Overspending or Saving in Property, Do Different Measures of Saving Matter in Australia? *

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Abstract

Given the relatively low official saving rate, rapid rise in housing price and high ownership of property in Australia in last decade, the question naturally arises whether increases in house prices over the last decade ramped up property investment and hence crowded out traditional household saving. If yes, then the over-spending which traditional measures of savings suggest might be less of an issue since Australians might have saved in their property. In this paper, we attempt to answer these questions using HILDA panel data and aggregate macroeconomic data.

Keywords: Saving, net wealth, housing price, superannuation, retirement income

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Introduction

In the lifecycle model, saving is explained in terms of people putting aside some current income or resources for their future consumption. The aim of saving is to maximize their lifetime utility by smoothing their consumption over the course of their lifetimes (Friedman 1957). The lifecycle model explains why, typically, people save some money during their peak earning years for their retirement. How much of today's consumption they are willing to sacrifice for tomorrow depends on their wealth and their expectation about future earnings (Caswell, 2005).

Using data from the Australian Bureau of Statistics (ABS, 2008), around 107,000 Australian women will have their 64th birthday in 2010. These women are the first of 5.3 million baby boomers to become age-eligible for the Age Pension over the next two decades and most of these baby boomers will not have saved enough to fund a comfortable retirement (ABS, 2008; Kelly and Gong, 2010)[2]. Despite mostly strong economic growth in the last two decades, this lack of retirement saving or 'over-spending' has been an ongoing focus with two central and on-going questions in pension and superannuation policy studies in Australia being: "To what extent are people saving for their retirement?" and "How to measure the actual saving rate?" (Treasury, 2010; AFSA, 2010).

The traditional household saving rates, estimated by household disposable income minus household consumption expenditure in National Income Accounts by

[2] Women presently qualify for the Age Pension at age 64 years while men qualify at age 65 years. The minimum age for women to be eligible for the Age Pension is gradually increasing to align with their male counterparts. The first Baby Boomer men to qualify for the Age Pension will be in 2011.

the Australia Bureau of Statistics (ABS), indicate that, like people in most developed countries, Australians have spent most of their current income and saved very little for their future (Debelle, 2008; ABS, 2010a).

However, the measure of saving used by the ABS does not include capital gains and losses (appreciation and depreciation) in the property market and hence it is impossible to measure the substitution effect of property investment on traditional savings.[3] This substitution effect might be large in a booming property market, where capital gains are thought to be a more rapid approach to accumulate wealth. If capital gains are included into household saving, the over-spending in Australia might be less of an issue than expected. For example, Cashell (2005) found that the decline in the personal saving rate in the United States during the 1990s was due, at least partially, to the rise in equity and housing prices. This might also be the case in Australia since the most striking economic growth period in Australia has been accompanied by a dramatic rise in housing prices.

In addition, the ABS measure of household savings only provides an aggregate picture of savings behaviour in Australia. It does not provide any insight into the individual saving behaviour of different groups of people. Fortunately, the Household, Income and Labour Dynamics in Australia (HILDA) Survey tracks the incomes, assets and debts of Australian individuals over time. Using this survey we can follow the actual annual savings of each household and person. This will allow the calculation of both the traditional household saving rate (broadly in line with the

[3] .For instance, if the prospective return to housing is much higher than actual return to superannuation or other financial assets in a period, people would put more money into property instead of superannuation or other financial assets.

ABS measure of savings, that is excluding the change of property value) and wealth accumulation rate (measured as changes in net wealth, including the change of property value), to analyse in detail whether and why the different measures of household savings tell different stories in Australia about over-spending or saving in property.

Background

According to the traditional definition, ABS calculates household savings as current disposable income minus current consumption (including consumer durable goods as consumption), and the household saving ratio as the ratio of household saving to disposable income. [4] Figure1 presents the household saving ratio in the last two decades estimated by the ABS. It shows that between 1990 and 2005 the proportion of disposable income that Australian households saved was declining and by June 2005 the ratio of savings to income had fallen to minus 1.4 per cent. This means, on average, Australian households were spending 101.4 cents for every dollar that came into the house. In recent years, however, there has been a turnaround in this "spend more than you have" trend and Australian households are now (in June 2009) saving 4.2 cents of every dollar that comes into the house (ABS 2010 a). The fall of housing price in 2008-2009 and less confidence of prospective income during the

[4] The ratio uses the 'household sector' from the National Income Accounts which includes not only households, but also unincorporated enterprises (including family farms) and non-profit institutions serving households.

Global Finance Crisis might contribute, or at least partially, to this change of household saving behavior.

The overspending trend has resulted in Australian households having considerable debt and the level of debt has increased until recently. In Figure 2 the ratio of total household debt to disposable income is shown. The trend for the debt ratio has been strongly upwards for most of the last two decades. It rose from 50 per cent of disposable income at the start of 1992 to over 150 per cent in 2006. Since the peak of 160 per cent in December 2007, the ratio has declined in line with the recent improvement in the household savings ratio and reached a plateau around 155 per cent. The plateau is a good sign albeit at a very high level. Debt has levelled off and the debt-to-income ratio has stabilised but only time will tell if the response is temporary or permanent. It appears the high debt-to-income ratio combined with the global financial crisis has lowered the debt level people are comfortable with (Thorne and Cropp 2008).

