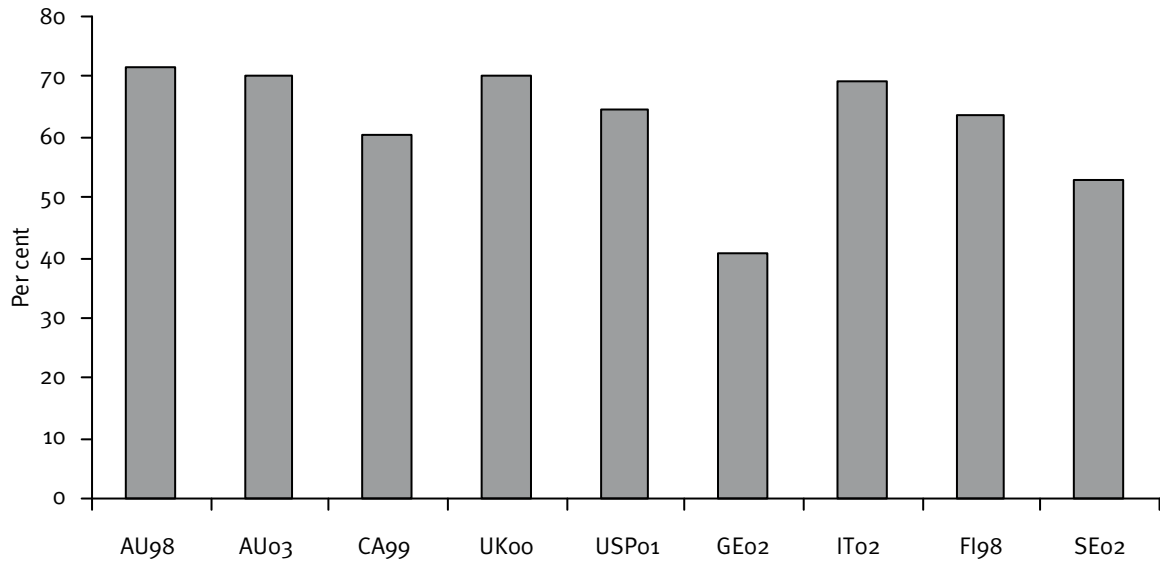


Figure 11b: Mean value of home per owner household

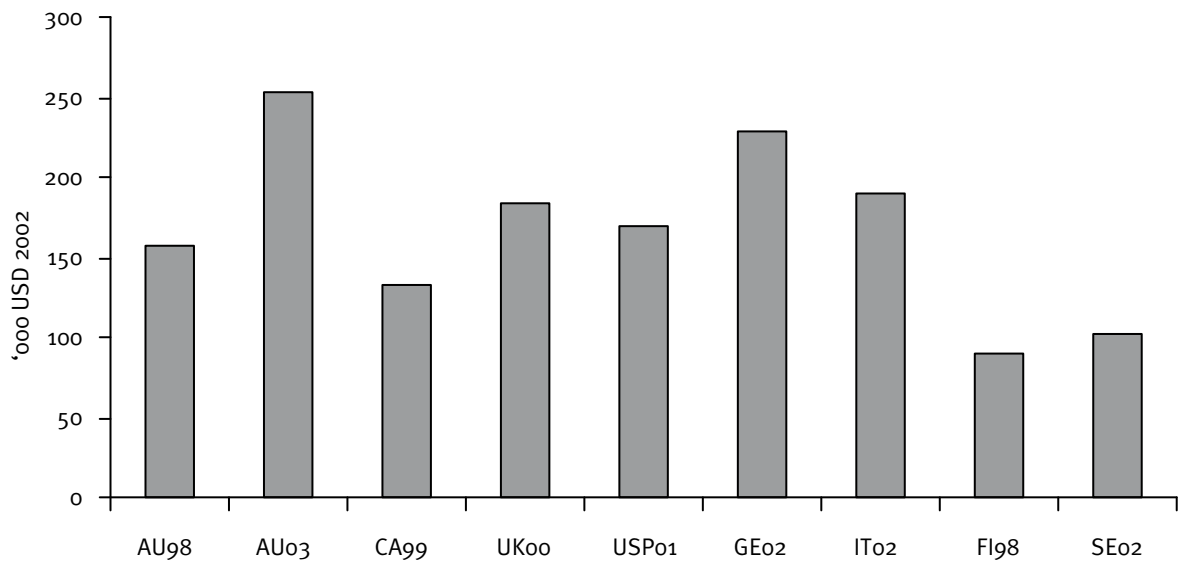


Figure 11c: 5 per cent of mean relative to GDP per capita

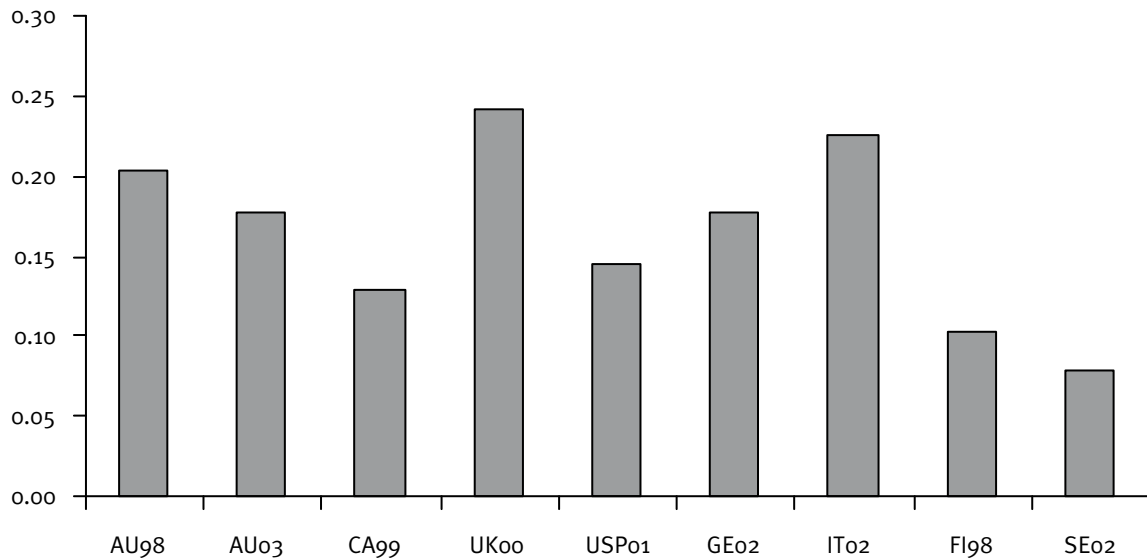
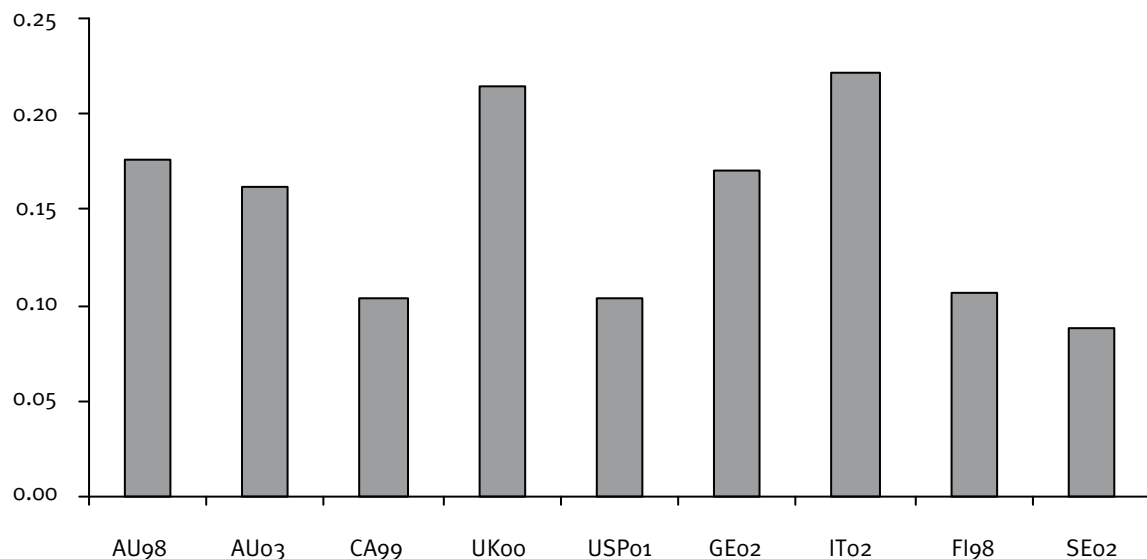


