

What has determined longer run trends in Public Housing tenants' employment participation 1982-2002?

National Research Venture 1: Housing assistance and economic participation

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LIST OF ACRONYMS

ABS	Australian Bureau of Statistics
CRA	Commonwealth Rent Assistance
CSHA	Commonwealth State Housing Agreement
DSP	Disability Support Pension
HILDA	Household, Income and Labour Dynamics Australia
ISP	Income support program
SIHC	Survey of Income and Housing Costs

1 INTRODUCTION¹

In the twenty years 1982-2002 the employment participation rate of all working age persons has increased from 67% to 72%². As is well known there are very different patterns by gender. The female employment participation rate has increased sharply and the male employment participation rate has declined. Less well known are the diverging trends by housing tenure. Since 1982 there has been a particularly sharp increase in participation rates among women residing in households that are buying their home (from 54% in 1982 to 75% in 2002). On the other hand employment participation rates among female public housing tenants have remained low (22% in 1982 and 24% in 2002). Among males there are small declines in the employment participation rate of homeowners (from 88% to 85%) and private rental tenants (from 82% to 79%), but a sharp decline among male public renters (from 67% to 35%) over the same time period.

Despite the improvement in aggregate employment outcomes among the working age population, there has been an increase in the rate of jobless households that reflects a polarisation in the distribution of work. Once again there are sharply diverging trends by housing tenure. There has been a decline in the rate of jobless households among home purchaser households, but a sharp increase among households in public housing so that by 2002 two-thirds of households in public housing were jobless. Since 1982 we estimate that the number of jobless households has increased by 312,069, and almost one-third of this increase is accounted for by households in public housing despite a small 6% share of all households in 2002.

These patterns by housing tenure could simply reflect changes in the profile of tenants and homeowners. Housing assistance has been restructured over the timeframe 1982-2002. Eligibility criteria for entry into public housing waiting lists have tightened as financial support for public housing has declined, and waiting lists have grown³. On the other hand there has been an increasingly important role for direct subsidies in private rental housing, as Commonwealth Rent Assistance (CRA) has been expanded in scope. The consequence is a public housing stock that increasingly houses those with inferior employment prospects.

However there is a growing overseas literature that explores whether housing subsidies and public housing in particular impacts on employment outcomes. In the United Kingdom, Hughes and McCormick (1987) suggest that public housing allocation policies are an impediment to labour mobility, restricting the ability of workers to move between regions in response to regional unemployment differentials, and hence raising the natural rate of

¹ An earlier version of this paper was presented at the 35th Australian Conference of Economists in Perth, 25-27 September 2006. The authors would like to thank Kath Hulse for alerting us to the importance of gender in analyzing the employment participation of public housing tenants.

² Working age persons are non-dependent persons aged 15-64. Estimates are generated from the Survey of Income and Housing Costs (SIHC). The SIHC was called the Income and Housing Survey in 1982, Survey of Income and Housing Costs and Amenities in 1990, Survey of Income and Housing Costs in 1996 and 2000, and the Survey of Income and Housing in 2002. Employment rate figures from the Australian Bureau of Statistics (ABS) show that the employment rate for all persons aged 15-64 has also risen by 5 percentage points, but from 64% to 69%. This is slightly lower than our estimates of 67% and 72% respectively. This is primarily because the measure in the text excludes dependent person aged 15-64. On inclusion of dependents our SIHC estimates of employment rates is 64% in 1982 and 70% in 2002.

³ In 2004 204,247 persons were on public housing waiting lists (SCRCSSP, 2005). This was an increase of only 1.0% over the 1991 waiting list figure of 202,300 persons (Burke, 2002), but over this period eligibility criteria have been tightened.

unemployment⁴. An emphasis in the US literature has been on the location of public housing in inner city areas that make suburban job opportunities inaccessible (Ong, 1998; Allard and Danziger, 2003). These concerns have prompted policy initiatives that offer portable housing assistance designed to encourage suburban relocation, as in the Federal government's Moving To Opportunity program (McClure, 2004). The location issue also arises with respect to fears that concentrations of the disadvantaged in public housing estates erode work ethics, exacerbate social problems and stigmatise tenants with negative impacts on employment outcomes.

Work incentives can be blunted by the provision of housing assistance in ways that increase effective marginal tax rates and reduce labour supply as a result of substitution effects⁵. Housing assistance is also responsible for income effects, given that households receiving housing assistance are more likely to be able to collect sufficient resources to survive without supplying additional work hours than those who do not. Furthermore, the eligibility criteria and rationing of public housing can be responsible for welfare locks and income notches created by 'up and out' rules that determine the continued eligibility of public housing tenants, or those on waiting lists (Stiglitz, 2000; Yelowitz, 2001).

There are opposing arguments that housing assistance, including its provision in the form of public housing, can have positive employment effects (Van Ryzin, Kaestner and Main, 2003, p47-48). By providing a secure tenure in an affordable housing unit housing subsidy programs can assist employment prospects because of the responsibility and reliability that is implied by a permanent address, and avoidance of the disruptive effects of not having a permanent place to live. Furthermore, public housing programs in the United States commonly have onsite services (e.g. childcare, training) that help support employment, and neighbourhood initiatives such as these are also to be found in Australia⁶.

Australian interest in the housing assistance and employment issue has been stimulated by the most recently concluded Commonwealth State Housing Agreement (CSHA). Schedule 1 of that agreement commits the States and Territories to "introduce rent policies that reduce workforce disincentives associated with the current link between earned income and rent" (Commonwealth of Australia Gazette, 2003, No. S276, 17th July 2003). There is not much Australian empirical evidence on which to base such a recommendation. Barrett (2002) finds that sole parent pensioners who are public housing tenants in New South Wales and Australian Capital Territory have a 32% lower exit rate from spells on Sole Parent Pension,

⁴ These are not the only housing related impediments to mobility. Oswald (1997) argues that high transaction costs and widening regional house price differentials impede the mobility of homeowners and increase the natural rate of unemployment.

⁵ For evidence on housing assistance and employment outcomes in the United States see Ong, 1998, Fischer, 2000, Painter, 2001 and Shroder, 2002. In the United Kingdom empirical estimates of the contribution of housing assistance to effective marginal tax rates and replacement rates are presented in Giles, Johnson and McCrae (1997) and Pryce (1999) examines the link between work incentives and social housing. Norwegian evidence is offered in Nordvik and Ahren (2005).

⁶ Housing authorities commonly insert a tenant employment clause into contracts requiring successful tenderers to engage tenants, e.g. the Public Tenant Employment Program in Victoria requires successful contractors of cleaning and gardening contracts to employ tenants. Economic participation is also encouraged through community initiatives, including support for community development programs, local business engagement and community jobs programs. Key initiatives that have been introduced to overcome the digital divide include the establishment of neighbourhood technology centres in New South Wales and the 'Reach For the Clouds' project in Victoria (see Dalton and Ong, 2005).

and this is attributed to the higher public housing assistance in this state. Hunter (1995) finds a negative correlation between the proportion of males employed in census collection districts and the proportion of the population living in public housing. Whelan (2004) models labour supply decisions using microdata and concludes that there is some evidence CRA and public housing acts to limit labour force participation, though the effect for the former is stronger. On the other hand, Hulse and Randolph (2005, p147) conclude from a survey of 400 public and private renters, that housing assistance had little effect on private renters receiving CRA, but did affect a sizeable minority of public renters. Phibbs and Young (2005) track the changes in the lives of 178 households in their first six months or so as public tenants. There was a mixed impact on employment outcomes, with some reporting that there was a reduced need to work because of lower housing costs, and the opportunities this created were used for training, caring for children or undertaking voluntary work. Others felt more able to look for work because housing issues had been resolved. Financial factors did not appear to be the predominant consideration in their work decisions.

In this paper we document the 1982-2002 trends in employment participation by housing tenure, and analyse whether public housing employment outcomes can be explained by the changing socioeconomic and demographic profile of tenants. We find that in the case of female public housing tenants, actual employment trends are much flatter than would be expected. Furthermore, the incidence of jobless households in public housing is considerably higher than predicted on the basis of tenant households' socioeconomic and demographic characteristics. We explore the role of unemployment traps as one possible explanation for these findings.

