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IDENTIFYING HOME OWNERSHIP RATES FOR FEMALE HOUSEHOLDS IN AUSTRALIA

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Abstract

This paper identifies rates of female home ownership in Australia and assesses whether there has been a significant change over the period 1998 to 2008. The hypothesis is that with increasing female employment notably in the service sector an increase in the rate of female home ownership might be expected over this time period. Home ownership is promoted as a means of ensuring financial security yet women face particular challenges in achieving it. This study establishes the extent to which female home ownership rates and propensity to purchase are impacted by income, household type and location.

Keywords: Female home ownership, Australia, propensity

INTRODUCTION

The residential property market is a highly researched area but knowledge about female home-ownership is limited. This is a situation not unique to Australia but also exists at an international level. This paper addresses this gap by examining rates of female home ownership in Australia; potentially a complex topic but one with a significant policy dimension.

The main object of the paper is to investigate rates of female home ownership in Australia and to assess whether there has been a significant change over the period 1998 to 2008. The hypothesis is that change might be expected in the rate for a number of reasons. First, that with increasing female employment notably in the service sector (ABS, 2006), higher levels of workforce participation and increasing levels of wealth accumulation (ABS, 2008), an increase in the rate might be expected. Second, one of the most important factors contributing to housing demand in Australia is the growth in the number of households. As the two households projected to grow fastest, lone person and single parent households (ABS, 2006a) are significantly over represented by female headship an increase in home ownership might be expected. Finally women are being associated with longer life spans and increasing rates of marriage break down (ABS, 2008). Thus for economic, demographic and social reasons there is the expectation that significantly more women will be looking to purchase homes on their own. While this theme is mentioned in the literature to a limited degree to date there has been little empirical evidence.

This paper begins with a summary review of literature before introducing the aims of the research. The database used for the study is then discussed followed by a description of the method. Finally the results are provided with a conclusion of the findings.

LITERATURE

It is recognised that women face particular challenges in achieving home ownership associated with entrenched lower rates of pay, key worker concentrations in lower paid occupations, career breaks, preoccupation with mother and carer roles, childcare costs and availability and the attitudes of lenders and real estate agents (Wizard, 2009). Australian women earn on average 17 per cent less than men which sets them up for a life time of financial inequality worth up to $1 million over their lifetime (Rice Warner Actuaries, 2010). This pay gap means many women cannot accumulate as much wealth, have less choice about their lifestyles and have significantly lower superannuation than men. Taking time off for children further adds to their disadvantage. For over sixty years Australia's welfare and housing polices have been

predicated on the perceived merits of home ownership (ABS, 2008b). Welfare benefits, both during employment and on retirement, have been based on household investment being extended over time through home ownership. Yates and Bradbury (2010) have shown that older households who miss out on home ownership are disadvantaged in a number of ways; they have lower wealth and less disposable income but higher housing costs and significantly higher after housing poverty rates. Therefore for women in Australia home ownership will be an important determinant of their ability to secure adequate living standards in old age. Low levels of female home ownership are likely to have significant implications into the future both for the individual and for the wider community. Rohe, Zandt and McCarthy (2002) suggest there are links between home ownership and the perception of opportunity through increased financial resources, improved physical health, enhanced neighbourhood stability and greater civic involvement.

Tually (2008; 2011) and Tually et al (2007) have been among the first to identify that there are many gaps in our knowledge and understanding of the housing needs and circumstances of women in Australia and suggest that much more research is needed. Tually (2008) predicts that housing accessibility will be an important issue for Australian women into the future as the population continues to age, women remain single longer and as affordability issues continue to be a major challenge to home ownership. In their study of home ownership aspirations, Merlo and McDonald (2002) found that, 'of the factors that were significantly associated with entry into home ownership, employment status seems to have the strongest impact, net of all other effects' (Merlo & McDonald, 2002 p.16). The odds of buying a house were significantly greater for two income families and that full time workers were more likely to hold stronger home ownership goals than part-time workers. Blaauboer (2010) found that single income earners in Europe were particularly disadvantaged and that single women and especially single mothers were more disadvantaged than single men or single fathers. Blauuboer (2010) also found that, not only do incomes today impact on housing options, so too do female doubts about future income and income potential which can act as a major deterrent to home ownership. Zandt (2010), in a US study, has identified racial and ethnic challenges to first home ownership which are strongly aligned with female headship, unemployment and lower median incomes. Gandelman (2009) has found that all else equal, female headed families have a lower probability of owning their home in 13 out of 17 Latin America countries.

Women are also disadvantaged in terms of security of employment. Studies by Stokes and Nelson (2005) and Holdsworth (2006) have also identified the crucial importance of regular, secure employment for negotiating mortgage finance and sustaining loan repayments especially in the early years when housing costs account for a particularly large proportion of disposable income. Yet in Australia women are strongly associated with both part time employment, through their high levels of participation in the service sector, and with increasing levels of casual employment (Tually et al, 2007). While these employment tenures offer flexibility there is much less security of employment especially for casual workers. Casual workers are not entitled to paid holiday or sick leave and have no expectation of ongoing employment (ABS, 1998b). This is likely to increase the difficulty in securing loans and to further compound the struggle by women to first achieve and then maintain home ownership.

Shifts in housing policy also impact on ownership opportunities. In Australia there has been a move away from supply measures by government to an emphasis on demand side subsidies (Dalton, 2000; Yates, 1997). With this shift there has been an overall reduction in home purchase assistance and public housing provision towards direct rental assistance (Wulff, Yates & Burke, 2001; Yates, 1999) with the emphasis on reducing the disparity between subsidies for public and private tenants (Department of Social Security, 1996; Wulff & Evans, 1998). The decrease in Australia in public rental housing and the shrinking vacancy rate in the private rental sector, both tenures popular with single and lone parent households, reinforce the need for women to achieve home ownership on their own. The availability and affordability of certain dwelling types is also likely to impact on female home ownership opportunities. Bonnet, Gobillion and Laferrere (2010) have identified a growing trend in France for smaller houses among female households, particularly new widows, who move to dwellings that are smaller, more often apartments and in the rental sector.

AIMS OF THE RESEARCH

The aims include

1. To analyse whether female home ownership rates are over or under represented in specific household categories. The hypothesis is that there is over representation in single households but under representation in other household types, including sole parent households.
2. To evaluate whether female purchasers, especially first time buyers, face greater affordability problems in accessing the housing market. The hypothesis is that female employment still attracts lower income levels and hence females are placed a relative disadvantage in accessing the market through funding deposits.

3. To analyse if female home-owners pay a price premium relative to the overall housing market. The hypothesis is that female purchasers, for safety and security reasons, may bid more highly in the market and be willing to pay a premium to purchase particular dwelling forms perceived to be safer environments.
4. To assess if there is significant variation in the level of female homeownership by major metropolitan area. The hypothesis is that levels of female home ownership are higher in the major urban conurbations as against non-metropolitan areas.
5. To identify propensities for purchase by female headed households based on household category, income and location. The hypothesis is that propensities for purchase by female head households will be impacted by such factors.