Figure 11d: 5 per cent of mean relative to disposable income per household



Notes: See Table 5 for PPP adjustment factors and GDP/capita. Figures 11c and 11d adjust for cyclical variation in price/rent ratios by dividing by column 8 in Table 5. Renters are included with zero own-home value (except in Figure 11b).

Source: See Table 4 for data sources.

Figure 11b shows the mean house value, averaged across home-owning households only. (Most of the results in this section are averaged across all households.) The high value of Australian homes in 2003–04 stands out. German homes are also expensive, suggesting that the small fraction of the population who are home owners live in high-quality dwellings. The Nordic countries have low own-home values.

Income levels across these countries vary, as does their place in the house price cycle. Figures 11c and 11d thus show home ownership wealth relative to two different measures of average national incomes and adjusted for the price–rent ratios. In order to summarise the overall propensity to have own-home wealth, these averages are calculated across all households (with non-home owners having zero housing wealth). The 5 per cent of the mean own-home wealth can be interpreted either as an estimate of own-home consumption, or simply as an adjustment to put the stock of housing wealth on approximately the same basis as the flow of income.

Both Figures 11c and 11d present a similar picture. Averaged across the whole population, relative to income and controlling for the housing price cycle, Australia is by no means exceptional in terms of its own-home housing wealth patterns. Both the UK and Italy have higher levels of relative own-home wealth. Australian relative housing wealth is a similar percentage of income in Germany (despite Germany having a low home ownership rate), and higher than in the remaining countries.

On this adjusted basis, Australian housing wealth is lower in 2003–04 than in 1998–99. This is because the adjustment for house price–rent ratio cancels out all of the real house price gain between these two years. At the same time, however, real incomes grew significantly over this period (6 or 13 per cent, depending on which measure of income is used), which leaves housing wealth smaller relative to income. It is possible that this adjustment overcompensates for the housing boom of the early 2000s, as some of the factors that led to the housing boom (for example, changes in capital gains tax rules) also encouraged investment in rental housing—and thus deflated rents from the level that they would otherwise have had. This suggests that the 1998–99 estimates might be a better description of the long-term pattern in Australia.

6 The age profile of housing wealth holdings in different countries

Though the overall pattern of home ownership wealth in Australia is not unusual in the cross-national context, the pattern across the life cycle is quite different.

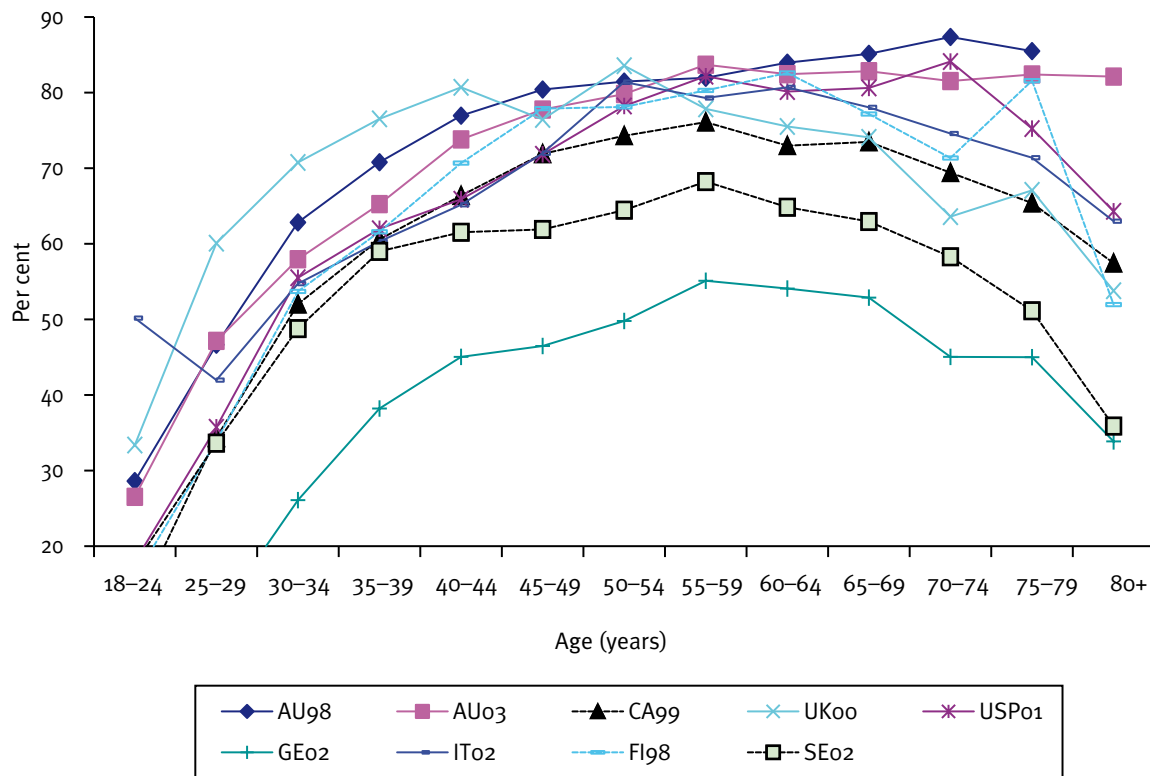
This section describes the patterns of housing wealth and income across the life cycle in Australia and the seven other countries. The focus is on the relativity between pre and post-retirement own-home housing wealth, and how this differs across countries. This is addressed by firstly examining home ownership and own-home housing wealth. Across nations, the high level of housing wealth held by the Australian elderly is quite unusual. The typical pattern in the other countries is for housing wealth to be much lower in the post-retirement years (though this might change in future).