We turn in section 2 to a description of the institutional arrangements governing entry into Australian public housing, and those shaping the delivery of housing assistance in the form of rebated rents. This section also contains a discussion of the contribution of microeconomic theory to an understanding of how labour supply decisions are impacted by housing assistance. Section 3 uses the confidentialised unit record files of successive Australian Bureau of Statistics (ABS) Surveys of Income and Housing Costs (SIHC) from 1982 to 2002 to profile employment participation trends by housing tenure⁷. In section 4 logit models of employment participation are estimated, and used to generate adjusted employment participation and jobless household outcomes that are conditional on the socioeconomic and demographic characteristics of working age persons in each of the survey years. This is followed in section 5 by measurement of public housing tenants' work incentives as compared to those of residents in other housing tenures. A final section outlines key findings and policy implications.

⁷ The SIHC is a cross section survey conducted periodically on the basis of samples drawn from all Australian households that reside in private dwellings.

2 BACKGROUND

2.1 Institutional Arrangements and Importance of Housing Assistance

Housing assistance in the form of public housing is provided and managed by state and territory housing authorities. The CSHA is the main funding source for public housing. The CSHA is an agreement made between the federal, state and territory governments to provide funding for housing assistance for persons in need. The 2003 CSHA runs from 1 July 2003 to 30 June 2008. The majority of funding under the 2003 CSHA is provided by the federal government, with the state and territory governments contributing additional funding to partly 'match' federal government funding. In 2003-04, the federal, state and territory governments provided funding of approximately \$1.3 billion for housing programs, with the federal government contributing just under three-quarters of the total funding amount and the states and territories contributing the rest. The majority of the funding was spent on public and community housing (SCRCSSP, 2005).

Public housing allocations are limited by the amount of available housing stock. Hence, it is rationed according to eligibility criteria, and all state and territory housing authorities operate wait lists in order to prioritize access to public housing. Public housing applicants must generally be Australian citizens or permanent residents and must not own residential property. All applicants must be living in the respective state or territory where the application is made (SCRCSSP, 2005). To initially qualify for public housing, the applicant household's income must be below an income limit threshold, which again differs by state and territory. State housing authorities typically have more than one wait list with applicants sorted into different segments of need according to household type, preference for housing type and location. A priority wait list is operated in most states and territories for categories of acute housing need⁸.

Rents in public housing are set at levels that are in the vast majority of cases below market rents⁹. Typically, tenants pay rents that are a fixed percentage of their assessable income and State Housing Authorities employ slightly different definitions of household assessable income. Assessable incomes generally include the government benefit entitlements of the principal earner and their partner, but practice varies with respect to the fraction of income of other household members that is included in assessable income¹⁰.

The public housing rent setting structure in 1982 was significantly different from the public housing rent setting structure in 2002. While typical rents are currently set at between 10 to 15% of assessable family payments and 25% of other assessable income, the percentage of income that was assessed as rent in 1982 depended on whether the income level fell below or above a base income level. The base income level was generally set at the state or territory minimum wage level. Tenants typically paid 20% of income below the base level

⁸ For a description of the public housing wait list allocations system by state and territory, refer to appendix A table A1.

⁹ According to the SCRCSSP (2005), 87.6% of public housing tenants paid rent below the market level as at 30 June 2004.

¹⁰ For a description of assessable income sources by state and territory, refer to appendix A table A2. For a description of the rent calculation rules by state and territory, refer to appendix A table A3.

and up to 25% of increments in income above the base level as rent. In most states recipients of pensions paid up to 20% of their income as rent.

Housing assistance is also provided in the form of CRA to private rental tenants. However, it was not until the 1990s that this program covered more than a small minority of the working age private rental population. We estimate, using a tax-benefit simulator and the SIHC, that only 3.6% of working age renters (4.1% of private renters) were eligible for CRA in 1982 (see table 2.1).¹¹ By 2002 19.3% of working age renters (21.3% of private renters) were eligible. Given the relatively unimportant role of CRA in the 1980s¹², and the small sample numbers in early releases of the SIHC our analysis of employment outcomes and housing assistance focuses on public housing tenants.

Table 2.1: Working age renters, 1982-2002^a

	1982	1990	1996	2000	2002
<i>Number of public renters ('000s)</i>	331	403	385	364	358
<i>% of all renters</i>	11.1	12.4	10.8	10.1	9.6
<i>Number of private renters ('000s)</i>	2,638	2,853	3,175	3,227	3,368
<i>% of all renters</i>	88.9	87.6	89.2	89.9	90.4
<i>Number of renters ('000s)</i>	2,969	3,256	3,560	3,591	3,726
<i>Number of CRA eligible renters ('000s)</i>	108	220	632	697	717
<i>% of all renters</i>	3.6	6.7	17.7	19.4	19.3

Source: Authors' own calculations from 1982 SIHC, 1990 SIHC, 1996-97 SIHC, 2000-01 SIHC and 2002-03 SIHC

Note:

- a. Working age is 15-64 years and non-dependent.

Table 2.2 reports estimates of the financial importance of housing assistance relative to other sources of income. Public housing tenants typically benefit from subsidies that in 2002 were 22% of gross income; working age singles in public housing receive subsidies that were more than one-quarter of their gross income. The assistance provided by public housing subsidies is then substantial, and generally more generous than that received by CRA eligible private rental tenants, who typically benefit from subsidies that in 2002 were 13% of gross income (see table 2.2). The only income unit type to be more generously treated under CRA is couples.

¹¹ The estimates use a tax-benefit simulator that is part of a microsimulation model of the Australian housing market that is described in Wood, Flatau and Watson (2006). The simulator has now been designed for application to the SIHC for the years 1982, 1996, 2000 and 2002, and incorporates the contemporaneous tax and income support payments and their parameters. The tax measures and programs that are included in the simulation are listed in appendix B table B1.

¹² In 1982, only pensioners and long-term sickness beneficiaries were eligible for CRA, regardless of whether children were present. In 1990 persons who were in receipt of Unemployment Benefit or Special Benefit for at least 26 weeks and were married, or single and aged 25 or over, or single and aged 18-24 and no longer living at home, became eligible for CRA. Private renters with dependent children also became eligible for CRA if they received the Family Allowance Supplement in 1990. From 1996 onwards, renters with no dependent children must receive a pension or allowance in order to receive CRA as a supplement to their pension or allowance, and renters with dependent children must receive more than the minimum rate of their family payment in order to receive CRA as a supplement to their family payment.

Table 2.2: Income unit housing assistance as a percentage of gross income^a for working age income units^b that receive housing assistance, by housing assistance type and income unit type, 2002-03, per cent

<i>Income unit type</i>	<i>Private renters</i>	<i>Public renters</i>	<i>All</i>
<i>Couple with dependent children</i>	8.7	4.2	7.8
<i>Couple with no dependent children</i>	9.2	4.2	7.5
<i>Sole parent</i>	10.8	20.9	14.0
<i>Single</i>	15.7	28.2	20.1
<i>All^c</i>	12.7	21.8	15.6
<i>Sample</i>	1,067	577	1,644
<i>Population ('000s)</i>	803	374	1,176

Source: Authors' own calculations from 2002-03 SIHC

Notes:

- a. Gross income unit income comprises unit income and government benefit entitlements including housing assistance. An income unit comprises adults and their dependent children who can be expected to share income. A household can then contain two or more income units, such as unrelated adults living independently of their parents and sharing a house.
- b. Working age income units contain at least one non-dependent person aged 15-64.
- c. We are able to derive similar estimates using wave 1 of the Household, Income and Labour Dynamics Australia (HILDA) Survey. Housing assistance is 11.1%, 16.2% and 13.1% of income unit gross income for private renters, public renters and all eligible income units respectively.

2.2 Theory

The standard approach shifts the labour supply-income locus as if public housing subsidy were like any other income support payment. Since public housing subsidy is withdrawn at 25 cents in every dollar of assessable income, the 'price' of leisure is reduced and if leisure is a normal good, the supply of labour falls. However, public housing subsidies are closer to a 'pure' in-kind transfer, where assistance is provided in the form of a 'take-it-or-leave-it' bundle of shelter services, than a 'pure' cash transfer in which support is received in the form of a cash sum that is spent on the recipient's preferred bundle of goods and services (Whelan, 2004). The distinction is important because in-kind transfers can cause labour supply to increase, since such transfers typically impose more of the subsidised good than would be chosen at market prices and an equivalent cash transfer. Increases in earnings raise the value of the in-kind transfer, and drive real income up by more than the dollar value of the boost to earnings. The incentive to increase labour supply is then greater under the in-kind subsidy than with an equivalent cash transfer (Murray, 1980; Schone, 1992). There are other objections to the standard neo-classical model. The transition into subsidised public housing could ease an over-crowded living arrangement, thereby making job search easier. Furthermore, the permanence of new living arrangements in subsidised public housing can ease transitions back into employment¹³.