DATA

This paper uses cross sectional data from two time periods to investigate the characteristics of female purchasers, including FHBs, with a view to eventually identifying their propensity for purchase within each period. The data has been taken from Confidentialised Unit Record Files (CURF) for the 1997/98 and the 2007/2008 Survey of Income and Housing undertaken by the Australian Bureau of Statistics (ABS, 2008c). Both surveys are consistent in terms of data items and collection procedures. The 2007/2008 Survey of Income and Housing is the most recent year of the survey while the 1997/98 Survey has been selected to highlight any changes over a 10 year period. The surveys are based on households in private dwellings throughout Australia and provide information on sources of income, income received, housing details as well as demographic and labour force characteristics.

Some 15,000 persons over the age of 15 were included in the 1997/98 sample and of these 90 percent responded while the 2008 ABS survey represents 9,345 households and some 18,304 individuals. The CURF data files contain information on the following items

- Household level - area of residence, dwelling characteristics, demographic information, and information relating to the household reference person.
- Income unit level - income by source of income, weekly rent payments, child care use and costs
- Person level - age, sex, marital status, relationship in household, family type, employment details, education qualifications, barriers to labour force participation,
- Housing - tenure, dwelling structure, number of bedrooms, purchase price of home, size of home deposit, home purchased a first home, satisfaction with block, current dwelling, and location
- Loans level - the main purpose, security, amount borrowed, and weekly repayment.

METHODOLOGY

The method adopted for the study is in two parts. The first stage describes the data manipulation required to identify female home ownership rates as well as some descriptive statistics and tests for difference. These statistics will be used to report on under or over representation of female home ownership within certain household categories and issues associated with affordability, dwelling type and location. The second stage attempts to quantify, by mean of logistic regression, the impact of variables such as household category, income and location on the probability of, or propensity for, purchase by female headed households. Propensities for home purchase have been successfully quantified in a number of studies usually by means of discrete choice models of behavioural choice which adopt a logistic regression form (Li, 1977; Bourassa, 1995; Yates, 2000; Gandelman, 2009). Yates (2000), in particular, has produced influential work on rates of home ownership and tenure choice in Australia though not applied directly to female headship. Mulder and Wagner (1998) incorporated economic analysis into their discussion of housing careers and successfully modelled the benefits and costs of home ownership under various life course scenarios. Coefficients will be estimated using a logit model to identify those factors most important in the decision to purchase. These factors will include the items investigated in the first stage of the study such as household category, income and location. The dependent variable is dichotomous indicating home purchase with a variety of independent variables such as household category, income, location and source of income to provide estimates of probabilities of purchase for female headed households.

1st Stage

In order to report on the characteristics of female purchasers some of the CURF variables had first to be categorised. These include household structure which has been defined as 8 groups; single, couple, couple with dependent children, couple with others, sole parent, sole parent with other, other (mainly multiple family households) and group households.

Dependent children are defined as under 15 years or 15-20 years if full-time students still living at home with parents or guardians. Next the household reference person has been grouped into 6 age categories: less than 25, 25-29, 30-34, 35-44, 45-64, 65 and over. This is in line with other studies of home ownership rates such as Yates (2000). Finally household income, defined as the reported total current weekly household income from all sources, has been broken into quintile groups with all negative values set at zero. It includes additional income from a wide range of incomes such as cash benefits, non-cash benefits, investments and other sources as well as normal and overtime salary payments. Again this is in line with studies such as Yates (2000).

Although the ABS CURFs are very large files in terms of manipulation, the 1998 and 2008 Surveys of Income and Housing are in fact based on relatively small samples of private households. As such all of the results reported in this paper have been weighted using an ABS derived weighting factor. This weight takes into account the proportion of the entire population represented by the household reported in the CURF and all percentage results discussed in this paper are based on the weight adjusted figures.

For the purposes of identifying the characteristics of female headed purchasers the following breakdown had been adopted.

For each time period, 1998 and 2008, female and male headed households will be identified using the household reference person as the indicator of household headship. Home ownership will be the weighted number of owners with and without mortgages as a percentage of the total households for the tenure type. This will be broken down by gender and analysed in terms of characteristics such as household type, age, income, tenure, dwelling type to identify potential difference in dwelling preferences and location. The main characteristics of these two groups will be identified, including purchaser characteristics such as household category, income, dwelling type, location and purchase price; loan characteristics such as loan to purchase ratio and source of loan. Exploratory analysis of the data has shown that these characteristics are able to be identified and successfully broken down by gender. A range of inferential statistics and non-parametric measures will be used to test for significant differences in rates of home ownership.

2nd Stage

To measure the propensity to own a residence as opposed to renting or some other form of occupancy, logistic regression is used. Again the data used is based on the Household Income and Housing and Survey conducted by the Australian Bureau of this Statistics in the years 1997-98 and 2007-08 at unit record in level and refers to household data. This data covers all capital cities in Australia as well as non-regional areas and has a sample size of 7025 in 97-98 and 9345 in 07-08. The specification of the logistic regression is based upon previous tenure choice models developed works by Li (1997), Bourassa (1995), Haurin and Kamara (1992) and in particular Goodman (1990) who suggests that interactive variables should be used.

The general form of the logistic model used in this study is shown below (Equation 1).

$$\ln\left(\frac{p}{1-p}\right) = b_0 + b_1X_1 + b_2X_2 \ldots\ldots b_nX_n$$

Where

P=probability of owning the place of residence

X_1-X_n = independent variables relating to characteristics of the household, household head and location

b_o – b_n = parameter estimates

The independent dummy variable measures if the household owns the property (1) (either as an outright owner or with a mortgage) as against a household which rents (0). All households are assumed to live on the premises. In this research the variables have been used in the same manner as was used by Yates (2000) in terms of household income, age and household structure with additional variables being added.

In particular:

- household income is recorded in the thousands of dollars, negative incomes are considered to be zero income and 97-98 data is inflated to 07-08 levels using the consumer price index (all groups weighted average of eight capital cities).

- age refers to the household head as indicated in the survey and is recorded in age brackets (<25, 25-29, 30-34, 35-44, 45-64 and 65 years and over). These are recorded as dummy variables with < 25 being used in as the base.
- household categories are described as one of seven categories (single, couple, and couple with dependent children, couple with others, sole parent with dependent children, sole parent with others, group /shared household and other). These are recorded as dummy variables with single being used as the base.
- household location is measured as a series of dummy variables for each capital city with households within regional areas and non-capital cities being used as the base. This acts both as a measure of locational choice and relative house price with significant price differential in each capital city.
- the principal source of household income was recorded as dummy variables (own business and pension/allowance) with wage and salary earners used as the base.

Three models are estimated for the 97-98 and 07-08 data bases. The first model includes a dummy variable to express if the household head is female as well as interactive variables between the female dummy and age groups. The model suggests a standard difference in the ownership rate across all variables except the age of the household head. The model is then estimated separately for male and female households which allows for all parameters to be estimated separately and allows for more independent variables to vary by female and male household headship. The first model is used to estimate general outcomes but specific probability outcomes for males and females are estimated using the individual models.