On the other hand, older people in Australia have particularly low-income levels—mainly because of the greater prevalence of employment-related pensions in the other countries. These two results together imply that own-home wealth relative to income is particularly high in Australia after retirement.

This result has implications for the possible financing of aged consumption in Australia, an issue that is discussed in the conclusion. However, it does not necessarily mean that the Australian elderly are atypical in that they might be living in high-quality dwellings but without any money to spend on other goods. In the other countries, non-home owners might be living in high-quality rental accommodation. Therefore patterns of total housing consumption (including rents) relative to disposable income and relative to a measure of total consumption are examined. From this perspective, the Australian situation is less distinctive, with the elderly in the UK and possibly Italy also having a high share of housing consumption. However, Australia is still unusual in that the housing consumption share dramatically increases between the pre and post-retirement years.

Figure 12 commences this presentation with the home ownership rates by age in each of the eight countries. Sweden and particularly Germany have low home ownership rates at all ages. For the other countries, ownership rates for the middle age groups are all similar. At ages 50 to 54 years, for example, home ownership rates range from 74 to 82 per cent. In the retirement years, however, the picture changes. Australian home ownership rates remain high, but those for most other countries decline substantially. For the 70 to 74 year age group, Australian home ownership rates are 87 or 81 per cent and the US rate is similar, but all other countries have rates below 76 per cent (though Finns aged 75 to 79 years have high ownership rates). (These sharp fluctuations between age groups probably reflect sampling variation.)

Figure 12: Home ownership rates by age of female head



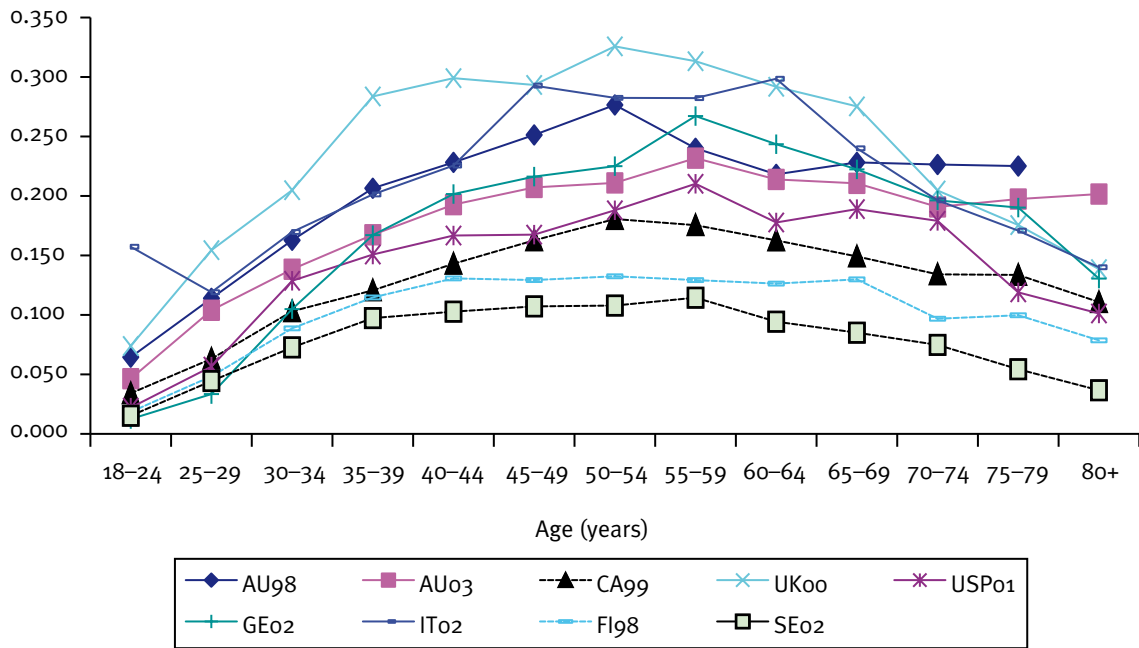
Source: LWS and ABS data. See Table 4.

As noted above, the research of Chiuri and Jappelli (2006) suggests that much of this fall in home ownership with age is actually a cohort rather than a life-cycle effect. Among the countries detailed here, this is particularly the case for the UK, where it is likely that home ownership rates among the elderly will be similar to those in Australia once the current cohort of non-elderly retires.²⁶

Turning to housing wealth, Figure 13 shows the mean own-home wealth (or consumption) by age in each of the countries, scaled by national income levels. These estimates also adjust for the cyclical position of the house-rent ratio but not for any cohort effect. At age 55 to 59 years, Australians have similar own-home housing wealth to GDP ratios to those in the US and Germany, and lower levels than Italians and particularly those in the UK. The Canadians and the Nordic countries have lower levels of housing wealth at all ages.

Of more interest than the overall levels of wealth, however, are the patterns across the life cycle. All countries other than Australia show a reduction in own-home housing wealth after 60 years of age. This is partly due to the fall in home ownership rates with age described above, but also due to lower house values among older owners. In Australia, on the other hand, the level of own-home wealth is relatively stable after 60 years of age. It drops a little in 2003–04, and is higher for people in their 50s in both years, but the pattern across age groups is clearly much flatter than that in the other countries.

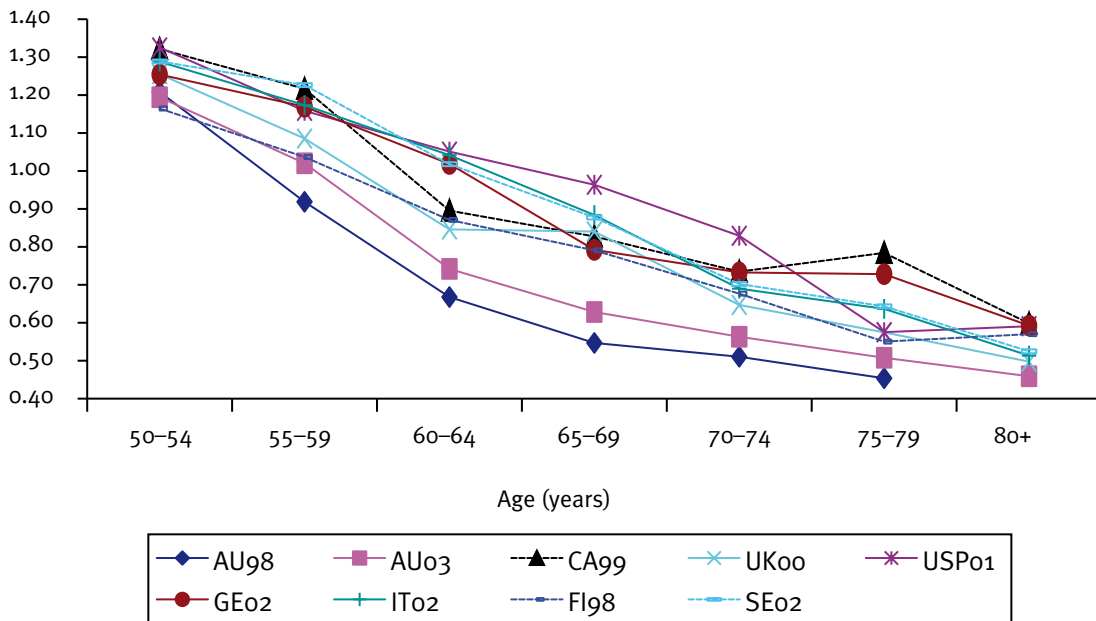
Figure 13: Mean own-housing wealth/consumption relative to GDP/capita (5 per cent of mean adjusted own-home wealth, non-owners included)



Note: Adjusted own-home wealth is own-home value deflated by column 8 in Table 5.
 Source: LWS and ABS data. See Table 4.