A key feature of public housing subsidies is that demand for assistance exceeds supply. The stock of public housing is then rationed with potentially important selection and rationing effects. The theory is illustrated in figure 2.1. To become eligible for public housing an applicant must have income less than or equal to Y_E which corresponds to H_1 hours of work

¹³ There is a succinct discussion in Van Ryzin, Kaestner, and Main (2003) of the potential enabling and hindering effects of housing subsidy programs.

given a uniform wage rate w . A private rental tenant who secures offers of employment $H \leq H_1$ is eligible for Federal income support programs (ISPs) that give cash transfers OA . It is assumed these are gradually withdrawn at incomes $Y > Y_E$, and the labour supply-income locus is $ABCD$, with all income support withdrawn when income reaches Y^* .

The private rental tenant with $H \leq H_1$ will also be admitted on to public housing waiting lists, and this is a potentially appealing prospect given a public housing subsidy of monetary value AY_E that would place successful applicants on the opportunity locus Y_EECD ¹⁴. But the applicant must wait before an offer of public housing is made, an offer that can be on a 'take-it-or-leave-it' basis, and the longer is this wait time the lower is the discounted value of public housing assistance. There can then be selection effects, if those who can adjust their labour supply so as to purchase preferred quantities and qualities of the 'tagged' good screen themselves out of the program¹⁵.

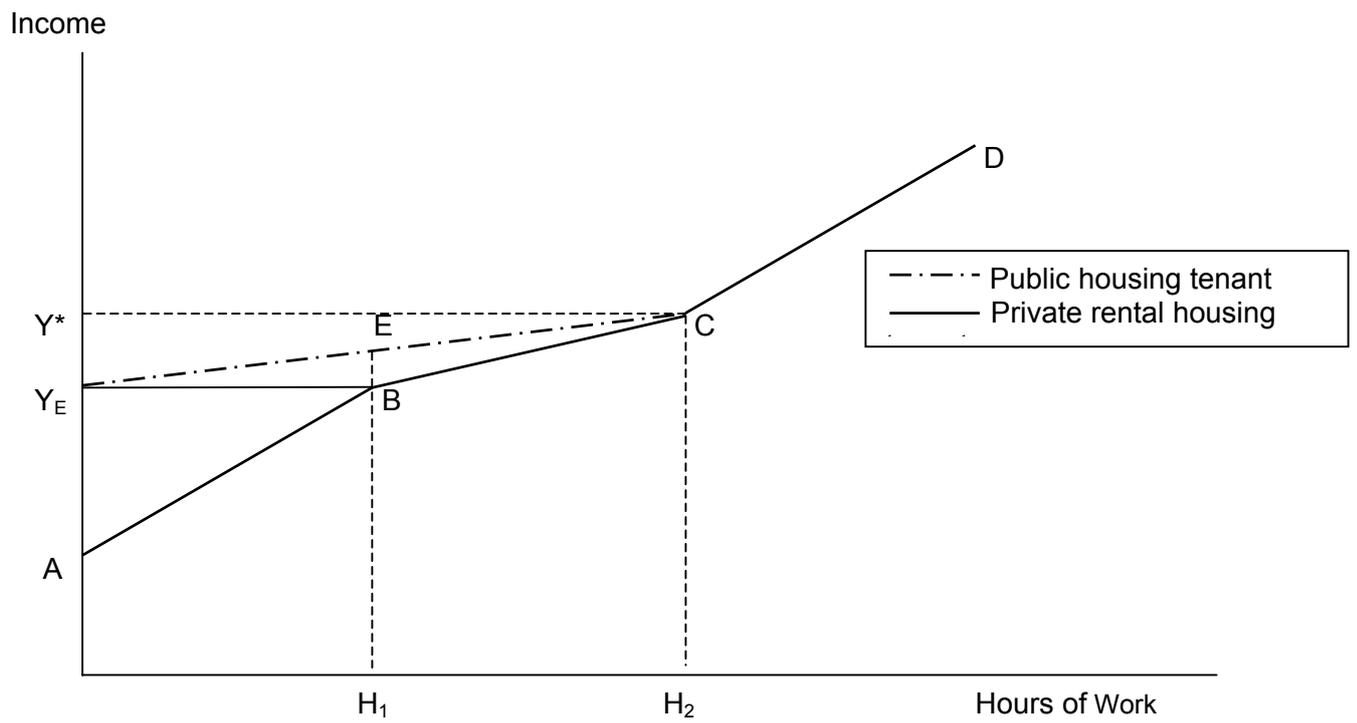
Eligible households willing to wait are admitted onto public housing waiting lists and are subject to 'up and out' rules that are the source of a 'welfare lock' (Stiglitz, 2000). Public housing authorities enforce income eligibility rules to ensure that progression to the top of waiting lists is targeted on households with $Y \leq Y_E$. Applicants accepting offers of work yielding $Y > Y_E$ will become ineligible and lose their place on the waiting list. The application of such up and out rules creates a 'notch' at H_1 (equal to EB in figure 2.1) that deters acceptance of offers of work at $H > H_1$, and is then the source of welfare locks.

The relationship between public housing subsidies and the supply of labour is not straightforward enough to be analysed in a standard neo-classical economics choice framework that ignores selection effects and welfare locks. On the other hand, there are sound reasons for expecting employment effects that are grounded in choice theory. This makes public housing subsidies and their relationship to employment a challenging and interesting one to study.

¹⁴ For convenience the public housing subsidy is assumed to be withdrawn once income reaches Y_e and becomes zero at H_2Y^* , and the sum of the cash transfer and public housing subsidy is assumed equal to OY_E . Private renters can be eligible for CRA and this program has been ignored in figure 2.1. Since it is typically less generous than public housing assistance (see table 2.2), its inclusion would not alter propositions based on figure 2.1.

¹⁵ Rationing can then ensure targeting on the neediest (Blackorby and Donaldson, 1988), though Newman and Harkness (2002) cite evidence that admission into public housing is unrelated to its expected benefits to the household.

Figure 2.1: Public Housing and Work Incentives



3 HOUSING TENURE AND EMPLOYMENT PARTICIPATION 1982-2002

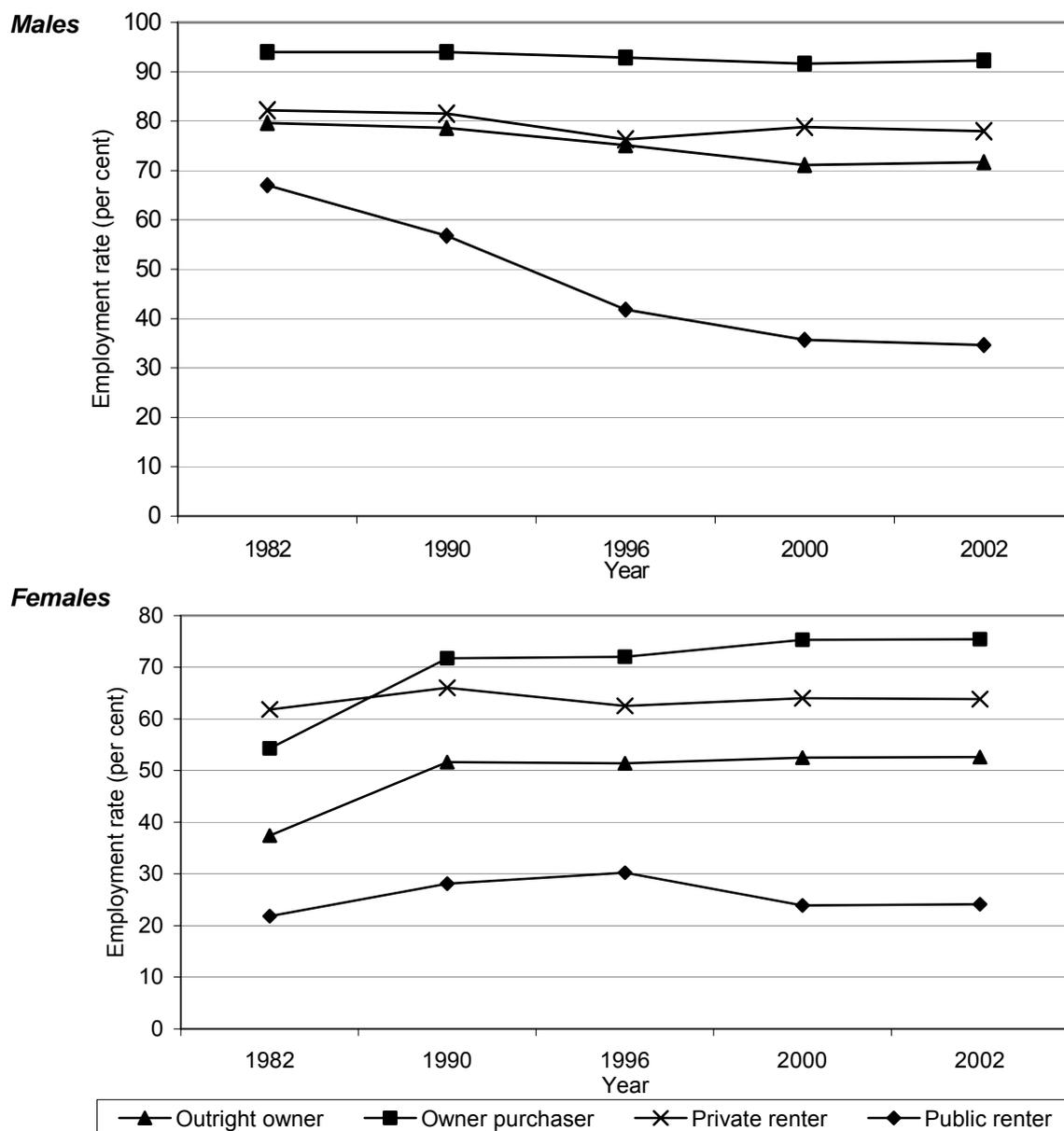
How has employment been distributed across households in different housing tenures and how has it changed over the timeframe 1982-2002? Figure 3.1 documents the longer run trends in employment participation and compares male and female public housing tenants with male and female private renters and home owners. The data in figure 3.1 show that female and male homeowners in 2002 are more likely to be employed than private renters who in turn have much better employment outcomes than public housing tenants. In 2002 more than nine out of ten working age males purchasing their home were employed. But in public housing only just over one third has jobs. Among females a similar contrasting outcome is apparent; about three quarters of working age females purchasing their homes has jobs but only one quarter of working age female public housing tenants has jobs¹⁶.