The coefficients and significance levels for each model are shown in Appendix 1. The results can be difficult to interpret as they are inherently non-linear and in the form of the log of the odds-ratio. To allow for direct interpretation of the results the probability or propensity to own for specific groups of individuals has been estimated by substituting the relevant variables into Equation 1 and solving for p. The implications of these coefficients can be seen from the estimates of probability of home ownership derived from them. In Table 9 and Table 10 the probabilities are estimated separately for female and male household heads – in 97-98 and 07-08 for households of mean income; with a household head between 35 and 44 years; with three different sources of income (Wage, Business and Pension); three household structures (Single, Sole Parent and Couple with Dependent Children) and located in one of six capital cities or in a non-capital city or region.

RESULTS

The results are reported in two main parts consistent with the methodology adopted. First actual home ownership rates (HOR) are discussed within the context of Aims 1 to 4. Then propensities for purchase by female households are identified as explained above and within the context of Aim 5.

Home Ownership Rates

Household Headship

Analyses of the ABS survey clearly identify that, in Australia, single and in particular, sole parent households, are identified with female headship. The survey also identifies that for each household type, female headship is increasing (Table 1). In 1998, 86.7% of sole parent households were headed by a female; by 2008 this had increased to 88.5%. In 1998 51.5% of single households were female; by 2008 this had increased to 53.5%. On the other hand households containing couple, couples with dependent children and group households have been, and continue to be, strongly dominated by male headship.

Table 1 Household Category by Headship

Household Category by Headship	1998		2008	
	Female	Male	Female	Male
Couple	29.5%	70.5%	29.7%	70.3%
Couple with dependent children	21.4%	78.6%	22.0%	78.0%
Sole parent	86.7%	13.3%	88.5%	11.5%
Single	51.5%	48.5%	53.5%	46.5%
Group	39.6%	60.4%	36.4%	63.6%

Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Home Ownership Rate in Australia

While the HOR in Australia dropped from 69.5% to 67.5% between 1998 and 2008 it continued to be principally represented by male headship with the percentage difference between headships remaining at about 6% (Table 2). In contrast to the overall HOR, the first home owner rate increased for male and female headed households. However the gap between the two groups showed a marginal increase with male first home buyers ahead of females by about 1%.

Table 2 Home Ownership Rate by Headship

Home Ownership by Headship	1998		2008	
	Female	Male	Female	Male
Home Ownership Rate	66.1%	72.9%	64.4%	70.7%
First Home Ownership Rate	2.9%	3.6%	3.4%	4.3%

Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

The period of this study was a time of rapid house price growth in Australia and a marked decline in housing affordability. To offset this, first home buyers received financial assistance from the federal government on two occasions, 2002 and again in 2008. These subsidies actively encouraged more people to enter the housing market and help explain the increase in first home owner rate against a back drop of decline in the overall HOR in Australia.

Household Category & Home Ownership

In Australia between 1998 and 2008 the population of female home owners was, and continues to be, characterised by single households, up from 31.6% in 1998 to 32.6% in 2008 (Table 3). There has been some growth in ownership by female headed couples but a reduction in ownership by female sole parents/sole parent other, down from 17.5% to 14.8% in 2008. Male ownership has been, and continues to be, typified by couples and couples with dependent children; in total 63.7% in 1998 and 64.9% in 2008.

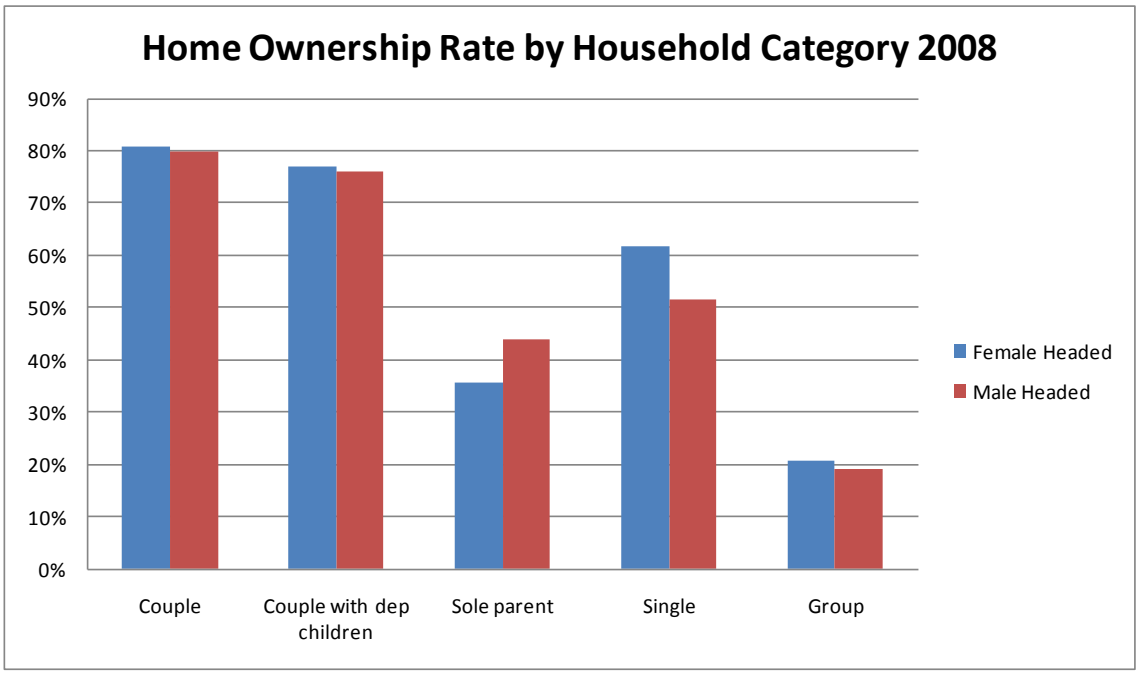
Table 3 Home Ownership Rates by Household Category & Headship

Household Category by Headship	Female1998	Female 2008	Male1998	Male2008
Couple	22.5%	25.3%	30.0%	34.6%
Couple with dependent children	15.4%	14.8%	33.7%	30.3%
Couple with others	10.1%	10.7%	17.4%	16.3%
Sole parent	6.8%	6.0%	0.7%	0.6%
Sole parent other	10.7%	8.8%	2.3%	1.9%
Other	1.2%	0.8%	1.5%	1.6%
Single	31.6%	32.6%	12.8%	13.8%
Group	1.7%	0.9%	1.6%	0.9%

Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

When home ownership in 2008 is broken down by household type there does appear to be under and over representation in female headship within certain categories. This is particularly true in the case of sole parent households where female headed households exceed male by a factor of almost 8 to 1. Within this relatively large group however, only about 36.0% of female sole parents achieve home ownership compared to 44.0% of the much smaller population of male headed households (Figure 1). Thus there appears to be strong under representation in ownership by females in the sole parent category. On the other hand the HOR of single female (62.0%) appears high relative to that of males (51.5%). A growing proportion of the Australian population are single female households and within this group there also appears to be increasing representation of home ownership. For all other household categories the percentage difference in the HOR between female and male headed households is less than 2%.