It is useful to put this picture of housing wealth in the context of income trends across the life cycle. Figure 14 shows the ratio between the mean household income of people in different age groups, relative to the overall mean disposable income (that is, of all ages). Here, Australia is also an outlier. Between 50 to 54 and 70 to 74 years of age, household income falls by around 56 per cent in Australia, compared to around 43 per cent for the other countries (see Whiteford and Kennedy 1995 for similar patterns in earlier years).

Figure 14: Household disposable income of age group, relative to overall household disposable income

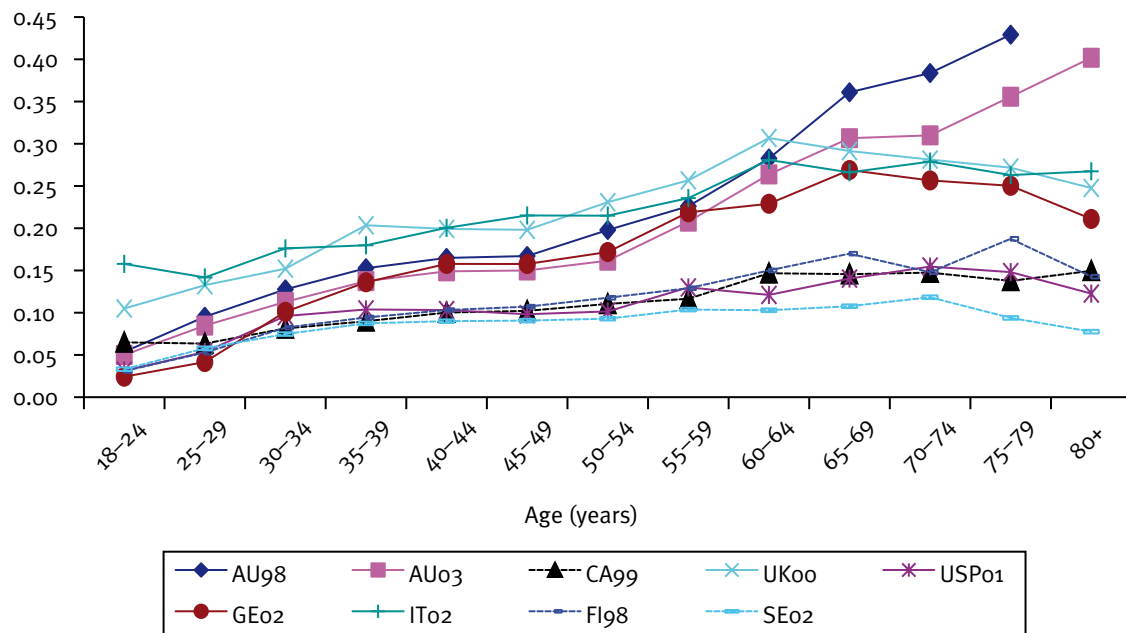


Note: Mean household income of individuals.
 Source: LWS and ABS data. See Table 4.

Figure 15 compares own-home wealth with this income measure. This shows the ratio of own-home ownership consumption to disposable income in each age group. That is, Figure 13 divided by Figure 14—apart from the fact that these two figures have different average income denominators.

Australia has a distinct across-age pattern in each of these figures and this is magnified in their ratio. In Australia, the consumption flows from own-home ownership in the 70 to 74 year-old age group reach around 31 to 37 per cent of disposable income, with even higher levels for the older age group. All other countries have lower values.

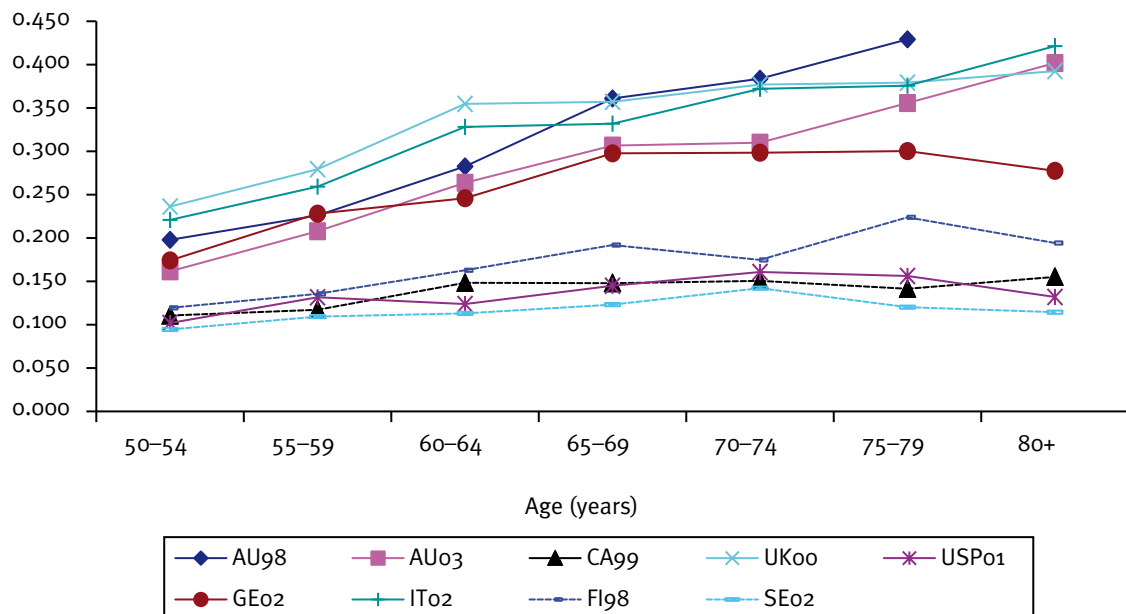
Figure 15: Mean own-home consumption relative to disposable income (5 per cent of adjusted own-home wealth relative to the disposable income of the age group)



Source: LWS and ABS data. See Table 4.

Part of this Australian distinctiveness arises from the cohort effect in home ownership rates discussed above. In Figure 16 an estimate is made on what home wealth patterns might look like if there had not been the cohort effects of home ownership rates described by Chiuri and Jappelli (2006). This is done by adding a linear trend to the home ownership rate, with the slope given by the last column of Table 5. Zero cohort effect is assumed for Australia. With this (albeit crude) adjustment the Australian pattern of aged housing consumption is now similar to those of Italy and the UK. Hence, these countries might be expected to catch up to the Australian patterns over the next decades.