Also apparent from figure 3.1 is deterioration in the relative employment outcomes in public housing. Back in 1982 the employment rate differential between males (females) who are owner purchasers and public housing tenants was 27 percentage points (33 percentage points). The employment gap widened to 58 percentage points (51 percentage points) for males (females) in 2002, because employment rates among male public renters fell markedly, while female public renters' employment participation rates failed to match large increases among female owner purchasers¹⁷.

¹⁶ Note that among male and female homeowners employment rates are much higher for working age individuals belonging to owner purchaser households.

¹⁷ Similar trends are apparent in Britain where Wadsworth (1998, table 2.1) has profiled employment performance by housing tenure over the timeframe 1979-1995. The divergence in female employment rates by tenure is even wider in Britain, with employment participation falling by 18 percentage points for women in public housing, but increasing by 14 points among female homeowners over this time period.

Figure 3.1: Employment rate^a of working age persons^b, by gender and housing tenure^c 1982-2002, per cent



Source: Authors' own calculations from 1982 SIHC, 1990 SIHC, 1996-97 SIHC, 2000-01 SIHC and 2002-03 SIHC

Notes:

- The employment participation rate is the percentage of working age persons who are employed full-time or part-time. Trends very similar to the employment participation rate are observed for the economic participation rate (that includes those studying full-time) with the latter typically a couple of percentage points higher. Estimates are available from the authors on request.
- There are 25,861, 24,366, 11,534, 10,266 and 15,039 working age persons in the 1982, 1990, 1996, 2000 and 2002 samples, respectively.
- The working age sample comprises outright owners, owner purchasers, private renters, public renters and rent-free persons. Outright owners are persons who own their home outright; owner purchasers are owners who are still paying off their mortgage; private renters are persons renting from any landlord apart from a state housing authority; public renters are persons renting from a state housing authority; rent-free persons are persons who neither own nor pay rent. The rent-free are not included in figure 3.1.

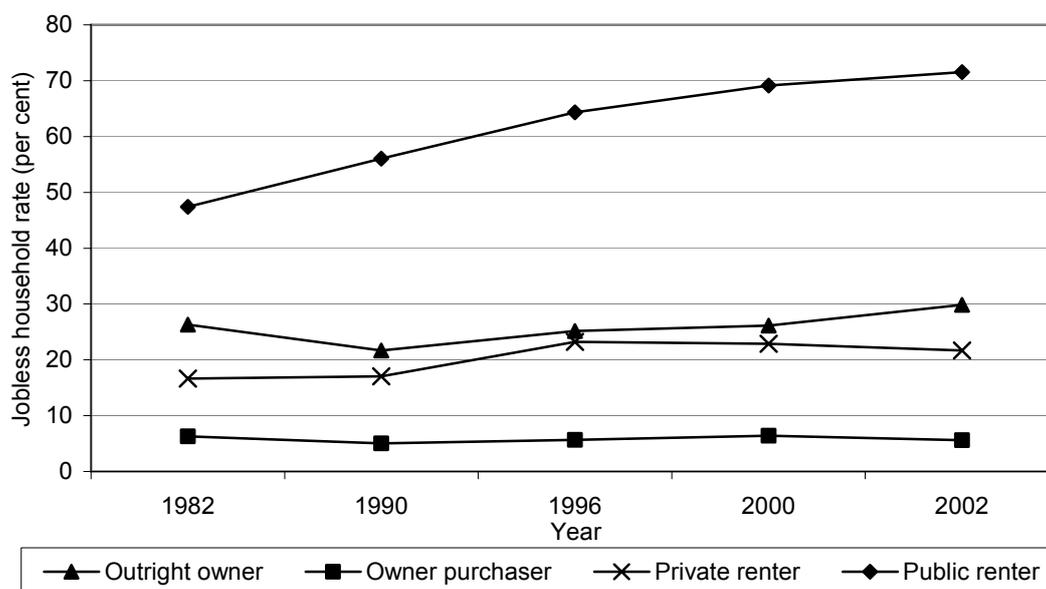
Aggregate individual based measures of employment rates have increased from 67% in 1982 to 72% in 2002, yet the jobless household rate has also increased from 17% to 20% over the same period¹⁸. These apparently discordant employment patterns have been observed in Britain as well as Australia (Gregg and Wadsworth, 2000). Joblessness in households, and particularly those with children, is a serious concern because of potentially negative impacts on these children (Gregory, 1999; Dawkins, Gregg and Scutella, 2001). There are demographic drivers, most prominent being the increasing incidence of lone parent and single person households, but Dawkins, Gregg and Scutella (2005) estimate that over the timeframe 1982-2000 only 20% of the increase in rates of joblessness is due to demographic shifts.

Figure 3.2 documents trends in the rate of jobless households by housing tenure for the period 1982-2002. The data in figure 3.2 reveal that back in 1982 just under one-half of public housing households were jobless, but this increased to more than two thirds (71%) of households by 2002. The rate of jobless households is relatively low at 6% of owner purchaser households, but reaches 22% of private rental households and an even higher 30% of outright owner households. There is then a very uneven distribution of work across households by housing tenure¹⁹.

¹⁸ Dawkins, Gregg and Scutella (2002) find that the percentage of working age households that are jobless increased from 12.7% to 16.3% between 1982 and 1997. Our estimates show the same trend but are slightly higher in each year. Our definition differs from Dawkins et. al. (2002) in that we define a female aged under the minimum Age Pension age as being of working age, but Dawkins et. al. (2002) defines a female aged 15-59 as being of working age. The minimum Age Pension age varies across the years for females.

¹⁹ There is a similar polarisation with respect to the rate of job rich households-that is households where all working age adults are employed. In 2002 job rich households as a percentage of all households in a housing tenure were; 74% in the owner purchaser tenure; 64% in the private rental tenure; 53% in the outright ownership tenure and 22% in the public housing rental tenure.