Figure 1



Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Income

Female are generally paid less than men (Rice Warner Actuaries, 2010) and in this analysis the percentage of female households in the lowest income quintile exceeds male households by 18% in 1998 and by 14% in 2008. The difference between female and male is lowest in the second quintile with only a 2% difference in 1998 and 4% in 2008 (Table 4). However in the third, fourth and fifth quintiles female headed households are a significant minority with female headed households between 1998 and 2008 falling even further behind their male counterparts in the third and fifth income quintiles. This survey confirms that not only do female headed households tend to have lower incomes, but that over the 10 year period of this survey they have become further disadvantaged at the higher income levels.

Table 4 Households by Income Quintile & Headship

Income by Headship	Female 1998	Male 1998	Female 2008	Male 2008
1st quintile	59%	41%	57%	43%
2nd quintile	49%	51%	48%	52%
3rd quintile	41%	59%	38%	62%
4th quintile	29%	71%	30%	70%
5th quintile	26%	74%	23%	77%

Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Tests of difference between male and female home owners who have purchased in the last three years confirm the hypothesis that, as of 2008, the majority of females still attracted lower incomes which are reflected in lower purchase prices, smaller home deposits and lower weekly mortgage repayments (Table 5). It is also noted that for females these repayments represent some 30% of weekly income compared to 22.5% for males. The survey also indicated that the majority of male households (47.4%) contain two income earners compared to 36% of female headed households. At the same time lower female purchase prices are reflected in smaller outstanding mortgage debt and fewer years remaining on the loan; 17.5 years compared to 20 years for males. Female home owners, the majority of which are on single incomes, appear to be making a concerted effort to pay off their lower mortgages as quickly as possible.

Table 5 Tests of Difference 2008 between Female & Male Home Owners

	Sex of HH reference person	Mean	t	Sig. (2-tailed)
Total weekly income all sources (corrected)	Male	$1,903	529.659	.000
	Female	$1,271		
Purchase price of dwelling (for dwellings purchased/built in the previous 3 years)	Male	$397,809	56.075	.000
	Female	$365,656		
Size of home deposit	Male	$46,263	11.016	.000
	Female	$43,824		
Amount owing on mortgages to purchase/build - HH	Male	$191,604	122.186	.000
	Female	$167,736		
Weekly mortgage repayments to purchase/build - HH	Male	$429	98.371	.000
	Female	$379		

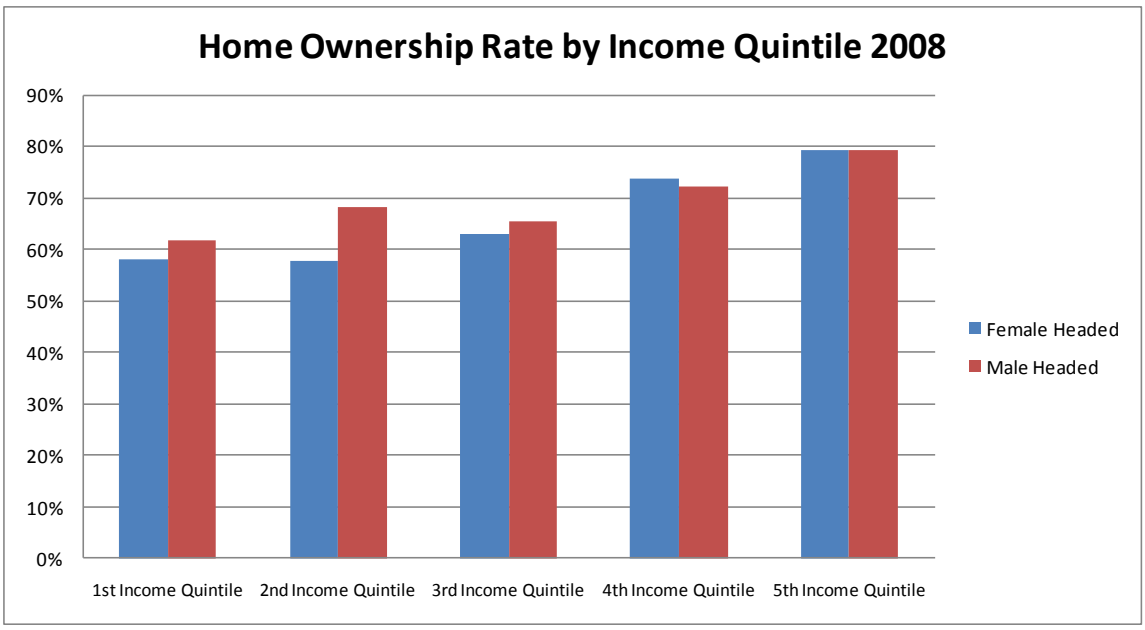
Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Home Ownership by Income Quintile

Female HORs are lowest in the bottom three income quintiles with the gap between female and male rates largest in the first (4%) and especially the second quintile (10%) (Figure 2). Within the lowest income quintile female households are over represented yet, as home owners, would appear underrepresented. At the same time, although they are a much

smaller population, those women who do achieve incomes in the upper two income quintiles appear to be matching or even exceeding male HOR with rates of 79% achieved for both female and male headed household in the top quintile

Figure 2 Income Quintile By Headship by Ownership



Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Dwelling Type & Purchase Price

Occupation of separate dwellings is dominated by male headship with only 38% of separate dwellings occupied by female headed households in 2008 (Table 6). Occupation of one storey terraced and semi-detached dwellings are fairly evenly split between male and female headships though female headship has shown a drift away from two or more storey terraced accommodation in 1998 (down from 53% to 41%) to higher density three story accommodation in 2008 (up from 42% to 46%). Male headship dominates the highest density forms of accommodation, that is flats or apartments of four or more storeys and this is a growing trend, up from 56% in 1998 to 64% in 2008. Such accommodation is likely to be located in the inner city where land prices are high and may offer advantages in terms of rental or price, ease of management and access to facilities.