In comparison with other OECD countries for which data is available, Australia's household debt-to-income ratio is one of the highest (Figure 3).[5] Australia's rate in 2007 (158 per cent) was above that all of the other OECD countries for which data is available with the exception of the United Kingdom (186 per cent).

The OECD attributes some of this increased debt ratio to the rapid rise in the use of credit cards and the spread of credit cards to a wider range of social groups (OECD 2006). Another important reason for the high debt-to-income ratio in Australia might be the amount of debt Australians have in their home and other

[5] The top bar is for total debt to income ratio and the bottom bar is for mortgage to income ratio.

property. With around 70 per cent of households either owning or buying their own home, Australia has a higher home ownership level when compared with these other countries and this may have contributed to Australia having the highest debt-to-income ratio being associated with mortgages. For example, only 57 per cent of Italy's debt-to-income ratio is mortgages while for the UK and Australia, which have a higher overall debt-to-income ratio, mortgages comprise 75 per cent and 86 per cent, respectively. In addition, some households might have leveraged their increased equity (due to higher house prices) and got the cheap and easy money (relatively lower interest rates and lower lending standards) from property loans to fund their consumption – especially consumer durables such as new cars/high technology goods etc.

Why are Australians more likely to have their own houses than people in other countries? One plausible reason might be that the sustained economic growth in last three decades has provided great opportunity for Australians to pursue the great Australian dream of owning their own home. The other might be that the relative higher rise in established house prices compared to consumer prices and favorable tax treatment with owner occupation capital gains and property investment have driven people to invest more money into the property market instead of into traditional savings, such as cash deposit, shares, superannuation etc.

Figure 4 compares the cumulative growth for consumer price and established house price in Australia since 2002. It shows that Australia had very stable growth in the consumer price index, with an annual growth rate between 2-3 per cent, while the established house price tends to increase very rapidly, with an annual change on

average of 10 per cent. The constant increase of housing price index shows that the property market in Australia continues to boom, with the Global Financial Crisis (GFC) only causing a short hiccup in 2008 and strong growth recorded since, which has been driven by strong fundamentals of healthy demand and a lack of new supply.

Given the relatively rapid rise in housing price and higher ownership of property in Australia, a question naturally arising is whether the increase in house prices over the last two decades has dramatically lifted property investment and hence crowded out traditional household saving. If yes, then the over-spending which traditional measures of savings suggest might be less of an issue since Australians might have saved in their property. In the remainder of this paper, we are going to answer this question using economy-wide wealth data and HILDA panel data.

Different measures of saving

In the lifecycle model (Friedman 1957), saving is defined as a behavior where people put aside some current income or resource for their future consumption to maximize their lifetime utilities by smoothing their consumption over the course of their lifetime.

There are three important elements to be considered when measuring actual saving rates: (1) flow or stock approach; (2) national or individual saving; and (3) Discount or inflation rate over time (Reinsdorf , 2004; Scobie and Henderson, 2009).

The flow approach measures household saving using current income minus current consumption. The stock approach, on the other hand, measures saving using

the change in net wealth (Scobie and Henderson, 2009). These approaches are illustrated in the following equations:

$$S^f = Y - C, \quad (1)$$

$$S^s = \Delta NW = S^f + Gains + Other, \quad (2)$$

where S^f in the first equation is the saving measured by flow, Y is the current income after tax, C is the current consumption. In the second equation is the saving measured by stock, ΔNW is the change in net wealth and $Gains$ is the capital gains and loss in real assets. The important difference between the flow and stock approach is whether the capital gains and loss in real assets has been taken into account in household saving. In general, wealth and savings are adjusted into their real terms by price index to allow them to be interpreted as goods and services (Scobie and Henderson, 2009).

Household saving can be measured using either national aggregated data or individual survey data. The national statistics give a big picture about how much GDP has been saved for investment from the household sector, while individual survey data tells a richer and more detailed story about who saves more and in what way.

The Australian National Accounts (ABS Cat. no 5206.0) which forms the basis for traditional measures of household saving in Australia, estimates the saving rates using current disposable income minus consumption expenditure at national aggregate level for household sector. This measurement mainly focuses on the current flows of income and expenditure. It treats the consumption of durable goods as normal consumer spending but investment in housing as a contribution to household saving. In addition, as a measure by flow, it does not take into account the capital gains and loss in real assets (ABS, 2010 a). Some recent studies, however, use the stock approach to measure household or individual savings by looking at the changes in household or individual net wealth (Caswell, 2005; Scobie and Henderson 2009;

Kelly and Gong, 2010). In this paper, we will be comparing apparent household savings using both of these approaches.