Figure 16: Five per cent of adjusted own-home wealth relative to disposable income of age group, adjusting for cohort effects



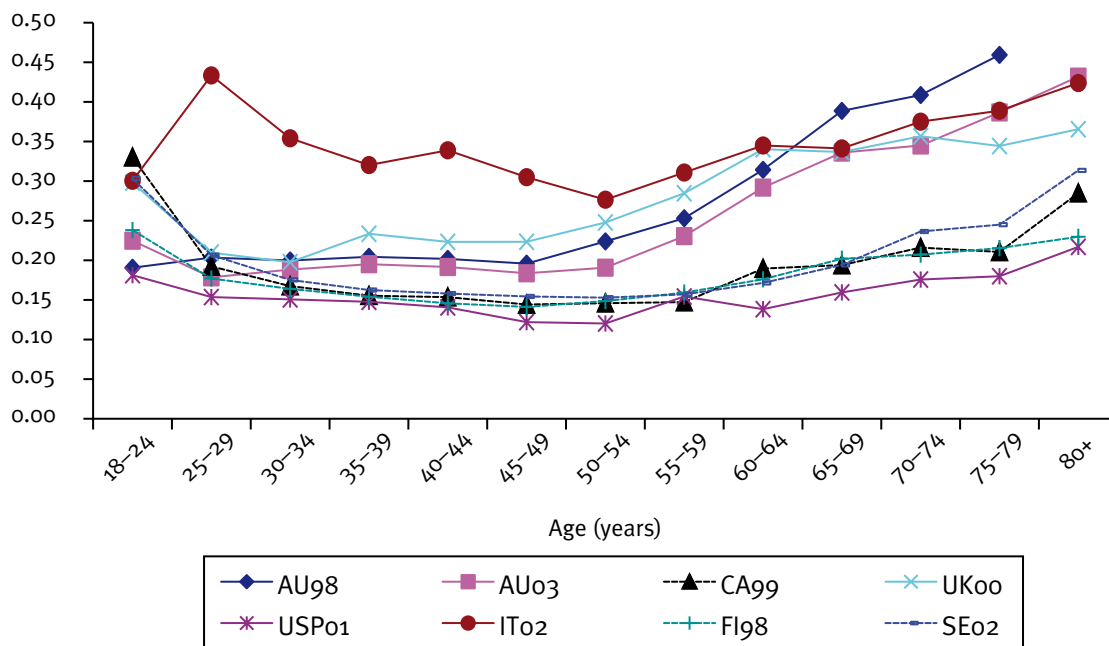
Source: LWS and ABS data. See Table 4.

Note, however, that these calculations make no allowance for the Australian cohort effect shown in Section 3. There it was found that the baby boom generation of Australians appear to have higher levels of housing wealth than the older cohorts. This arises not from home ownership rates, but from the higher levels of housing wealth of those who own homes. As this wealth flows through to the retirement years, it might be found that the Australian elderly again end up having unusually high levels of housing wealth.

Turning now to total housing consumption (rather than just consumption of own-home housing services), Figure 17 shows housing consumption relative to disposable income across the life cycle. This is calculated by adding the average rents paid by people at different ages to the own-home housing consumption values shown in Figure 15.²⁷

The Australian elderly continue to have a relatively high level of housing consumption compared to income (compared to both the Australian non-elderly and to the elderly in other countries). The pattern for the UK, however, is now similar (though the difference between elderly and non-elderly is not so extreme). Italian households appear to have high housing consumption levels across all age groups—possibly pointing to problems with the Italian income data. For most other countries, there is also a tendency for housing consumption to rise as a fraction of income with age, though the apparent fraction (bearing in mind the measurement caveats) is generally much lower than in Australia.

Figure 17: Total housing consumption relative to disposable income (5 per cent of adjusted housing wealth plus rent paid, divided by disposable income of age group)



Source: LWS and ABS data. See Table 4.

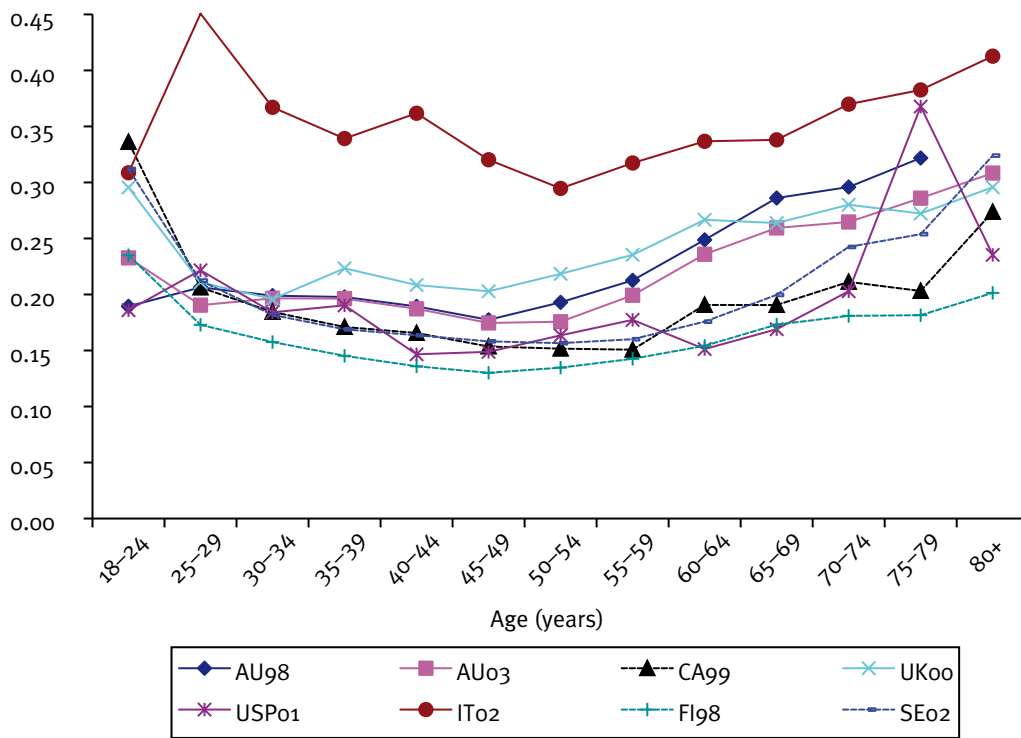
However, even if the measurement assumptions associated with housing consumption estimation are appropriate, the presentation shown in Figure 17 is not the most appropriate way to show the relative importance of housing in consumption patterns. More appropriate would be to compare housing consumption with non-housing consumption (or total consumption).

This requires the deduction of housing costs from disposable income. Ideally, this should include rent, the mortgage interest and the principal together with maintenance expenditures. Maintenance expenditures are not available in any of the countries. Rent, mortgage interest and principal payments can be deducted in Australia, the UK, the US and Italy. In Canada, Finland and Sweden mortgage principal repayments are not included. This means that for these countries, non-housing consumption is estimated as too high, and hence housing consumption relative to total consumption as too low.