Table 6 Occupation of Dwelling Structure by Headship

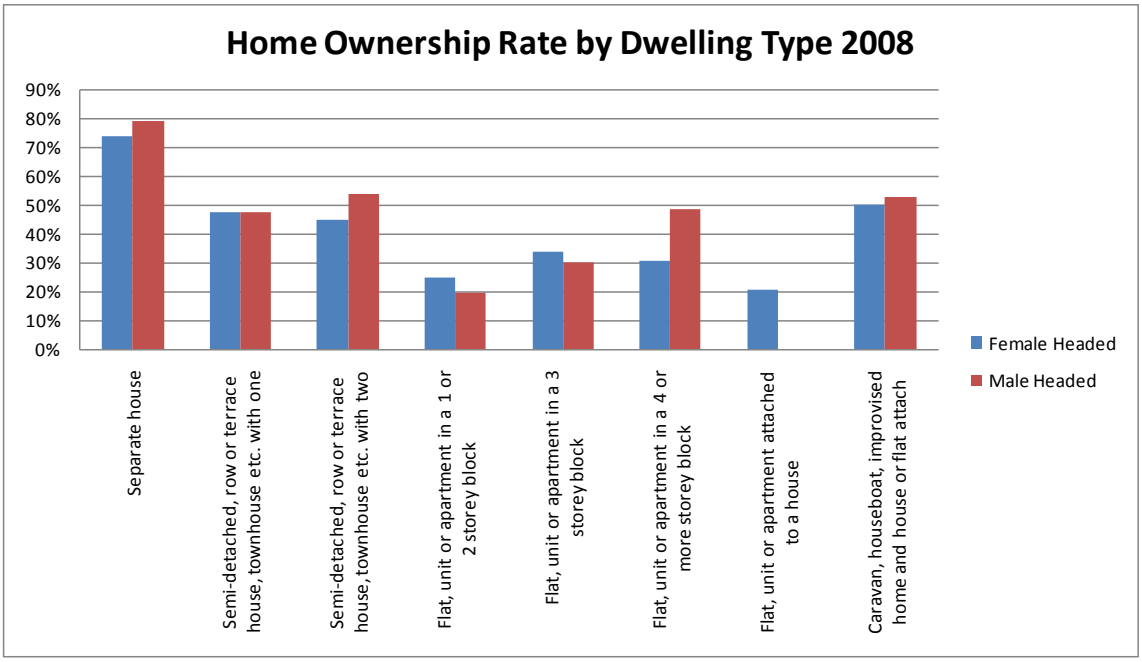
Dwelling Structure by Headship	Female 1998	Male 1998	Female 2008	Male 2008
Separate house	35%	65%	38%	62%
Semi-detached/row or terrace house/town house - one storey	51%	49%	49%	51%
Semi-detached/row or terrace house/town house - two or more storeys	53%	47%	41%	59%
Other flat/unit/apartment - one or two storeys	47%	53%	45%	55%
Other flat/unit/apartment - three storeys	42%	58%	46%	54%
Other flat/unit/apartment - four or more storeys	44%	56%	36%	64%

Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Dwelling Occupied by Home Ownership

In terms of purchase separate dwellings are most popular with both female and male headed households. Separate homes represent 86.0% of homes owned in Australia (ABS, 2006). Some 73% of separate homes occupied by female heads are owned and almost 80.0% by males (Figure 3). As of 2008 female purchasers also tend to favour medium density accommodation of one, two or three storeys. In most of these dwelling categories female home ownership exceeds the male HOR. In contrast male home ownership is more strongly associated with separate dwellings and with higher density flats of 4 or more storeys, 48.0% compared to 30.0% for females. No male purchasers are represented in the "granny flat" attached to a house category.

Figure 3 Home ownership by Dwelling Type Occupied & Headship



Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Dwelling Price by Household Category

The two households which are growing fastest in terms of female headship are sole parents and singles. Sole parent households with a female head are a significant majority to those of males by a factor of 8 to 1. In terms of purchase these households appear to be over represented in the lower priced end of the market with almost 64.1% purchasing in the bottom two price quintiles compared to 42.1% of male sole parents (Table 7). On the other hand some 23.8% of male sole parents are able to buy in the top price quintile compared to only 7.1% of female sole parent households. In contrast 28.9% of single females, despite lower average incomes, bought in the upper two price quintiles compared to only 24.1% of males. This appears consistent with the earlier discussion suggesting that female sole parent households are underrepresented in home ownership while female singles are over represented. This pattern seems also to be reflected in purchasing power.

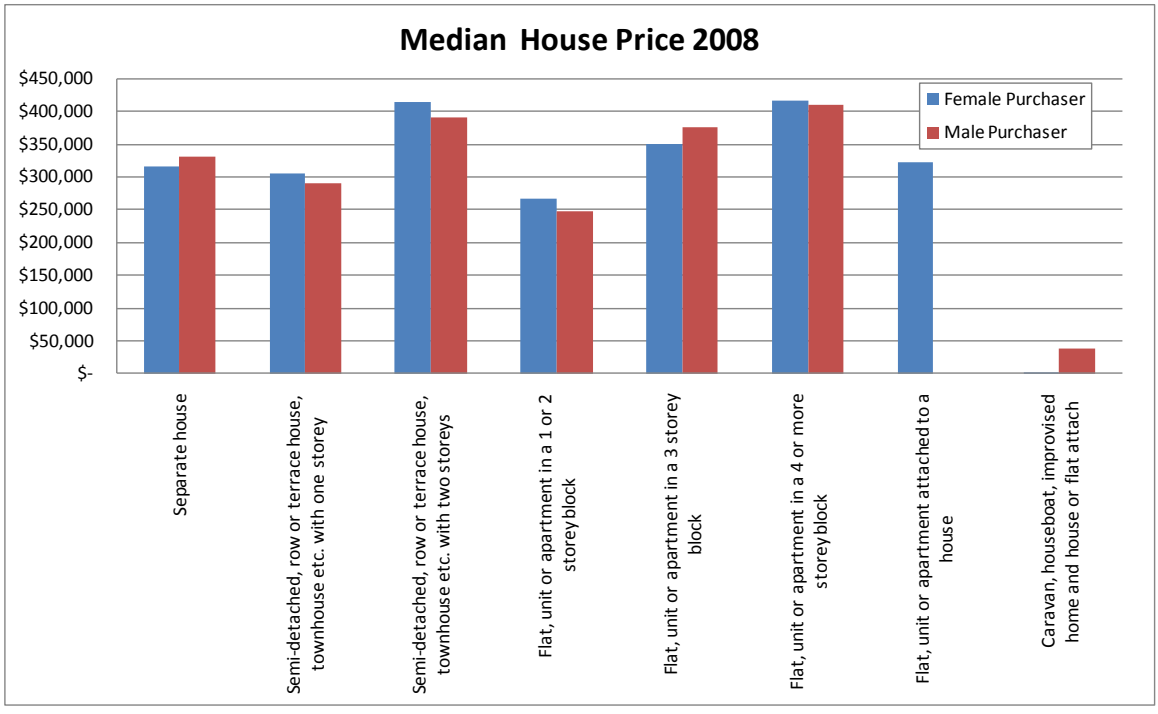
Table 7 Home Ownership Rates by Dwelling Price & Household Category

Sale price of dwelling - Quintile Group	Female - Couple	Female - Couple with children	Female - Sole parent	Female - Single	Male - Couple	Male - Couple with children	Male - Sole parent	Male - Single
1	14.5%	15.4%	38.7%	30.3%	18.5%	11.0%	35.9%	39.2%
2	22.0%	22.3%	25.4%	26.1%	18.9%	19.5%	6.2%	19.8%
3	14.5%	16.3%	9.5%	14.7%	15.9%	16.8%	26.2%	16.9%
4	27.5%	24.5%	19.3%	14.8%	24.1%	25.0%	7.8%	13.1%
5	21.4%	21.6%	7.1%	14.1%	22.8%	27.7%	23.8%	11.0%

Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

As of 2008 it would appear that premiums are being paid by women for certain dwellings despite over representation in the lower income quintiles and fewer two income households. Females may be outbidding males for particular dwelling types perceived as safer environments (Figure 4). These include semi-detached, row and terrace dwellings as well as higher density accommodation. Although fewer flats are owned by females, those females that have purchased have paid more than males. Separate homes represent about 86.0% of the homes owned in Australia (ABS 2006) and most are owned by males who also pay more for them when compared to female purchasers. Men also pay more for caravans and houseboats, a market in which women appear to pay very little despite the HOR in this category of dwelling being comparable to that of men.