The HILDA survey tracks the same individuals every year and asks them about a range of subjects including questions on labour force participation, income, and housing (Wooden and Watson, 2007; Watson, 2010). Every fourth year it also asks what assets and debts they own and the associated values. The questions about assets and debts in 2002 and 2006 surveys are used in this paper to establish the levels of savings.

Since household structures change frequently over time due to the breakup of marriages and people's moving in and moving out, we estimate the household saving per adult instead of the household saving as a whole by tracking the changes in assets and liabilities of each adult within a household. For shared assets (for example the family home and associated mortgage), we have assigned a proportional value to each adult in the household at that time.

In order to check whether different measures of household saving tell different stories about over-spending or saving in property, we define household saving as change of net wealth in two different ways. One excludes and the other includes the changes in the value of real assets (appreciation or depreciation). The first one we refer to as traditional household savings, which is broadly in line with the definition of official saving rate in the National Income Accounts used by the ABS. We measure the traditional household savings variable as the change from 2002 to 2006 in the value of cash deposits, shares, superannuation, own business (net), education loans (for example HECS debt), other debt, home mortgage, and other property loans.

[6] We refer to our second savings variable as net wealth accumulation rate, which allows us to include the changes of property value into the measuring of savings and thus is much broader than the traditional household saving. Under the assumption that people can utilize their wealth to fund their future and retirement lifestyle, we measure the net wealth accumulation as the changes in the value of cash deposits, shares, superannuation, own business (net), education loans (for example HECS debt), other debt, home mortgage, other property loans, as well as net change in home and other property value.

Durable goods and collectibles have not been counted in either of our definitions of savings because they might not be able to be sold for the same amount of retirement income as their reported value. For home improvements, if these are funded by withdrawals of financial assets or through a mortgage, these will be counted in both definitions of saving through the change in assets and liabilities, while if they are financed by current income, they will not be counted by our first definition, since there is no change in cash deposit or mortgage, but will be included by our second definition through the increase of home value.

In order to estimate how much a person saves through the changes in assets and liabilities, we initially convert all assets, debts and income to December 2006 values based on changes in the CPI reported by the ABS (ABS, 2010 b). We then calculate the change in the value of assets and debts of each person over the four years. Where

[6] For example, if a person had a bank balance of $1000 (in 2006 dollars) in the first year and $2000 (in 2006 dollars) in the fourth year then, for that asset, they are considered to have saved $1000 over the four years, or $250 per year. If another person is a member of a couple and the couple have a mortgage of $250,000 (in 2006 dollars) in the first year and reduce it to $150,000 (in 2006 dollars) in the fourth year, then each member of the couple would be assigned half the savings (100,000/2 = $50,000) and an annual saving through mortgage reduction of $12,500. So although each member still has a debt of $150,000/2 ($75,000), their $12,500 per year savings in this form has been included.

an asset or debt is a household item (for example a mortgage), the change in value is divided by the number of adults in the household. [7]

Finally we sum the changes in values of different assets and liabilities per adult from 2002 and 2006, as well as the household gross income shared by each adult for the four years (2003-2006). [8] We then use these to estimate an average household income, savings amount and saving rate per adult per year. Saving rate is calculated as income ratio of saving. All the results presented in this paper are weighted using the longitudinal person weights provided in HILDA survey 2006.

Over spending or saving in property?

Previous studies find that increases in wealth may decrease an individual's incentive to save for the future, and the price appreciation in houses and equity can be a strong substitute for traditional saving (Cashell 2005). In order to see whether property investment has crowded out traditional household saving in Australia, we divide individuals into five groups based on their ownership of a home and other property: (1) Owner with home property only; (2) Owner with both home and other property; (3) Buyer with home property only; (4) Buyer with both home and other property; (5) Renters and other tenure types, including renters with or without property, and those living rent-free etc. 'Owner' refers to a person who has purchased

[7] When we divide the household assets and liabilities by adults in this household, we exclude any person who was under age 15 or a full-time student aged 15-24 years.

[8] When we look at the changes in wealth from 2002 and 2006, income in 2002 should not be counted. Consequently, we use Income of 2003 to 2006 only.

a home and has no outstanding mortgage while a 'Buyer' refers to a person who has purchased a home and has an outstanding mortgage.

Table 1 summarizes the mean, median and standard deviation of age and annual household gross income per adult for individuals aged 15 and plus by the ownership of property in 2006. It shows that the average age of individuals in our study is 51 years old, and for the owners with home property, it is 63 years old, more than 10 years older than other groups. About 76.1 per cent of Australian individuals aged 15 and over (excluding full-time students aged 15-24 years) own or are buying their own home, with around half of this group having paid off their mortgage. Around 56.3 per cent have a family home only, and 18.8 per cent have invested in both a home and other property. The buyers and owners with both home and other properties have the highest average household gross income per adult (with a mean value of $57852 and $49716 per adult per year, and a median value of $49502 and $40452 respectively) in 2006, while owners with home property only and renters have the lowest household gross income per adult ($28575 by mean and $21539 by median). It is not surprising that the renters receive the lowest income, and a partial explanation for the lowest income level of owners with home property may be the age effect, where most older people bought their home at an early age and now they are retired and many will be receiving relatively low income from the Age Pension or a combination of the pension and private superannuation or savings.