A comparison of housing consumption with total consumption is shown in Figure 18. (Total consumption is defined following Figure 10; that is, ignoring the consumption of non-market services, home production and leisure.) The high apparent housing consumption level for Italy across all ages is quite apparent. The US pattern is volatile, but also appears to exhibit an upward trend. On average, however, housing has a relatively low share of total consumption in the US. In Germany, the housing consumption share increases up to 65 to 69 years of age (to a similar level to Australia), but then declines.

On this basis, the UK elderly have a very similar housing share of consumption to the Australian elderly. However, Australia is still distinctive in that the consumption patterns of the Australian elderly are quite different to the non-elderly. Comparing those aged 50 to 54 years with those aged 65 to 69 years, the UK housing share of consumption increases from 0.22 to 0.26, an increase of 18 per cent. The Australian housing shares increase by 44 or 53 per cent, depending upon the year.

Figure 18: Housing consumption relative to total consumption (5 per cent of own-home value, plus rent divided by 5 per cent of own-home value plus rent plus disposable income minus housing costs)



Note: Housing costs include rent, mortgage principal and interest except in Canada, Sweden and Finland, where mortgage principal is not included. The (dotted) lines for these three countries are thus too low.

Source: LWS and ABS data. See Table 4.

In summary, comparing the average patterns of housing ownership, consumption and income in Australia with these other countries:

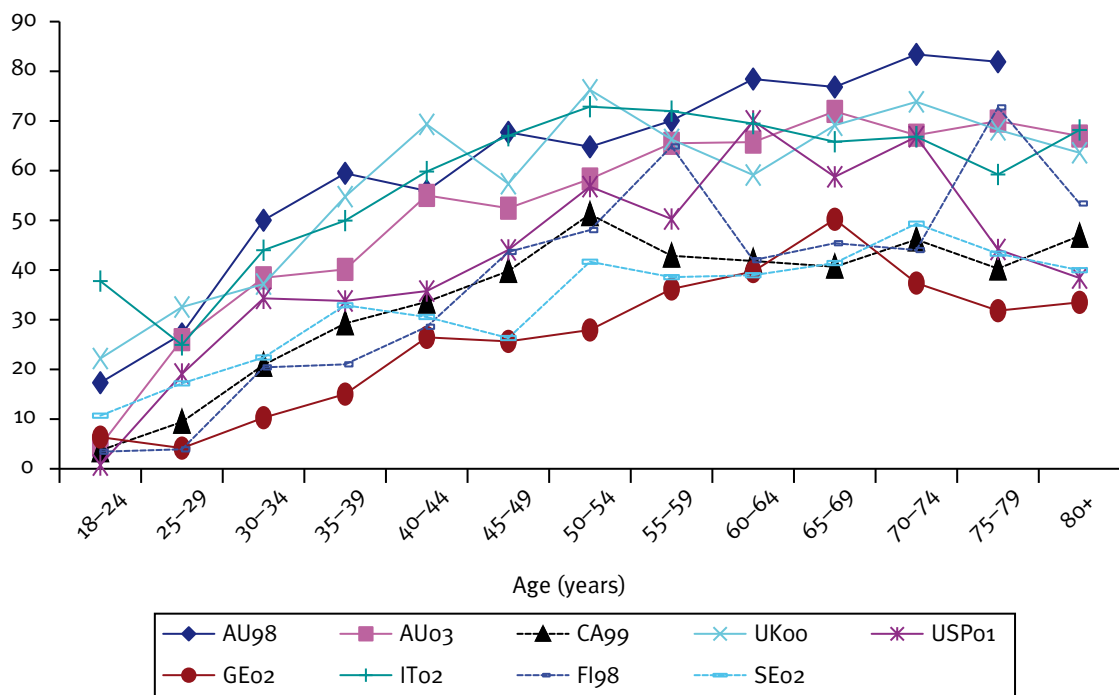
- ▶ Australia is unusual in having high home ownership rates among the elderly and high levels of owner-occupied wealth among the elderly compared to the non-elderly.
- ▶ Much of the home ownership pattern is a cohort effect, with countries such as Italy and the UK likely to catch up with the Australian pattern in future decades.
- ▶ In terms of total housing consumption (imputed rent from owner-occupation plus rent paid), Australia is less unusual. Australia is joined by Canada and Sweden in having relatively high levels of housing consumption among the aged (compared to the non-aged in each country), and Finland, Germany and the US have relatively small falls in aged housing consumption.
- ▶ Australia, however, is also unusual in that incomes among the elderly are relatively low. This means that the ratio of own-home wealth to income is particularly high among the Australian elderly, both in relation to the Australian non-elderly and to the elderly in other countries.
- ▶ Relative to total consumption, Italy has high housing consumption at all ages (though this might reflect income measurement problems) and the UK elderly also have a high housing share of consumption. However, Australia remains unusual in that the housing consumption share increases dramatically between the pre and post-retirement years.

7 Housing wealth patterns for low-income households

Do these results for the average older person also apply to low-income households? Here attention is restricted to those households that are in the bottom quintile (20 per cent) of the equivalent income distribution within each age group. In broad terms, the findings are similar.

Figure 19 shows home ownership rates. Home ownership rates among low-income families are relatively high in Australia at most ages—partly because pension rent assistance moves some renters out of the bottom quintile. Note also that, in Australia, the bottom quintile of the elderly is made up almost entirely of single people rather than couples because of the differential between the equivalence scale used here and the pension equivalence scale.²⁸ The low-income elderly in the UK, Italy and the US also have relatively high home ownership rates.

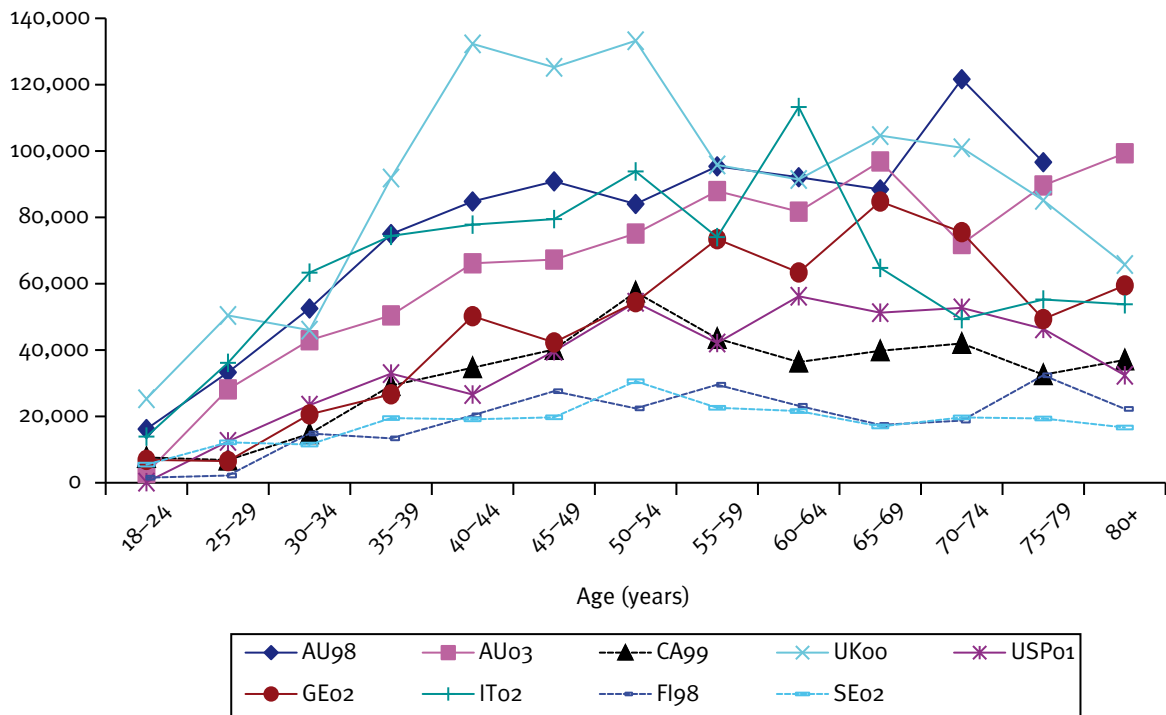
Figure 19: Home ownership rates for bottom quintile of each age group