Figure 3.2: Percentage of working age households that are jobless, by household housing tenure, 1982-2002^a



Source: Authors' own calculations from 1982 SIHC, 1990 SIHC, 1996-97 SIHC, 2000-01 SIHC and 2002-03 SIHC

Note:

- a. Working age households are households in which there is at least one working age person. Both single-income unit households and group (or multi-income unit) households are included. A working age person is defined as a person at least 15 years of age but under the minimum Age Pension age and not in full-time study. The minimum Age Pension age for males is 65 years. The minimum Age Pension age for females was 60, 60, 60.5, 61.5 and 62 years in 1982, 1990, 1996, 2000 and 2002 respectively. As age is reported in whole figures in the SIHC, it is not possible to tell whether a female is aged 60.5 or 61.5 in 1996 and 2000 respectively. Hence, it is assumed that females in the 1996-97 (2000-01) SIHC aged 60 (61) who report receipt of the Age Pension are actually aged 60.5 (61.5) years old. There are 12,808, 12,447, 6,082, 5,635, 8418 working age households surveyed in the 1982 SIHC, 1990 SIHC, 1996-97 SIHC, 2000-01 SIHC and 2002-03 SIHC respectively. Jobless households are working age households in which no working age persons are employed.

Once again there is deterioration in relative jobless rate outcomes in public housing. In 1982 the jobless rate differential between owner purchaser and public housing households was 46 percentage points. In 2002 the jobless rate gap had widened to 64 percentage points, and it also widened with respect to households in private renting and households in outright ownership²⁰. Public housing jobless rates have continued to increase through the 1990s despite generally buoyant labour market conditions. Jobless rates among households purchasing or privately renting their home decline from 1996 onwards in the case of private renters, and from 2000 onwards in the case of purchaser households²¹.

How does the socio-economic and demographic profile of working age households in public housing compare with the rest of the 2002 working age population, and how has it changed since 1982? The data in table 3.1 show that the working age population in public housing

²⁰ Jobless rates among outright owners are more than four times the jobless rates among owner purchaser households in 2002. Analysis of this differential is outside the scope of our paper. This large and growing gap deserves attention.

²¹ Outright owner households are an exception in the private housing sector, see figure 3.2.

has a female gender orientation, that is somewhat older than other tenures and much less well qualified, with 74% of public housing tenants lacking post-school qualifications as compared to 45% of homeowners. Differences in demographic profile are most evident in relation to income unit type; sole parents now comprise more than one quarter of public housing tenants, but 3% of homeowners. Only 36% of tenants are married, and an even lower 20% are married and have children. The comparable figures for homeowners are 84% and 44%. Finally public renters are less likely to live in capital cities, and there are high rates of disability support pension (DSP) receipt among public housing tenants; a take up rate of 27% among public housing tenants is more than six times the 4% rate among homeowners²².

Since 1982 the role of public housing has changed from a tenure offering working families housing opportunities to a residual sector that targets housing assistance on those with the greatest need. Back in 1982 a majority of working age tenants belonged to families with children, even more so than homeowners, their chances of a capital city location were little different from that of private renters and homeowners, and their qualification profile was not far out of line with that of private renters. The percentage of public housing tenants with no post-school qualifications has remained constant at roughly three-quarters of the public housing population over the period 1982-2002, whereas the educational qualifications of the working age population as a whole has increased significantly. There has then been a marked change with working age public housing renters increasingly drawn from the ranks of those whose employment prospects are relatively poor. But does this explain all or even most of the employment differential documented in figures 3.1 and 3.2?

²² Differences with respect to country of birth are unremarkable. The profile of private renters is typically intermediate between that of public renters and homeowners.

Table 3.1: Profile of working age persons, by housing tenure, 1982-2002, per cent by column^a

	Owner		Private renter		Public renter		All	
	1982	2002	1982	2002	1982	2002	1982	2002
<i>Gender</i>								
Male	47.7	48.0	53.8	51.0	40.1	38.2	49.6	49.1
Female	52.3	52.0	46.2	49.0	59.9	61.8	50.4	50.9
<i>Age band</i>								
15-24	3.9	1.9	47.8	26.1	10.2	5.4	20.6	12.5
25-34	26.0	17.6	30.0	33.8	33.8	21.8	27.1	22.6
35-44	27.9	28.6	11.3	21.2	21.7	27.2	21.5	25.2
45-54	21.2	29.2	6.3	12.2	17.8	23.5	15.8	22.7
55-64	21.0	22.6	4.6	6.7	16.6	22.2	15.0	17.0
<i>Highest post-school educational qualification</i>								
Bachelor degree or higher	6.9	19.3	6.1	17.9	1.0	3.5	6.3	17.9
Other ^b	35.9	35.7	28.0	29.8	23.5	22.7	32.2	33.0
No post-school qualification	57.2	45.0	65.9	52.2	75.6	73.6	61.5	49.0
<i>Income unit type</i>								
Couple with dependent children	55.2	44.1	21.4	20.0	51.0	20.3	41.9	33.9
Couple with no dependent children	34.5	39.5	13.6	20.3	22.2	16.0	26.1	30.8
Sole parent	1.9	3.2	4.6	9.4	15.6	26.4	3.3	5.7
Single	8.4	13.3	60.4	50.4	11.2	37.2	28.7	29.5
<i>Married/de facto</i>	89.9	83.5	35.5	40.2	73.5	36.3	68.3	64.7
<i>Number of dependent children</i>								
Zero	42.9	52.8	74.0	70.6	33.4	53.3	54.8	60.4
One	17.5	15.8	10.7	13.1	18.8	18.4	14.7	14.4
Two	24.6	21.0	9.5	9.9	27.1	13.4	18.8	16.4
Three	11.5	8.1	4.2	4.7	13.2	8.8	8.7	6.7
Four or more	3.5	2.3	1.6	1.7	7.6	6.1	3.0	2.2

	Owner		Private renter		Public renter		All	
	1982	2002	1982	2002	1982	2002	1982	2002
<i>Region^c</i>								
Capital city	60.0	56.7	60.9	59.6	58.0	46.0	59.2	57.4
Rest of state	40.0	43.3	39.1	40.4	42.0	54.0	40.8	42.6
<i>Country of birth: Australia</i>	71.0	73.0	75.8	73.1	77.9	75.8	70.0	73.8
<i>DSP recipient</i>	1.7	3.7	22.2	4.8	2.1	26.8	7.5	4.9
<i>Population ('000s)^c</i>	5,384	7,234	2,638	3,368	331	358	9,247	12,088

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Notes:

- a. Refer to figure 3.1 for sample numbers in each survey. Refer to the notes to table 2.1 and figure 3.1 for definitions of working age persons and housing tenure respectively.
- b. Other qualifications include other post-school qualifications such as undergraduate diploma, associate diploma, skilled vocational qualifications and basic vocational qualifications.
- c. Capital cities include Sydney, Melbourne, Brisbane, Adelaide and Perth. Rest of state includes the rest of New South Wales, rest of Victoria, rest of Queensland, rest of South Australia, rest of Western Australia, Tasmania, Northern Territory and Australian Capital Territory.

4 MODELLING EMPLOYMENT PARTICIPATION AND JOBLESS HOUSEHOLDS 1982-2002

We follow Wadsworth (1998) and estimate male and female logit models of employment participation for each of the SIHC survey years 1982, 1990, 1996, 2000 and 2002. The following employment participation function is estimated for partnered and unpartnered males separately and partnered and unpartnered females separately:

$$P_{ki}(E) = f(X_{ki}, X_{kj}, u_{ki}) \quad (1)$$

Where $P_{ki}(E)$ is the probability that individual i belonging to household k is employed, X_{ki} is a vector of i 's socio-economic and demographic characteristics and X_{kj} is a vector of adult partner j 's socio-economic and demographic characteristics. The vector X_{kj} is null when person i is unpartnered; u_{ki} is the disturbance term. Estimation of equation (1) allows the labour force status and other characteristics of partner j to shape the employment participation outcomes of i . The X_{ki} and X_{kj} vectors and coefficient estimates are listed in appendix C tables C1 to C10.

Table 4.1 presents the actual employment participation rates alongside a set of adjusted measures from the logit model predictions of the probability of being observed in employment. The adjusted measures are conditional on the vector X_{ki} (and X_{kj} if partnered) of variables that appear in table 3.1, and are the employment rates if all characteristics except housing tenure are held constant. The adjusted employment rates control for the fact that public housing tenants are less qualified, and more likely to be disabled or sole parents, all characteristics making it more likely for public housing tenants to be unemployed or not in the labour force. Inter-tenure differentials in adjusted rates assume that the processes determining employment participation are the same regardless of tenure, and the adjusted employment rate gaps are then attributable to differences in *measurable* inter-tenure characteristics.

The relative deterioration in male public renters' employment performance over the timeframe 1982-2002 is anticipated by the adjusted employment rates. Consider male owner purchasers back in 1982, with adjusted employment participation rates that are 20 percentage points greater than male tenants. This gap widens dramatically to 52 percentage points in 2002, suggesting that by 2002 state housing authorities housed males that are much less employable because of inferior human capital and other significant impediments to employment. The trend in the adjusted employment rates tracks that of the actual rates quite closely for male public housing tenants, though adjusted rates remain higher than actual rates.