Figure 4 Dwelling Type by Median House Price & Headship



Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Location & Home Ownership

In terms of location there is variety across states. The female HOR is higher in the non-metropolitan areas for those states that have traditionally experienced higher dwelling prices such as NSW, Victoria, Qld and WA (Table 8). For SA and Tasmania the differential between metropolitan and rural house prices has been less and only in these states are female HOR higher in the city. Generally for every state the HOR is higher for males than females in the city and in the country. The exceptions are WA and Qld where the HOR in the country is higher for females than for males. This HOR is may reflect an initial movement away from the city by retiring couples and the longevity of females headed households.

Table 8 Home Ownership Rate

State by City by Headship 2008	City		Country	
	Female	Male	Female	Male
New South Wales	61.4%	66.5%	65.6%	76.6%
Victoria	64.9%	71.0%	72.2%	79.8%
Queensland	60.2%	72.8%	63.4%	63.3%
South Australia	68.5%	72.4%	62.8%	73.5%
Western Australia	64.8%	69.3%	73.0%	65.3%
Tasmania	67.7%	75.2%	63.0%	75.7%

Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Propensities to Purchase

The estimates for each model quantifying propensity to purchase predict individual tenure status correctly no less than 76% of the time (Appendix 1). This compares favourably with other studies of tenure choice (Yates, 2000; Gyourko & Linneman, 1997; Haurin & Kamara, 1992). The terms which are significant are shown in Appendix 1 and most coefficients are significant at the 1% or better level of significance with expected signs. The implications of these coefficients can be seen from the estimates of probability of home ownership derived from them and these are discussed below. Table 9 shows propensities for purchase for 1998 and 2008 broken down by source of income. Within each source propensities are reported for household type, headship and city. Across all categories mean income is assumed and headship age of 35 to 44 years. Table 10 shows propensities broken down by income quintile, headship and city. The propensities hold true for a single income earner, aged 35 to 44 years on a average income. For both tables location has been included as a surrogate for house price. The summary below identifies trends within the tables using the breakdown adopted for the discussion on home ownership rates.

Household Category

For both female and male headed households couples with children whether wage earners, business owners or pensioners, show the highest propensity for purchase (Table 9). For female headed households propensities to purchase are approximately the same for both single and sole parent households. However for male headed households propensities to purchase by sole parents fall far short of those for singles within each income source.

Overall households who own a business show a greater propensity for purchase than salary earners or pensioners. This is especially true for female headed households. As might be expected the lowest propensities for purchase are for single and sole parent households who are pension recipients. Propensities to purchase by male sole parents on pensions are especially low and falling. Some of the strongest declines, however, have been in Sydney by male headed sole parents who are wage earners or for those owning a business where propensities have almost halved. Overall the propensities of sole parent households have shown a substantial turnaround over time. In 1998 male propensities were higher for both wage earners and those in business. However by 2008 male probability of purchase for all household types and within every income source had fallen substantially below those of female households. In contrast female headed sole parents,

as well as singles, who own a business, have shown a marked increase in their propensity to purchase. Given equal incomes females, who are single, show a higher propensity for purchase than males whatever their income source and in every city. This gap in the probability of purchase by females over males has increased over time and is especially strong for females in business.

Income

Overall within every income quintile female headed households show a greater propensity than male households for home ownership (Table 10). As mean household income is used for each headship group this suggests that given equal income single women, aged 35 to 44 years who are wage earners, show a greater tendency for home ownership than men. This difference in propensities between female and male headed households within each income quintile is also increasing over time.

As expected, within each time period, and for each city, the tendency for homeownership increases with income for both female and male headed households. Between 1998 and 2008, however, there has been a drop in the propensity for purchase by both groups for most income quintiles and in most cities. However there are exceptions. Within the bottom income quintile male propensities, though lower, have tended to increase except in Perth. In Sydney and Adelaide propensities have increased for both female and male headed households in the bottom three quintiles.

Another exception is the top income quintile. Here propensities by female headed households run contrary to those of males with an increase in the tendency by females to purchase over time in every city. Male propensities in the same quintile have dropped between 1998 and 2008 resulting in a marked difference between female and male headed households. Single men who are wage earners in the top income quintile have shown a marked decline in their inclination for home ownership. An end result is that, as of 2008, females in the upper income bracket show a much higher propensity to purchase than males. As well the difference in propensities for females between the lowest and highest income groups is much larger than for males.

Location

For both Sydney and Adelaide female propensities for purchase increased between 1998 and 2008 for every income quintile (Table 10). In contrast in Melbourne they fell for every quintile. For Brisbane, Perth, Hobart and non-capital centres female propensities also fell except in the top quintile.

For male headed households the pattern appears generally to be improved propensities in the lower income quintiles and reduced for the upper. This is generally true of Sydney, Adelaide, Brisbane, Hobart and the non-capital centres. However in Melbourne male propensities are down in every quintile except the lowest and in Perth male propensities have dropped in every quintile.

Overall propensities for female households to purchase in 2008 were higher in non-capital centres compared to expensive cities such as Sydney, Brisbane and Perth and lower compared to those assumed to more affordable such as Adelaide and Hobart within each income quintile.

In summary as of 2008 the highest propensities for purchase exhibited by female and male headed households are couples with children who own their own business in Hobart (90.6%; 86.7%) and Adelaide (91.7%, 86.0%). Female headed households in Hobart and Adelaide who are in the top income quintile also show some of the highest propensities, 86.3% and 87.8% respectively. This compares to 63.7% and 62.4% for male headed households. The lowest propensities for ownership apply to pensioners who are sole parents; for females in Brisbane (31.3%) and Sydney (34.3%) and especially to male sole parents in these same cities, 15.0% and 13.2% respectively.

Table 9 Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Mean Income, 35-44 yrs

Wage and Salary Earner

Single

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	55.5%	61.3%	43.0%	41.6%
Melbourne	71.7%	66.3%	55.0%	49.4%
Brisbane	61.0%	58.1%	47.0%	45.3%
Adelaide	68.1%	70.8%	54.3%	56.4%
Perth	66.3%	64.1%	59.7%	47.2%
Hobart	70.6%	68.0%	61.6%	57.8%
Non-Capital	65.4%	65.6%	51.9%	50.1%

Sole Parent

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	51.4%	59.2%	54.6%	28.4%
Melbourne	68.2%	64.2%	66.1%	35.2%
Brisbane	57.0%	55.8%	58.5%	31.6%
Adelaide	64.4%	68.9%	65.4%	41.9%
Perth	62.6%	62.0%	70.3%	33.2%
Hobart	67.1%	66.0%	71.9%	43.2%
Non-Capital	61.6%	63.5%	63.2%	35.8%

Couple with Children

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	72.9%	78.0%	74.2%	71.4%
Melbourne	84.5%	81.5%	82.4%	77.3%
Brisbane	77.1%	75.6%	77.1%	74.3%
Adelaide	82.1%	84.5%	81.9%	81.9%
Perth	80.9%	80.0%	85.0%	75.8%
Hobart	83.8%	82.6%	85.9%	82.7%
Non-Capital	80.3%	81.0%	80.4%	77.8%