Source: LWS and ABS data. See Table 4.

Figure 20 shows the mean own-home wealth for each age group. Again, Australian elderly tend to have particularly high levels of housing wealth. For the UK, this wealth is surprisingly high in the middle of the age distribution. This could be considered an indicator of a problem with the use of income as a classificatory variable. The high housing wealth values might, for example, represent the inclusion of low-income self-employed families who nonetheless have substantial levels of wealth.

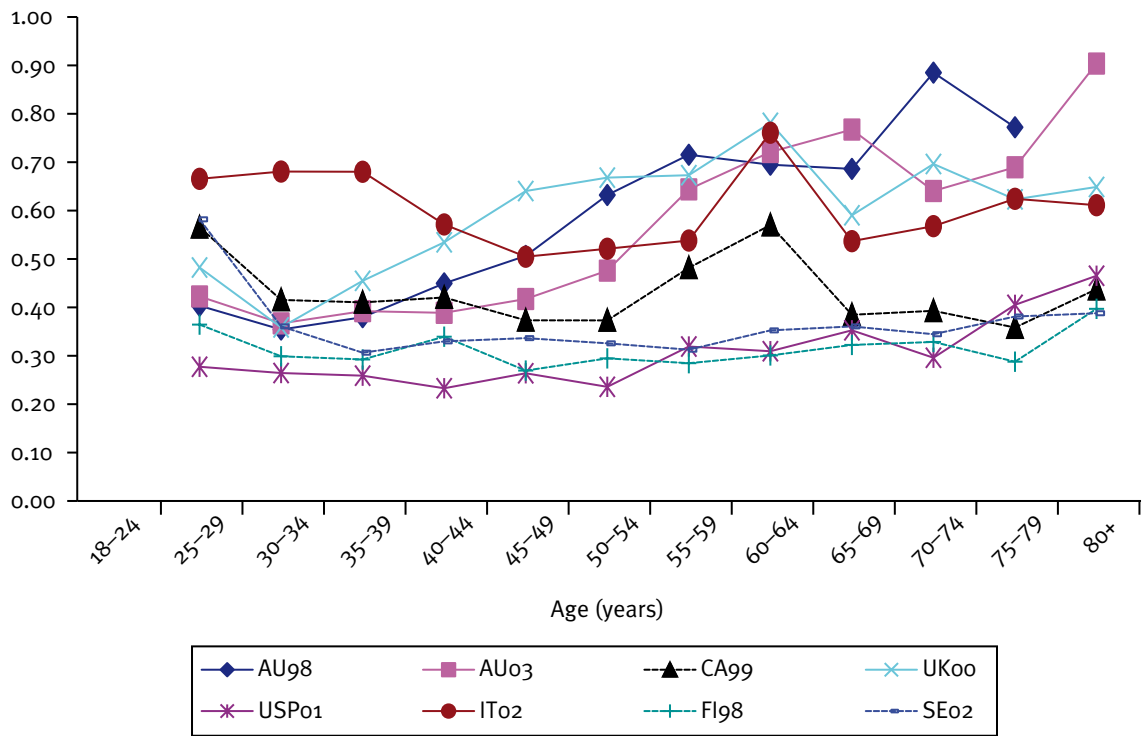
Figure 20: Mean own-home wealth for bottom quintile of each age group (US\$2002, adjusted for house price–rent ratio, non-owners included)



Note: Renters are included with home wealth set to zero.
 Source: LWS and ABS data. See Table 4.

Figure 21 adds 5 per cent of this own-home value to rental expenditure and then divides by disposable income to show an estimate of housing consumption relative to income. Just as for the overall population, the bottom quintile in Australia is still distinctive in having a steep age profile, with particularly high levels of housing consumption among the aged. This consumption is equivalent to about three-quarters of disposable income.

Figure 21: Total housing consumption relative to disposable income for bottom quintile of each age group (5 per cent of own-home value plus rent, divided by disposable income of age group)



Note: The comparable figure for all income groups is Figure 17. The age group 18 to 24 years is excluded because of some very low incomes.

Source: LWS and ABS data. See Table 4.

8 Conclusions

Several conclusions emerge from this examination of housing wealth patterns.

No evidence is found that the Australian elderly are running down their housing assets in retirement. Following cohorts over a 10-year period, average holdings of own-home housing wealth are quite stable. However, the possibility cannot be discounted that there is a small amount of housing asset liquidation, but that this is masked in the data presented here by higher mortality rates among people with less housing wealth.

Across the 1993 to 2003 period, most cohorts are following the track of previous cohorts in terms of their average housing wealth accumulation. (This paper does not examine inequality of housing wealth within cohorts.) The exception is the 'baby boomer' cohort, which appears to have more valuable houses than the currently retired.

Comparing across countries, the Australian elderly both have relatively high levels of own-home housing wealth and relatively low levels of income. Compared to people in other countries, the average Australian older person is indeed (own-home) asset rich but income poor.

In some countries, home ownership rates have increased significantly for younger cohorts, suggesting that these countries might catch up to the Australian home ownership patterns. On the other hand, the Australian housing wealth cohort effects described above mean that the Australian distinctiveness may continue into the future.

Though Australia is very unusual in its patterns of home ownership wealth relative to income, it is less unusual when looking at housing consumption relative to total consumption.

In this paper, housing consumption is measured by the amount of rent paid for renters, while for owners it is measured by estimating the annual gross rental value of the dwelling based on the estimated sale value of the dwelling. Non-housing consumption is estimated as disposable income minus any interest and mortgage payments associated with home ownership. One caveat to this approach is that it will underestimate non-housing consumption (and hence overestimate the housing share) if people are drawing down upon other assets in a way that does not get counted as part of disposable income. (For example, income from an annuity is counted, selling a dwelling is not.) It also ignores home maintenance costs, which introduces a bias in the opposite direction.