Table 2 summarizes the mean and median of wealth per adult (aged 15 and plus) by the ownership of property in 2006. The first two columns of numbers show the mean and median of total wealth per adult. The third and fourth columns indicate

the wealth per adult excluding vehicles and collectibles only, which will be used to calculate the net wealth accumulation rate. The last two columns present the wealth per adult excluding vehicles, collectibles and property values, which will be used to calculate the traditional saving rate. As noted, the median of wealth is much lower than the mean, indicating that the mean of wealth might be strongly influenced by the outliers. Consequently, we will focus on the median value of wealth instead of the mean.

The first two columns of numbers show that the owners and buyers with both home and other properties have accumulated a large amount of total household wealth per adult (with a median value of $628,000 and $366,050, respectively), and this is consistent with the highest income and property values they have. The owners with home property only have accumulated a median wealth of $297,900 followed by $181,600 for the buyers with home property only. On average, the renters have accumulated the lowest level of wealth (with a median value of $22500), possibly due to, on average, their relatively younger age, lower income and lack of property.

It is found that excluding vehicles and collectibles from wealth calculation does not change the wealth distribution significantly, while excluding the property value does tell very different story. After excluding vehicles, collectibles and property values from our wealth calculation, the owners with both home and other properties have the largest amount of household net wealth per adult (with a median value of $110,417), followed by the owners with property only (with a median value of $60,000 , while the buyers have negative net wealth by median, mainly due to their large home and property loans. The renters have accumulated relatively low but

positive net wealth, which is consistent to their relatively low average income and lack of home loans.

Table 3 reports household savings per adult per year and the savings rate under the two different definitions mentioned above: traditional household saving (rate) and net wealth accumulation (rate). Only the median values of savings and saving rates are reported since the means can be largely influenced by the outliers of both income and saving.

The second and third columns of Table 3 show that the traditional household saving and saving rate per adult for the all group are relatively low. A median Australian person only saves $ 274 per year, which is 1.3 per cent of his household gross income per adult. [9] Using this first definition, the owners with home property only are the biggest savers, with a median value of traditional saving and saving rate as $1080 and 6.0 per cent, respectively, followed by the owners with both home and property, with a median value of saving and saving rate as $954 and 4.1 per cent. While the buyers with both home and other property are the biggest spenders, with a negative value of traditional household saving and saving rate per adult by median as minus $14054 and minus 28.0 per cent, followed by the buyers with home property only (with a negative value of traditional saving and saving rate per adult by median as minus $503 and minus 1.5 per cent). A median renter has a modest traditional saving of $ 588 and saving rate of 2.4 per cent.

However, after counting into the changes in the value of home and other property (as per our second definition), the saving rate (or net wealth accumulation

[9] The mean of traditional saving rate is 5.5%, slightly higher than the published one by ABS, because we have counted in the value appreciation in financial assets and superannuation.

rate) has increased dramatically, with a net wealth accumulation of $ 11132 and accumulation rate of 33.7 per cent by median, almost equal to one third of average gross income (see the fourth and fifth columns of Table 3). Based on the change in wealth measure (or net wealth accumulation), the owners and buyers with both home and other property, become the biggest savers, with a median value of net wealth accumulation as $43494 and $32123 per adult per year, respectively, which is 112.1 per cent and 64.6 per cent of their income), followed by the owners and buyers with home property only (with a median value of net wealth accumulation as $15267 and $14616, and accumulation rate as 70.0 per cent and 36.3 per cent). The renters are the group with the least net wealth accumulation (only $82 and 0.4 per cent for a median renter).

It is noted from Table 3 that over the four year period being examined (2002-2006), individuals who experienced relatively higher net wealth accumulation rate tend to have lower traditional household saving rate, especially the buyers with or without other property, indicating that the low level of traditional household saving rate might, at least partially, be attributed to the boom of property market, which allows households to accumulate higher prospective wealth than saving out of their current income in a traditional way.

The strong accumulation rate of household net wealth to income, observed by HILDA data for a pre-crisis period of 2002 to 2006, is mainly driven by the continuous growth in housing price. This is also evidenced by the macro economic data of Reserve Bank of Australia (RBA). Using the RBA time series data on assets, debt and disposable income, we calculate the ratio of net wealth change to disposable

income and presents in Figure 5. It indicates a long-term growth in the ratio of net wealth change to disposable income, from about 30 per cent in 1991 to 60 per cent in 2009. For our study period of 2002 and 2006, the ratio of net wealth change to disposable income is around 50 per cent on average, which is very close to our aggregated estimation of net wealth accumulation rate (58 per cent). Caution needs to be taken when comparing these values as the RBA ratio of net wealth change to income is quite volatile over time and any housing correction could seriously influence the change in net wealth. For example, the net wealth change from the beginning of 2008 to the mid of 2009 was negative due to the decrease in housing prices over this period.