Own Business

Single

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	54.7%	76.3%	52.5%	49.3%
Melbourne	71.0%	79.9%	64.2%	57.1%
Brisbane	60.2%	73.7%	56.4%	53.0%
Adelaide	67.4%	83.1%	63.5%	63.8%
Perth	65.6%	78.3%	68.5%	54.9%
Hobart	70.0%	81.1%	70.1%	65.1%
Non-	64.7%	79.4%	61.2%	57.7%

Sole Parent

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	50.6%	74.6%	63.8%	35.1%
Melbourne	67.5%	78.5%	74.1%	42.5%
Brisbane	56.2%	71.9%	67.4%	38.6%
Adelaide	63.7%	81.8%	73.5%	49.5%
Perth	61.8%	76.8%	77.6%	40.4%
Hobart	66.4%	79.7%	78.9%	50.9%
Non-	60.9%	77.9%	71.5%	43.2%

Couple with Children

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	72.2%	87.8%	80.8%	77.2%
Melbourne	84.1%	89.9%	87.2%	82.3%
Brisbane	76.5%	86.3%	83.2%	79.7%
Adelaide	81.7%	91.7%	86.9%	86.0%
Perth	80.4%	89.0%	89.2%	81.0%
Hobart	83.4%	90.6%	89.9%	86.7%
Non-	79.8%	89.6%	85.7%	82.7%

Pension/Allowance

Single

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	35.6%	36.4%	20.4%	21.5%
Melbourne	52.8%	41.5%	29.4%	27.3%
Brisbane	40.9%	33.3%	23.1%	24.2%
Adelaide	48.6%	39.2%	28.8%	33.2%
Perth	46.6%	46.7%	33.6%	25.6%
Hobart	51.6%	39.2%	35.3%	34.4%
Non-	45.6%	40.7%	26.8%	27.8%

Sole Parent

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	31.9%	34.3%	29.1%	13.2%
Melbourne	48.7%	39.3%	39.9%	17.3%
Brisbane	37.0%	31.3%	32.4%	15.0%
Adelaide	44.5%	44.4%	39.2%	21.7%
Perth	42.5%	37.0%	44.6%	16.1%
Hobart	47.5%	41.2%	46.5%	22.6%
Non-	41.6%	38.6%	36.9%	17.7%

Couple with Children

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	54.3%	56.2%	49.5%	48.9%
Melbourne	70.7%	61.4%	61.4%	56.7%
Brisbane	59.8%	52.8%	53.4%	52.6%
Adelaide	67.0%	66.2%	60.6%	63.4%
Perth	65.3%	59.1%	65.8%	54.5%
Hobart	69.6%	63.2%	67.5%	64.7%
Non-	64.3%	60.6%	58.3%	57.4%

Table 10 Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Household Income Quintile 1

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	40.4%	46.0%	31.0%	38.2%
Melbourne	57.8%	51.4%	42.1%	45.9%
Brisbane	45.9%	42.7%	34.5%	41.8%
Adelaide	53.7%	56.6%	41.4%	52.9%
Perth	51.7%	49.0%	46.9%	43.7%
Hobart	56.6%	53.3%	48.8%	54.3%
Non-Capital	50.7%	50.6%	39.0%	46.5%

Household Income Quintile 2

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	46.7%	50.9%	44.3%	39.3%
Melbourne	63.9%	56.3%	47.5%	47.0%
Brisbane	52.3%	47.5%	39.6%	42.9%
Adelaide	60.0%	61.3%	46.7%	54.0%
Perth	58.0%	53.9%	52.3%	44.8%
Hobart	62.8%	58.1%	54.2%	55.4%
Non-Capital	57.1%	55.5%	44.3%	47.7%

Household Income Quintile 3

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	52.3%	57.0%	40.4%	40.7%
Melbourne	69.0%	62.2%	52.3%	48.4%
Brisbane	57.9%	53.7%	44.3%	44.3%
Adelaide	65.3%	67.0%	51.6%	55.4%
Perth	63.4%	59.9%	57.1%	46.2%
Hobart	67.9%	64.0%	59.0%	56.8%
Non-Capital	62.5%	61.4%	49.1%	49.1%

Household Income Quintile 4

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	60.1%	64.6%	47.0%	42.4%
Melbourne	75.3%	69.3%	59.0%	50.2%
Brisbane	65.4%	61.4%	51.0%	46.1%
Adelaide	72.0%	73.6%	58.2%	57.2%
Perth	70.4%	67.2%	63.5%	48.0%
Hobart	74.4%	70.9%	65.3%	58.6%
Non-Capital	69.6%	68.6%	55.8%	50.9%

Household Income Quintile 5

	Women		Men	
Location	F 97-98	F 07-08	M 97-98	M 07-08
Sydney	75.4%	82.4%	61.9%	47.8%
Melbourne	86.1%	85.3%	72.5%	55.7%
Brisbane	79.4%	80.4%	65.6%	51.6%
Adelaide	84.0%	87.8%	71.9%	62.4%
Perth	82.9%	84.1%	76.2%	53.5%
Hobart	85.5%	86.3%	77.5%	63.7%
Non-Capital	82.3%	84.9%	69.9%	56.3%

CONCLUSION

In conclusion this study would support a number of the proposed hypotheses. First female home owners do appear to be over and under represented within certain household categories. They appear to be over represented as home owners in the single person household category and this is particularly for those earning higher incomes. Both actual home ownership rates and probabilities of purchase are over represented within single female households even accounting for the higher proportion of single households that are female headed in the Australian population. On the other hand home ownership appears to be underrepresented amongst female sole parent households. Despite the percentage of female sole parent households exceeding male by a factor of 8 to 1 in the Australian population, the HOR for females is substantially lower than that of males. However given equal incomes these female sole parents are showing an increasing propensity for purchase whether they are salary earners, business owners or pensioners.

Given the confirmation of lower average salaries and less security of income greater affordability problems for female home owners can be assumed. However female purchasers do seem to be making concerted efforts to purchase, especially if they are single, on higher incomes, or in business where both actual home ownership rates and propensities for purchase, either equal or exceed those of male households. Single men who are wage earners in the top income quintile have shown a marked decline in their tendency for home ownership and given the choice appear to be turning away from home ownership. However for all purchasers in cities such as Brisbane, Perth and Melbourne escalating house prices are likely to have eroded their propensity to purchase.

Female home ownership rates are higher than male for flats of one, two or three stories and they do appear to be paying more for these dwelling types which may be associated with greater security. This includes flats of four or more storeys which is in contrast to the considerably higher occupation level by male households of flats of 4 or more storeys. Fewer women occupy flats but as purchasers they pay more for them.

Finally there is significant variation in female home ownership rates between city and country but the influencing factor is assumed to be price. Overall propensities for female households to purchase in 2008 were higher in non-capital centres compared to expensive cities such as Sydney, Brisbane and Perth and lower when compared to those cities assumed to more affordable such as Adelaide and Hobart within each income quintile.