The findings for female public renters' employment rates are different. Firstly, the adjusted employment rates suggest that females housed by state housing authorities in 2002 are more employable than in 1982. The findings for males in public housing are in stark contrast. Secondly, the improvement in employment prospects is not translated into an actual improvement in the employment performance of females in public housing. The trend in the adjusted employment rates do not closely track those of the actual rates; actual employment rates remain flat for female public housing tenants, yet the adjusted rates increase by 16 percentage points, which once again contrast with the findings for male public housing tenants. The 37 percentage point gap in adjusted female employment rates between public

tenants and purchasers is much lower than the 52 percentage point gap between male adjusted employment rates.

Table 4.1: Actual and adjusted employment participation rates of working age persons, by gender and housing tenure, 1982-2002^a

Housing tenure	Actual employment participation rate						Adjusted employment participation rate ^b					
	1982	1990	1996	2000	2002	% point change	1982	1990	1996	2000	2002	% point change
<i>Males</i>												
Outright owner	79.6	78.7	75.2	71.4	71.8	-7.8	90.8	88.2	84.3	81.9	83.1	-7.7
Owner purchaser	94.0	94.0	93.1	92.2	92.5	-1.5	97.3	97.4	96.7	96.1	96.6	-0.7
Private renter	83.1	83.0	79.4	81.7	80.6	-2.5	84.2	86.3	85.0	87.9	89.2	5.0
Public renter	66.9	57.4	43.3	36.0	34.5	-32.4	77.5	68.3	51.8	39.2	45.0	-32.5
All	84.6	83.3	81.3	81.5	81.7	-2.9	89.7	89.5	87.6	88.5	89.6	0.0
<i>Females</i>												
Outright owner	43.4	58.7	57.5	57.4	57.2	13.8	45.0	68.1	65.7	68.2	66.4	21.3
Owner purchaser	55.5	72.9	72.4	76.0	75.9	20.4	56.7	80.8	78.4	81.7	83.5	26.9
Private renter	63.3	68.6	65.1	67.1	65.8	2.5	69.7	77.3	71.9	73.6	73.1	3.4
Public renter	23.6	30.2	33.1	24.0	25.1	1.5	30.0	44.4	34.6	41.2	46.3	16.3
All	53.8	64.5	64.2	66.1	66.2	12.4	57.7	74.2	71.4	74.4	75.1	17.4

Source: Authors' own calculations from 1982 SIHC, 1990 SIHC, 1996-97 SIHC, 2000-01 SIHC and 2002-03 SIHC

Notes:

- a. For the purposes of this table, a working age person is defined as a person under the minimum Age Pension age who is not in full-time study. Refer to notes to figure 3.2 for the minimum Age Pension age in each survey year.
- b. A logit model has been estimated with right hand side variables being characteristics that affect human capital, such as age, educational qualifications, marital status, sole parent status, number of dependent children, recent unemployment history, DSP recipient status and full-time study status. Refer to tables C1 to C10 in the appendix for details. A person is assigned to the adjusted employment category if the predicted probability of employment from the logit regression is greater than 50%.

Tables 4.2a and 4.2b present the same information as table 4.1 but for jobless households by housing tenure, and with couple households²³ and single adult person households separately identified. Couple households (couples) refer to households in which there is one couple income unit only. Single adult person households (singles) refer to households comprising a single person or sole parent only²⁴. The adjusted jobless rates are arrived at by assigning a household as jobless if all the working age adults in the household are predicted to be unemployed or economically inactive, using the predicted probabilities obtained from the logit model specified in equation (1).

As is to be expected actual jobless rates among singles are much higher than among couples, though the gap in actual jobless rates remains stable over the 1982-2002 timeframe. The demographic trend toward growing numbers of singles is then an important factor explaining the persistence of high rates of jobless households. When we examine adjusted jobless rates we find that logit model estimates predict a fall in jobless rates among singles, but a slight increase among couples, which contrasts with the stability in actual jobless rates. Actual jobless rates would have fallen among couples but for a 17 percentage point increase among couples in public housing. This increase in actual rates is nearly double the 10 percentage point increase in their adjusted rates.

Among singles there is a substantially different pattern to jobless rates by gender and housing tenure. Actual jobless rates are falling among all single females but an increasing trend is evident among all single males, and both trends are anticipated by adjusted rates. These adjusted rates predict a sharp 20 percentage point decline in jobless rates among female singles in public housing, but actual jobless rates remain stuck at a very high 78%.²⁵ On the other hand single males in public housing are much less employable today than twenty years ago, as reflected in a 19 percentage point increase in adjusted jobless rates. Trends in actual single male jobless rates are better than this, the actual rates increasing by only 13 percentage points.

In summary public renters actual employment participation rates have compared unfavourably with those evident among households residing in other housing tenures, and have worsened over time. Among male public renters this appears to be largely due to relative deterioration in levels of human capital and changes in demographic and socio-economic characteristics that have made this group less employable. On the other hand female public renters have become more employable, yet their actual employment participation has not responded to this improvement in labour market prospects. What might explain these findings? The strong growth

²³ There are 282 and 71 public housing couple households in 1982 and 2002 respectively. Hence, results should be interpreted with caution.

²⁴ Group households comprising single persons that are unrelated are excluded from the couple household and single person household categories analysed in table 4.2, though they are included in the sample used to estimate the logit model in equation (1), and treated in the same way as single person households with the X_{kj} vector null. There are 1,226 (675) group households in the working age sample of 12,808 (8,418) households in 1982 (2002).

²⁵ There are large declines in the adjusted jobless rates among female singles in other housing tenures. These declines are accompanied by large declines in actual rates, and by 2002 actual and adjusted rates are very similar for these female singles. In contrast actual and adjusted 2002 rates differ by 30 percentage points for female singles in public housing.

in the number of sole parents has been emphasised as an important source of increasing joblessness among Australian households (Gregory, 1999), and could explain the poor employment profile among single females in public housing²⁶. While the marginal effects estimates from our logit models show that the sole parent employment penalty has declined somewhat (see appendix C tables C2 and C10), the percentage of working age sole parent females in public housing has increased from 26% to 39% between 1982 and 2002, and sole parents now comprise 26% of all public housing tenants. In other tenures sole parents are just 6% of all working age households (see table 3.1). The actual jobless rates for female sole parents living in public housing have remained more or less constant at the very high levels of 84% in 1982 and 81% in 2002. In comparison the actual jobless rates for female sole parents in private rental housing (owner occupied housing) has fallen by 14 (22) percentage points.

Our findings in table 4.2a show that there has also been an increase in the incidence of joblessness among couples in two housing tenures, outright ownership and public housing. Among couples in these tenures a growing tendency to partner with those who share common traits (assortative mating) could be a source of employment polarisation, particularly if the demand for labour has shifted with respect to a trait associated with assortative mating (Dawkins et. al., 2005). State housing authorities who make increasingly 'adverse selections' from lengthening waiting lists may contribute by concentrating the poor in jobless ghettos (Wadsworth, 1998).

²⁶ Gregory (1999, p5) estimates that two-thirds of the 229,000 1989-1998 increase in jobless *families* is attributable to sole parent families.