Further comparison of the time trends of ABS official saving rate (Figure 1), ABS housing price index (Figure 4) and RBA net wealth change to disposable income (Figure 5), show that the decline in the official saving rate before 2008, has been accompanied by a dramatic rise in housing prices and continuous increase in the ratio of net wealth change to disposable income, indicating that the decline in the official household saving rate in Australia during last decade was due, at least partially, to the rise in housing price.

Figure 6 compares the Kernel density (probability distribution) of traditional saving and wealth accumulation rates. Based on the traditional saving rate (the top figure), almost half of Australians did not save anything for their future and retirement, the saving rate ranges from minus 30 per cent to positive 30 per cent. While based on the net wealth accumulation rate (the bottom figure), it seems that more than half of Australians have accumulated positive wealth for their future and

retirement. The answer to this dichotomy appears to have been the appreciation in the property market which allowed individuals to accumulate wealth without reducing their consumption from their current income or contributing more to their superannuation.

To ensure that our explanation of the dichotomy is accurate, we further examine the property component of net wealth accumulation in Table 4. The Table shows the income ratio of changes in net property (total property value minus total property debt and then divided by income) and superannuation, measured by both mean and median, as well as reporting data which gives what proportion of individuals whose income ratio of changes in superannuation or net property is higher than 9 per cent.[10] It shows that owners with both home and other property have the highest income ratio of changes in net property, measured by both mean and median (142.7 per cent by mean and 102.6 per cent by median, respectively), as well as the highest income ratio of superannuation measured by mean (31.6 per cent), but not the highest by median (4.2 per cent) due to the age effect. The buyers with both home and other property, have the second highest income ratio of net property change (67.9 per cent by mean and 57.0 per cent by median), but their income ratio of change in superannuation is only 8.2 per cent by mean and 5.9 per cent by median, lower than the compulsory superannuation contribution rate of 9 per cent in Australia, though their income is the highest, indicating a large crowd -out effect of property investment on superannuation for this group. The owners and buyers with home property only, have also accumulated relatively large wealth from their home property (58.1 per cent and 30.8

[10] The value of 9 per cent is used because it is the minimum compulsory contribution rate of superannuation currently used in Australia.

per cent of their income measured by mean, and 49.6 per cent and 25.3 per cent measured by median, respectively), and they have relatively high income ratio of changes in superannuation measured by mean (20.5 per cent and 11.2 per cent) , indicating that there is less crowd-out effect of property investment on superannuation on average for those with home property only. However, the medians of their income ratios of superannuation change are also lower than 9 per cent (zero per cent for owners with home property only and 5.2 per cent for buyers with home property only), showing crowd-out effect existing for at least some of them. [11]

The last two columns in Table 4 show that there are 59.2 per cent of individuals whose income ratio of net property change is higher than 9 per cent, while the proportion is only 31.5 per cent when looking at the income ratio of superannuation change, and this gap becomes even larger for the owners and buyers, indicating that during the pre-financial crisis period, Australians have put more money into their property instead of contributing to their superannuation. If this is true, then over-spending problem might not be the real concern for most Australians.

The renters have the lowest accumulation of both superannuation and net property on average due to their lowest income and lack of property. Only one fifth of the renters (22.8 per cent) have accumulated superannuation higher than 9 per cent of their gross income, and only one tenth of this group (10.5 per cent) have net property change higher than 9 per cent of their gross income. It seems that most of the renters will depend on government cash benefits as the primary source of income in

[11] In Table 4 for the owners with property only, the income ratio of superannuation change is zero measured by median. This might be due to the age effect since the age of owners with home property is 63 years old on average, and many of them might be retired.

retirement. Consequently regarding whether Australians are saving enough for their retirement, the renters should be the group of greatest concern.