This study has sought to identify the characteristics and life course patterns which facilitate home ownership among female headed households in Australia, including those of singles and sole parents, both of which are strongly represented by female headship. As home ownership is an important element in ensuring financial security into the future, identifying the factors which impact on female home ownership rates and propensities to purchase should be important for policy settings especially in terms of facilitating equitable outcomes across the housing market. Ensuring financial security in old age is an important economic imperative for the Australian community and it should be economically to the national advantage for as many households as possible to be financially secure into retirement.

Female headed households show an increasing propensity to purchase which, when based on equal incomes match, or even exceed, those of male households. If given the choice and the means to purchase women are showing a strong propensity to buy. Men, many of whom have the choice, appear to be showing less inclination to purchase. In reality incomes are not equal and female sole parents on single incomes as wage earners and especially as pensioners may find home ownership particularly difficult. Females, however are buying, especially those on higher incomes and appear to be particularly interested in medium density and higher density accommodation. Any significant mismatch, however, between the current housing stock and its pricing with what women want to, and can afford to buy, could threaten this participation.

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Appendix 1 Source: Author/s analysis of ABS 1998, 2008 Survey of Income & Housing Cat 6541.0

Logistic Regression - 1997-1998 Data

	All Observation	Female	Male
Constant	-2.774 **	-2.989 **	-2.527 **
HHincome ($,000)	0.973 **	1.959 **	0.608
Owns Business	0.248 *	-0.032	0.380 **
Pension/Allowance	-0.955 **	-0.815 **	-1.078 **
Age2 (25-29)	1.600 **	1.422 **	1.742 **
Age3 (30-34)	1.447 **	1.920 **	1.341 **
Age4 (35-44)	2.074 **	2.722 **	1.829 **
Age5 (45-64)	3.198 **	3.768 **	3.118 **
Age6 (65 +)	4.098 **	4.498 **	3.946 **
HH1 (Couple)	1.399 **	1.063 **	1.457 **
HH2 (Couple + depchild)	1.615 **	1.482 **	1.481 **
HH3 (Couple + other)	1.551 **	1.515 **	1.432 **
HH4 (Sole Parent)	-0.686	-0.253	-1.980 **
HH5 (Sole Parent + other)	0.067	-0.187	0.366
HH6 (Group)	-0.222	-1.125 **	-0.160
HH7 (Other)	2.686 **	1.898 *	2.305 **
Sydney	-0.371 **	-0.417 **	-0.355 **
Melbourne	0.205 **	0.289 **	0.128
Brisbane	-0.186	-0.191	-0.196
Adelaide	0.118	0.120	0.097
Perth	0.209	0.040	0.321 *
Hobart	0.334	0.239	0.398
HHincBYAge2	-0.415	-0.791	-0.540
HHincBYAge3	0.132	-0.476	0.252
HHincBYAge4	-0.028	-0.974	0.232
HHincBYAge5	-0.254	-0.785	-0.173
HHincBYAge6	-0.003	-0.792	0.236
HHincBYHH1	-0.484 **	-0.415	-0.423 *
HHincBYHH2	-0.396 *	-0.778 *	-0.155
HHincBYHH3	-0.469 *	-0.806 *	-0.219
HHincBYHH4	0.691	0.097	2.661 **
HHincBYHH5	-0.426	-0.217	-0.312
HHincBYHH7	-1.297 **	-1.642 **	-0.888
HH - Female	0.453		
HHFemale by Age2	-0.363		
HHFemale by Age3	0.032		
HHFemale by Age4	-0.092		
HHFemale by Age5	0.117		
HHFemale by Age6	-0.138		
HHFemale by HH1	-0.117		
HHFemale by HH2	-0.386 *		
HHFemale by HH3	-0.217		
HHFemale by HH4	0.168		
HHFemale by HH6	-0.486		
HHFemale by HH7	-0.972 *		
N	7025	2786	4239
X^2	1868.9**	785.8**	1074.2**
df	44	32	32
LL	6525.1	2569.2	3928.4
Prediction Rate	78.40%	76.5	79.9

Dependnet Variable: Rent or other = 0, Own (with or without mortgage) = 1

** Significant at 95%. * Significant at 90%.

Logistic Regression - 2007-2008 Data

	All Observations	Female	Male
Constant	-2.292 **	-3.137 **	-2.083 **
HHincome ($,000)	0.324 **	0.840 **	0.092
Owns Business	0.387 **	0.706 **	0.308 **
Pension/Allowance	-1.074 **	-1.019 **	-0.957 **
Age2 (25-29)	0.907 **	0.869	1.069 **
Age3 (30-34)	0.937 **	1.826 **	0.800 **
Age4 (35-44)	2.063 **	3.004 **	1.908 **
Age5 (45-64)	2.515 **	3.487 **	2.414 **
Age6 (65 +)	3.644 **	4.665 **	3.355 **
HH1 (Couple)	1.352 **	1.472 **	1.211 **
HH2 (Couple + depchild)	1.333 **	1.196 **	1.324 **
HH3 (Couple + other)	1.149 **	1.273 **	0.989 **
HH4 (Sole Parent)	-0.894 **	-0.492	-0.250
HH5 (Sole Parent + other)	-0.339 **	-0.649 **	0.041
HH6 (Group)	-0.459	0.119	-0.821 **
HH7 (Other)	0.231	-1.225	0.273
Sydney	-0.285 **	-0.183	-0.341 **
Melbourne	-0.003	0.032	-0.026
Brisbane	-0.254 **	-0.319 **	-0.191
Adelaide	0.250 **	0.242 *	0.255 **
Perth	-0.089	-0.065	-0.114
Hobart	0.218	0.108	0.310
HHincBYAge2	-0.093	0.250	-0.154
HHincBYAge3	0.217	-0.031	0.320 *
HHincBYAge4	-0.095	-0.348	0.021
HHincBYAge5	0.119	0.006	0.187
HHincBYAge6	0.395	0.050	0.608 **
HHincBYHH1	-0.231 **	-0.535 **	-0.050
HHincBYHH2	-0.148 *	-0.246	-0.047
HHincBYHH3	-0.175 *	-0.564 **	0.010
HHincBYHH4	0.256	0.254	-0.213
HHincBYHH5	-0.221	-0.977 **	0.061
HHincBYHH7	0.142	-0.034	0.237
HH - Female	-0.429		
HHFemale by Age2	0.582		
HHFemale by Age3	0.633 *		
HHFemale by Age4	0.694 **		
HHFemale by Age5	0.841 **		
HHFemale by Age6	0.708 **		
HHFemale by HH1	-0.004		
HHFemale by HH2	0.005		
HHFemale by HH3	-0.122		
HHFemale by HH4	0.493		
HHFemale by HH6	-0.181		
HHFemale by HH7	-1.283 **		
N	9345	3863	5482
X^2	2643.6**	1277.3**	1359.1**
df	44	32	32
LL	9027.8	3759.7	5225.3
Prediction Rate	77.70%	77.65%	77.8

Dependnet Variable: Rent or other = 0, Own (with or without mortgage) = 1

** Significant at 95%. * Significant at 90%.