Using these measures of housing and total consumption, Italy has a particularly high housing consumption share at all ages, though this might reflect income measurement problems. The UK has a cross-life cycle pattern that approximates that of Australia, but the housing consumption share still increases most across the life cycle in Australia.

This paper thus demonstrates a correlation between an unusual social policy environment in Australia (Age Pension asset test exemptions for the principal residence) and an unusual pattern of housing consumption in retirement. However, it cannot be assumed that the former causes the latter. Historically, the two features developed together, and can best be seen as complementary components of an overall retirement package.

Nonetheless, the fact that the housing wealth patterns of the Australian elderly are so divergent from those of people in other comparable countries suggests that particular attention needs to be paid to this issue in this country. Policy options to increase the ability of the elderly to take better advantage of their housing wealth might include stamp duty concessions to enable down-valuing and a greater role for the state (or for new private sector institutions) in managing the risks associated with reverse mortgage and similar schemes. Moreover, in future years as superannuation schemes mature and the Australian aged enter retirement with a broader range of wealth holdings, it may be necessary to revisit the question of the special exclusion of the own home from the Age Pension asset test.²⁹

There is also a need to consider whether the patterns for the average older Australian described here also apply to the most disadvantaged. What of those who do not own their home after retirement? On some estimates, Australian home ownership rates are sufficient to make poverty among the elderly no worse than in most other countries (Whiteford & Kennedy 1995; Yates & Bradbury 2010). Nonetheless, Australia is unusual in that economic exclusion among the elderly is closely linked to a lack of home ownership (or access to public housing). Further research and policy development needs to be responsive to these special features of Australian retirement consumption.

Endnotes

- 1 For example, the 2001 Census 1% Household Sample File shows that 56 per cent of those dwellings containing one or two people aged 65 or over have three or more bedrooms.
- 2 The HILDA survey shows that approximately 2 to 3 per cent of people aged 55 to 64 years receive an inheritance each year (Kelly 2005).
- 3 Of the countries considered in this paper, only Australia and Canada have no estate or inheritance taxes (Luxembourg Wealth Study 2008).
- 4 See Davison et al. (1993) for more information on older people's attitudes to housing.
- 5 See also Yates (1991) for more Australian evidence.
- 6 More recent comparative data are not yet available, though Figure 14 confirms this result for a smaller number of countries.
- 7 In some circumstances the value of the home is not included even if the person is no longer living in it. This includes temporary absence (up to two years in some circumstances) and where the owner is in a care situation. In general, the asset test is levied based on asset values net of debt. However, if the home is exempt from the asset test then any debts secured against it cannot be used to reduce the assessed value of other assets.
- 8 Note that this is not automatically the same as 'downsizing' as some elderly might move into smaller houses that are nonetheless just as valuable as their old house (for example, if in a better location).
- 9 Piggott and Sane (2008) show the incentive effects associated with a different set of investment assumptions.
- 10 One caveat is that certain types of 'down-valuing' might increase the price of non-housing goods. For example, the cost of attending health care services might increase if a person moved away from a major city.
- 11 Investments in financial assets are assessed both under the asset test and the income test (according to a deemed rate of return). The pension received is the lesser of the pension entitlement under the income and under the asset test.
- 12 The table does not include the non-capital city regions, as there might be other factors influencing home ownership in those locations, such as different patterns of geographic mobility. However, it should be noted that the home ownership rates in non-Sydney NSW are very similar to those in Sydney (in both age groups), even though the average house value is similar to that of Perth.
- 13 The causality could run in either direction. Having more income or wealth might increase a person's ability to have a healthy lifestyle and/or increase their access to health care. Having poor health over one's lifetime might reduce your ability to earn an income. For the discussion here, the direction of causation is not important.
- 14 In 2003–04 the HES was conducted using a sub-set of the larger income survey used to generate Figure 3. In this section (except for Figure 3) the HES subset is used to improve comparability with the earlier years (the HES has a lower response rate than the overall survey).
- 15 The high level of housing wealth for young people represents children still living with their parents. This is only presented for the first year, because the main focus here is on cohort trends.

- 16 This also has the advantage of controlling for any methodological differences between the surveys in the measurement of average housing wealth values. However, this uniform deflation approach ignores possible differences in house price inflation effects among the different age groups. This could occur, for example, if people of different age lived in different regions or in different types of dwelling.
- 17 This approach assumes that the quality of the average dwelling has been constant over this 10-year window. If, in fact, average dwelling quality had been increasing, then a true representation of the quantity of housing consumed would require that all the cohort lines in the remaining figures in this section should have their slopes tilted upwards (which would reinforce the conclusion here that that there had been no running-down of own-home assets in retirement).
- 18 This issue is examined in more detail by Yates et al. (2008). They find that, while there was a drop in home ownership rates of younger cohorts, most of this change occurred prior to 1993–94.
- 19 The 1998–99 CPI is 0.849 of the 2003–04 value, whereas the PPP ratio is 0.867. This difference reflects the difference between price indices for gross national product (GNP) versus price indices for households and the indirect method of calculating the PPP indices (via the US GDP deflator).
- 20 This wealth share drops even further to 48.5 per cent if wealth held in businesses, trusts, vehicles and household effects is included and would drop even further if the high housing prices in 2003–04 were controlled for. See Headey, Marks and Wooden (2005) and Harding, King and Kelly (2002) for earlier estimates of Australian wealth holdings by age.
- 21 It is arguable whether one should follow this approach as a general principle. Future entitlements are different from current holdings in several ways. For example, you cannot pass on future pension entitlements to heirs (except for spouses in some cases). Nonetheless, from the point of view of people accumulating wealth to finance their living standard in retirement, it makes sense to include entitlements such as future pension rights.
- 22 Purchased annuity streams are probably also excluded from these wealth calculations.
- 23 Other approaches have also been used. See Saunders & Siminski (2005) for a survey of estimation methods.
- 24 The LWS variable RIXP is used (plus NRCBEN for the UK). Rent is set to zero for home owners (because RIXP also includes mortgage payments).
- 25 LWS variable RIXP (plus NRCBEN for the UK).
- 26 See Figure 4 in Bradbury (2008).
- 27 These estimates of total housing consumption are (unavoidably) based on quite strong assumptions: gross rental return from owner-occupied housing is assumed constant across countries (and ages) and the price of rental housing is assumed comparable in the different countries (and across ages). For example, if a country had rental subsidies for housing occupied by the aged (for either public or private rental) then this would appear here as a fall in housing consumption with age. Rent data are not available for Germany.
- 28 The square root equivalence scale implies that single elderly need incomes 71 per cent of couples to have the same living standard. The Age Pension ratio (including Pharmaceutical Allowance) for the period considered here was 60 per cent. (The ratio was higher for those receiving Rent Allowance.) The single pension relativity was increased in 2009, so that the ratio is now 66 per cent.
- 29 Placing a ceiling on the extent of own-home value would be the most obvious approach to moderating the current exclusion.

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