Conclusion

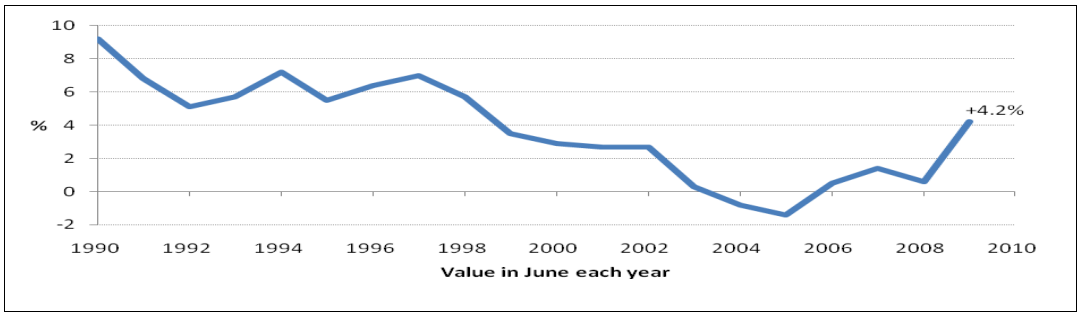
The traditional measurement of household saving rate tells a common story of over- spending in Australia. Though this has been improved slightly in recent years, it is still a significant issue that Australians have spent most of their earnings on consumption, home mortgage and other property loans, while not saving enough for their retirement. However, the net wealth measurement of saving, by including the changes in property value, finds that the strong incentive behind the over-spending in Australia may be to do with the fact that people can accumulate much larger prospective wealth in a booming property market than through traditional financial assets and superannuation. This finding indicates that the boom of property market might have crowded out traditional savings, such as superannuation and bank deposits, especially for the buyers with both home and other property. If the low level of traditional saving rate is simply a response to the boom of real assets, then Australians may be better prepared for their future and retirement than the traditional savings measure would indicate, and the real concern should not be the over spending but the stability of property market over time, and whether Australians are happy to downsize or re-mortgage their home in order to use their wealth in their home to improve their living standard in retirement.

Our analysis in this paper focuses only on the mean and median values of household savings and saving rates per adult by ownership of property. However, we

also find a large amount of variation in saving rates among different population groups, such as by income and wealth quintile (Kelly and Gong 2010). It will be worthwhile to further estimate what actually determines the variation in household savings and net wealth accumulation in Australia.

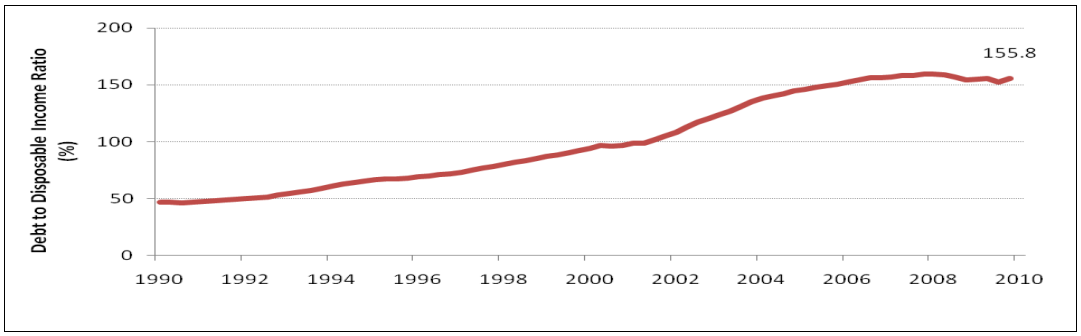
Figures

Figure 1 Household Savings Ratio (ABS), June 1990 to June 2009



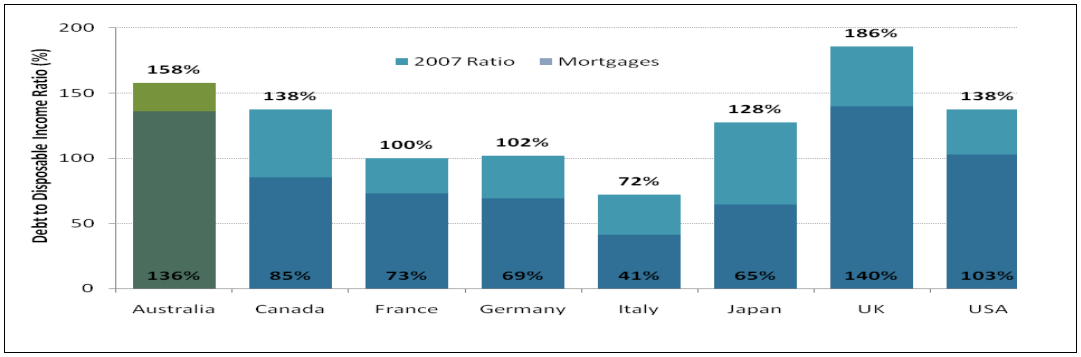
Source: ABS 2010 a , Table 30

Figure 2 Total Household Debt to Disposable Income Ratio, June 1990 to December 2009



Source: RBA *Statistics Bulletin*, Last update 18 Mar 2010, Table B21

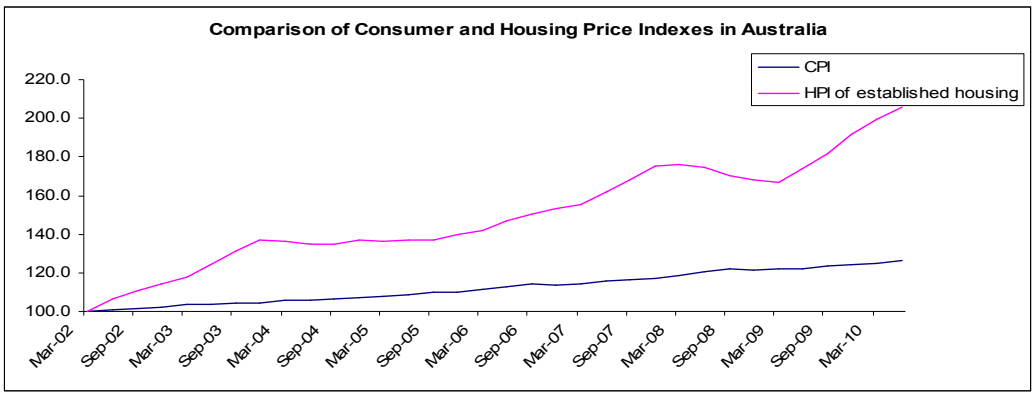
Figure 3 International Comparison of Household debt to income, selected countries, 2007