Table 4.2: Actual and adjusted jobless household rates of working age households, by household type and housing tenure, 1982-2002^a

(a) Couple households

Housing tenure	Actual jobless household rate						Adjusted jobless household rate ^b					
	1982	1990	1996	2000	2002	% point change 1982-2002	1982	1990	1996	2000	2002	% point change 1982-2002
Outright owner	22.0	17.9	21.9	21.9	25.2	3.2	13.5	13.1	16.8	17.6	20.1	6.6
Owner purchaser	4.4	3.3	3.4	3.8	3.3	-1.1	2.8	2.2	2.6	2.8	2.8	0.0
Private renter	10.5	10.5	12.9	11.4	10.3	-0.2	5.0	8.1	10.5	8.7	4.9	-0.2
Public renter	30.9	35.3	39.8	33.3	47.9	17.0	20.9	26.4	34.4	40.0	31.0	10.1
All	11.5	11.1	12.6	11.2	11.6	0.1	7.1	8.1	9.9	9.1	8.7	1.6

(b) Single adult person households

Housing tenure	Actual jobless household rate						Adjusted jobless household rate ^b					
	1982	1990	1996	2000	2002	% point change 1982-2002	1982	1990	1996	2000	2002	% point change 1982-2002
<i>Males</i>												
Outright owner	33.1	33.9	34.3	41.1	39.7	6.6	19.8	20.3	21.7	27.4	21.9	2.1
Owner purchaser	7.5	10.7	14.1	12.1	12.7	5.3	4.0	3.9	6.7	8.7	4.9	0.9
Private renter	16.8	21.3	23.1	25.5	22.3	5.5	15.6	12.9	20.5	17.4	14.0	-1.5
Public renter	63.2	71.2	85.7	92.7	76.5	13.3	52.6	50.0	85.7	78.0	72.5	19.9
All	21.7	26.3	27.6	29.4	29.2	7.5	16.2	15.7	21.6	21.3	18.7	2.5

Housing tenure	Actual jobless household rate						Adjusted jobless household rate ^b					
	1982	1990	1996	2000	2002	% point change 1982-2002	1982	1990	1996	2000	2002	% point change 1982-2002
<i>Females</i>												
Outright owner	59.9	42.9	42.1	34.8	42.6	-17.3	65.0	44.9	47.4	34.2	40.9	-24.1
Owner purchaser	33.9	17.5	15.7	18.8	13.0	-20.9	44.5	23.3	22.0	22.3	15.5	-29.0
Private renter	32.0	31.5	43.0	38.5	36.4	4.4	39.0	32.3	34.5	36.0	35.4	-3.6
Public renter	79.0	76.5	75.6	78.6	78.4	-0.6	76.8	65.0	71.5	61.1	56.7	-20.1
All	43.1	40.6	41.7	38.9	37.1	-6.1	48.3	39.8	40.8	35.9	34.0	-14.3

Source: Authors' own calculations from 1982 SIHC, 1990 SIHC, 1996-97 SIHC, 2000-01 SIHC and 2002-03 SIHC

Notes:

- a. Refer to figure 3.2 for definitions of jobless households and working age households. Couple households refer to households in which there is one couple income unit only. Single person households refer to households comprising of a single person or sole parent only. Group households are excluded.
- b. A logit model has been estimated with right hand side variables being characteristics that affect human capital, such as age, educational qualifications, marital status, sole parent status, number of dependent children, recent unemployment history, DSP recipient status and full-time study status. The adjusted jobless rates are arrived at by assigning a household as jobless if all the working age adults in the household have a less than 50% chance of being employed.

Assortative mating among couples in public housing relative to other tenures is explored using partners' permanent earnings estimates (see table 4.3)²⁷. The permanent earnings of partners will reflect educational attainment, experience, skills and birthplace. The absolute difference between partners' permanent earnings and measures of their statistical association can then be interpreted as proxies for assortative mating, since they show whether there is a tendency to partner with those sharing common levels of education, experience, health, and birthplace.

With improved levels of female schooling and qualifications, it has become more typical for Australian males to partner with females having a similar earnings potential. The average (absolute) difference (in 1982 dollars) in partners' real permanent earnings has declined by \$1,525 between 1982 and 2002 (see table 4.3). The increasingly homogenous earnings capacity of partners is nowhere more apparent than among couples in public housing, where the difference has narrowed by \$2,906. Spearman's correlation coefficient measures association between the rank-orders as determined by (in this case) permanent earnings, and confirms stronger positive assortative mating among Australian couples. This is particularly the case among couples in private renting, where in 2002 the Spearman correlation coefficient is more than 150% higher than its 1982 level. Back in 1982 partners in public housing were more likely to share similar human capital traits than couples generally, but by 2002 Spearman's correlation coefficient is insignificantly different and had fallen below the level typical among all Australian couples²⁸. The evidence on assortative mating is inconclusive.

Table 4.3: Measures of assortative mating, by housing tenure

Housing tenure	Mean absolute difference in partners' real annual permanent earnings (1982 prices)		Change in absolute difference 1982-2002 (1982 prices)	Spearman's rho	
	1982	2002		1982	2002
Outright owner	9,638	7,900	-1,738	0.237*	0.415*
Owner purchaser	10,622	9,234	-1,388	0.160*	0.225*
Private renter	9,628	7,994	-1,634	0.139*	0.359*
Public renter	9,937	7,031	-2,906	0.287*	0.303*
All	10,121	8,596	-1,525	0.195*	0.320*

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Note: * Statistically significant at 1% level

In the United Kingdom Wadsworth (1998) concludes that partnered females in public housing are not sharing in the improved economic fortunes of women because of low-income traps that are due to the presence of non-working male partners. This phenomenon could be symmetric; in Australia Miller and Volker (1987) find that the predicted

²⁷ Permanent earnings are set equal to the predictions from wage equations that have been estimated using the familiar two stage estimation procedure to correct for selection bias. For details see appendix D.

²⁸ The difference is statistically insignificant at the 5% level; differences in rho for the other tenures are statistically significant at the 5% level. The males that females in public housing marry typically have lower earnings capacity in 2002 as compared to their counterparts in 1982, mean real permanent earnings falling from \$15,656 in 1982 to \$13,780 in 2002 (at 1982 prices). But the relationship between females' relative position in the permanent earnings distribution and the relative position of the males they are married to remains unchanged.

unemployment rate of a married male with an unemployed partner is 33 percentage points higher than for other married males. Miller (1997, p17) suggests that peer group effects could be partly responsible. Unemployed adults can reinforce negative behaviour if concentrated in the same household, particularly if employment is typically found through informal networks involving employed family members.

Table 4.4 lists marginal effect estimates for partners' traits as obtained from the 1982 and 2002 logit models. It is noticeable that having a partner at or beyond retirement age has a large negative impact that has increased over the 1982-2002 timeframe. Working age females are more likely to have such partners than working age males²⁹. The presence of a working age partner that is economically inactive or has a recent unemployment history is the source of an employment penalty for their partner that is typically more adverse for the females in couple families. Living with a partner in receipt of DSP also has a large negative impact on female employment outcomes³⁰. Back in 1982 38% of partnered females in public housing shared a household with an unemployed, not in the labour force or disabled male, but this climbed to 74% in 2002. But for partnered males in public housing the percentage with unemployed, disabled or not in the labour force female partners has remained high and relatively stable, at 81% in 1982 and 86% in 2002.

It seems that females partnered by males eligible for ISPs due to their economic inactivity or disability status, are much less likely to be employed. Furthermore, it is increasingly the case that partnered females in public housing reside with males that are eligible for ISP. But the impact of a female's labour force status and hence ISP eligibility on a male partner's employment participation is generally smaller. This is evidence consistent with the hypothesis that partnered females in public housing are hampered by low-income traps due to the presence of non-working male partners.

²⁹ In 2002 (1982), 6% (5%) of working age partnered females have partners aged 65 or over, as compared to 0.5% (0.8%) of working age partnered males.

³⁰ The negative impact of a partner's economic inactivity, unemployment status and DSP eligibility has generally worsened over the time frame for both males and females. A Chi-square test of the null hypothesis that all partner characteristic coefficients are equal in 1982 and 2002 is rejected in the partnered female regression only. The test statistic is defined as $X = 2(L_1 - L_0)$, where L_1 is the log-likelihood for a logit where the partner variables are interacted with a 2002 dummy that equals 1 if the sample is from 2002 and 0 otherwise, and L_0 is the log-likelihood for a logit which excludes the interaction terms. The test statistic is distributed $\chi^2(k)$ where k is the number of number of restrictions (number of interaction terms). For details refer to appendix E.

Table 4.4: Marginal effect estimates for partnered persons, by gender, 1982-2002, percentage points

Partner's characteristics	Impact on male employment participation			Impact on female employment participation		
	1982	2002	ΔM^a	1982	2002	ΔM^a
<i>Age band</i>						
25-34	-1.6	-0.2	1.4	0.3	-6.5	-6.8
35-44	-0.5	-1.0	-0.5	4.3	-5.3	-9.6
45-54	0.6	-2.5	-3.1	0.0	-5.5	-5.5
55-64	-6.5	-11.7	-5.2	-6.0	-14.5	-8.5
65 or over	-21.7	-54.6	-32.9	-11.4	-34.4	-23.0
<i>Country of birth</i>						
Main English-speaking countries	-0.8	1.3	2.1	5.7	-0.9	-6.6
Other	-0.6	-0.8	-0.2	3.5	-1.4	-4.9
<i>Labour force status and history</i>						
Employed part-time	1.4	1.8	0.4	7.2	1.2	-6.0
Unemployed	-13.2	-17.2	-4.0	-20.3	-12.4	7.9
Not in the labour force	-5.8	-8.6	-2.8	-28.5	-32.1	-3.6
Recent unemployment history	-13.6	-13.0	0.6	-23.7	-19.1	4.6
<i>Highest post-school qualification</i>						
Bachelor degree or higher	-0.2	0.6	0.8	-1.5	-2.7	-1.2
Other post-school qualifications	-0.5	0.1	0.6	-1.8	1.2	3.0
<i>Other characteristics</i>						
DSP recipient	-1.5	-17.2	-15.7	-16.6	-12.8	3.8
Full-time study	-28.9	-2.8	26.1	0.7	3.7	3.0

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Note:

- a. Marginal effects in 2002 minus marginal effects in 1982. The marginal effect estimates show the percentage point change in the probability that partnered males and females are employed given a unit change in one of their partner's traits.