Note: The per centages shown for *Mortgages* are the component of the ratio that is a mortgage, a long term loan (France), or a medium and long term loan (Italy).

Source: Australia – RBA *Statistics Bulletin* Table B21, Other countries - OECD Economic Outlook No. 86 Annex Table 58

Figure 4 Comparison of consumer price and established house price index, Australia 2002-2009



Data source: (1) ABS 2010 Cat. 6401.0 - Consumer Price Index, Australia, Table 8 CPI: Special Series, Weighted Average of Eight Capital Cities; (2) ABS 2010 cat. 6416.0 House Price Indexes: Eight Capital Cities.

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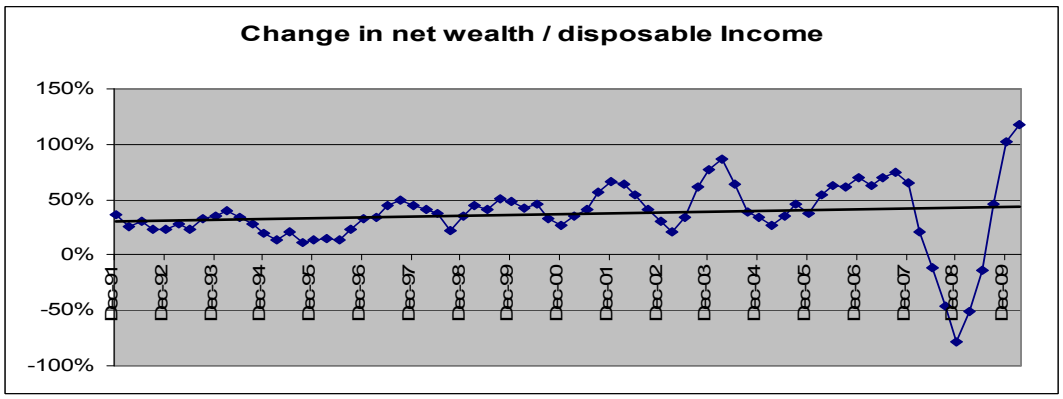
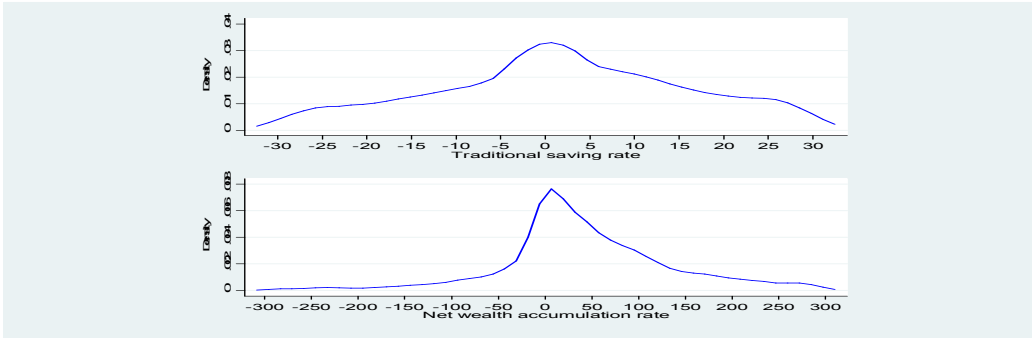
Figure 5 The ratio of net wealth change to disposable income, Australia 1991-2009



Source: RBA statistics, Table B21 Household finances-selected ratios at .http://www.rba.gov.au/statistics/tables/xls/b21hist.xls

.**Figure 6 Comparison of traditional saving and wealth accumulation rates, Australia 2002-2006**



Data source: Authors' calculation using HILDA 2002 and 2006 survey data.

Tables

Table 1 Age and income and wealth by the ownership of property, Australia 2002-2006 (at 2006 price)

	Sample size	Weighted individuals	Age (2006)		Household gross income per adult per year (2002-2006)		
Individuals aged 15 and plus	Person	Per cent	Mean	SD	Mean	Median	SD
Owner with home property only	2364	29.1	63	553	28575	21539	811055
Owner with both home and other property	743	8.5	57	451	49716	40452	1658506
Buyer with home property only	2277	27.2	43	399	44673	41353	770718
Buyer with both home and other property	880	10.3	46	369	57852	49502	1283681
Renters and other tenure types	1966	25.0	46	658	34374	29605	970799
All	8230	100.0	51	605	39192	34441	1061608

Data source: Authors' calculations from HILDA 2006 survey.

Note: Individuals here are defined as aged 15 and over and not full time students aged 15-24 years. The value is the annual value at 2006 price.

Table 2 Wealth by the ownership of property, Australia 2006 (at 2006 price)

	Household wealth per adult (Total)		Household wealth per adult (Excl. Vehicles, collectibles only)		Household wealth per adult (Excl. Vehicles, collectibles & property)	
	Mean	Median	Mean	Median	Mean	Median
Owner with home property only	435630	297900	422462	283700	184277	60000
Owner with both home and other property	1037984	628000	101107 9	616000	364415	110417
Buyer with home property only	254253	181600	240136	168200	17823	-19900
Buyer with both home and other property	530602	366050	509834	353000	-21246	-50687
Renters and other tenure types	118569	22500	108085	13900	60401	7000
All	367925	214000	353224	202000	102174	15000

Table 3 Comparing traditional saving rate and wealth accumulation rate (Median), Australia 2002 to 2006

	Household gross income per adult	Traditional household saving per adult per year		Net wealth accumulation per adult per year	
	Income	Saving	Saving rate	Accumulation	Accumulation rate
Owner with home property only	21539	1080	6.0	15267	70.0
Owner with both home and other property	40452	954	4.1	43494	112.1
Buyer with home property only	41353	-503	-1.5	14616	36.3
Buyer with both home and other property	49502	-14054	-28.0	32123	64.6
Renters and other tenure types	29605	588	2.4	82	0.4
All	34441	274	1.3	11132	33.7

Note: All the values are annual value per adult calculated for individuals aged 15 and over by the authors from HILDA panel data.

Table 4 Income ratio of net change in property and superannuation

	Income ratio of (per cent)				Proportion of individuals with Income ratio of >=9 per cent	
	Net property		Super		Net property	Super
	Mean *	Median	Mean *	Median	per cent	per cent
owner with home property only	58.11	49.6	20.5	0.0	76.9	26.9
owner with both home and other property	142.68	102.6	31.6	4.2	83.4	40.9
buyer with home property only	30.75	25.3	11.2	5.2	71.4	38.1
buyer with both home and other property	67.91	57.0	8.2	5.9	75.4	40.5
Renters and other tenure types	0.27	0.0	9.8	0.6	10.5	22.8
All	47.55	23.2	14.6	1.6	59.2	31.5

Note: the mean is calculated by the mean of change in net property value and superannuation divided by the mean of household gross income per adult for each group.

References

ABS 2008, *Population Projections, Australia, 2006 to 2101*, Cat. 3222.0, Australian Bureau of Statistics, Canberra, September.

ABS 2010 a , *Australian National Accounts: National Income, Expenditure and Product,* September Quarter 2009, Cat. 5206.0, Australian Bureau of Statistics, Canberra, January.

ABS 2010 b Consumer Price Index, Australia, March 2010. Cat. 6401.0, Time Series, Australian Bureau of Statistics, Canberra, January.

AFSA 2010, *Make Budget provisions now and end speculation for a superannuation 2010,* The Association of Superannuation Funds of Australia Limited, Sydney, 12 January.

Caswell, 2005, *Why is the Household Saving Rate So Low*? CRS Report for Congress, Order code RL33168, The Library of Congress.

Debelle, G. 2008, *A Comparison of the US and Australian Housing Markets*, Address to the Sub-prime Mortgage Meltdown Symposium, Adelaide, 16 May.

Friedman, M. 1957, *A Theory of the Consumption Function*, Princeton University Press

Kelly, S and Gong, H. 2010, *Saving Tomorrow - The savings and spending patterns of Australians*, AMP.NATSEM Income and Wealth Report, Issue 25, April, Sydney

OECD, 2006, *Has the rise in debt made households more vulnerable?*, OECD Economics Department Working Paper 535, (http://www.olis.oecd.org/olis/2006doc.nsf/linkto/eco-wkp(2006)63)

Reinsdorf 2004, *Alternative Measures of Personal Saving*. Survey of Current Business, Vol. 84(9), pp. 17-27.

Scobie and Henderson 2009, *Saving Rates of New Zealanders: A Net Wealth Approach*. New Zealand treasury Working paper 09/04.

Thorne S. and Cropp J. 2008, *Household saving in Australia,* Economic Roundup, Australian Treasury, p.75-89, April.

Treasury 2010, *Australia to 2050: future challenges*, Commonwealth Treasury of Australia, Canberra (www.treasury.gov.au/igr/igr2010/report/pdf/IGR_2010.pdf), January.

Watson N. (ed) 2010, *HILDA User Manual – Release 8*, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne.

Wooden, M. and Watson, N. 2007, '*The HILDA Survey and its Contribution to Economic and Social Research (So Far)*', The Economic Record, vol. 83, no. 261, pp. 208–231.