5 LOW INCOME TRAPS, GENDER AND PUBLIC HOUSING TENANTS³¹

In this section we ask whether the inferior employment participation rates among public renters and females in particular, are correlated with work incentive measures. To quantify the work incentives facing the unemployed and not in the labour force (the unwaged), we measure replacement rates using working age Australians who were unwaged in 1982 and 2002. The replacement rate is the ratio of net income when employed to net income when unwaged. The net income measure includes imputed ISP payments and deducts imputed tax liabilities from taxable income. Details concerning tax provisions and ISP parameters that are allowed for in replacement rate calculations can be found in appendix B. Earnings estimates are obtained from wage equations that have been estimated using the 1982 and 2002 SIHC samples of male and female employees³². Net income includes other sources of private income such as interest and dividends.

The replacement rates will be a function of wages, other sources of private income, taxation arrangements and the parameters defining ISP eligibility and entitlements. In table 5.1 we begin by examining the actual real wages received by working age adults in 1982 and 2002, broken down by tenure of residence. There has been real wage growth in both full-time (20%) and part-time (16%) jobs. But the jobs held by public renters have lower real wages in 2002, with full-time (part-time) jobs paying real wages 10% (9%) lower than in 1982. The inferior outcome for public renters is apparent for females and males. Thus, for example, females in public housing that are employed full-time have experienced an increase in real wages of 5% between 1982 and 2002 but the average growth in real wages among all full-time females has been 30%. Similarly, while females in public housing that are employed part-time have experienced an 11% decline in real wages over the timeframe, the real wage among all part-time females has increased by 21%.

These lower real wages blunt work incentives and this is aggravated if bracket creep increases the share of wages that is subject to income tax. Back in 1982 the tax free threshold was \$4,462, or 28% (67%) of the typical public renters' annual wages in full-time (part-time) employment. By 2002 the nominal tax free threshold had crept up to \$6,000, representing only 18% (43%) of the typical public renter's annual wage in full-time (part-time)

³¹ The 2002 replacement rate estimates in tables 5.2 to 5.5 and figures 5.1 to 5.3 have been reproduced using wave 3 of the HILDA Survey in appendix F. The 2002 SIHC and HILDA results show similar trends. The estimates from HILDA are drawn from financial year income estimates while the estimates from the 2002 SIHC are drawn from income estimates derived from annualised weekly income figures.

³² The wage equations have been corrected for possible selection bias and are reported in appendix D. Two replacement rate measures have been estimated. The first uses the income unit as the unit of measurement so that both numerator and denominator measure the income unit's net income, holding the employment status of the partner (if there is one) constant. The second uses the individual as the unit of measurement, so that the individual's private income (net of tax liabilities), but not their partner's, enter the numerator and denominator of the replacement ratio. We report the second of these measures; the first can be obtained from the authors on request. The patterns are similar using both measures though partnered persons generally have higher replacement rates when using the first measure because partners' private incomes cushion their financial position when unemployed or not in the labour force. This is particularly evident when the partner is employed. Details on method are reported in Wood, Ong, Dockery and Flatau (2005).

employment³³. Despite lower real wages, a higher share of public renters' wages became subject to income tax³⁴.

Table 5.1: Mean annual wage^a, employed working age persons, by employment status, 1982-2002, 1982 dollars^{bc}

Housing tenure	1982	1990	1996	2000	2002	% change
<i>Employed full-time</i>						
Outright owner	17,377	17,706	19,126	20,882	20,821	19.8
Owner purchaser	18,965	18,398	20,140	21,019	21,488	13.3
Private renter	14,217	14,505	15,494	16,770	17,693	24.4
Public renter	15,963	14,042	13,303	13,825	14,417	-9.7
All	16,359	16,415	17,822	19,033	19,618	19.9
<i>Employed part-time</i>						
Outright owner	7,143	7,526	7,616	8,266	8,350	16.9
Owner purchaser	7,438	7,486	8,110	8,291	9,598	29.0
Private renter	7,076	7,071	6,466	7,019	7,139	0.9
Public renter	6,624	5,699	5,442	6,304	6,010	-9.3
All	7,106	7,149	7,237	7,680	8,245	16.0

Source: Authors' own calculations from 1982 SIHC, 1990 SIHC, 1996-97 SIHC, 2000-01 SIHC and 2002-03 SIHC

Notes:

- Annual wage is derived from annualised current weekly wage.
- The CPI indices used to deflate nominal values into real values are: 1982=60.9; 1990=105.3; 1996=120.3; 2000=132.2; 2002=140.2
- Refer to figure 3.1 for sample numbers in each survey. Refer to the notes to table 2.1 and figure 3.1 for definitions of working age persons and housing tenure respectively.

Important changes to Australia's nexus of ISP have also been introduced over the 1982-2002 period. The net impacts on replacement rates are summarised in figure 5.1 where bar charts indicate the percentage of *unwaged working age* males and females with replacement rates in excess of 75%. Those with replacement rates in excess of 75% are caught in unemployment traps because work offers little or no financial reward³⁵. Table 5.2 presents median replacement rate estimates with a breakdown by housing tenure.

³³ The tax free threshold's real value declined by 42% over the 1982-2002 time period.

³⁴ The proportion of working age persons in the tax free bracket fell from 35% in 1982 to 20% in 2002. Among public housing tenants it fell from 54% to 38% over this timeframe. However, an offset is the reduction in the lowest bracket marginal rate from 30.67% in 1982 to 17% in 2002. Other relevant post-'82 changes to tax arrangements include the introduction of the Medicare Levy in 1984 and the low income tax offset in 1993.

³⁵ The estimates do not take work related expenses such as child care and commuting costs into account, hence the choice of 75% as the benchmark. In 2002 the average weekly fee for full-time care was \$164 per child for family day care and about \$188 per child for community and private long day care (Pople and Martin, 2003). For an income unit with one child in full-time long day care and gross annual income of \$50,000, child care fees represented approximately 23% of disposable income. Child care fees net of child care benefits for this couple are approximately 11% of disposable income (Rammohan and Whelan, 2005). According to the 2003-04 *Household Expenditure Survey* (ABS, 2005) average weekly transport costs are \$66 (\$186) for single persons (couples with dependent children) and this is 12% (17%) of the average 2002-03 disposable income of employed single persons (couples with dependent children).

Figure 5.1 shows that there was a general increase in the proportion of unwaged persons caught in unemployment traps over the 20 year period. The problem was relatively severe for females in 1982 and its severity increased more for females than males, with over 20% of unwaged females caught in unemployment traps by 2002³⁶. According to the median replacement rates in table 5.2 there was a steep increase in the typical rate for females, with the median rate reaching 62% by 2002. Female rates increased more rapidly than males because most unwaged males have partners that are unemployed or not in the labour force and thus the change in the unemployment benefit upper taper rate from 100% in 1982 to 70% by 2002 disproportionately affected men³⁷. Women will have been particularly affected by the introduction of means tested family tax benefit that replaced the family allowance that was not means tested. Finally public housing has become feminised over the time frame examined, and as we discuss below unemployment traps are more severe among tenants in this tenure.

Our principal focus here is on public renters and the evidence clearly shows that higher proportions of public renters are caught in unemployment traps, and this is again most evident among female renters. The median replacement rate for female public renters reached 76% in 2002. The increase in replacement rates for both female renters and male renters will reflect their lower expected real wages; but in addition changes to state housing authority rent setting rules mean that housing subsidy is now withdrawn more rapidly as assessable income increases (see page 5). If the link between housing subsidies and incomes were cut we estimate that median 2002 (1982) replacement rates for public renters would be 5 (4) percentage points lower. The incidence of unemployment traps would fall by a substantial 20 percentage points in 2002, but by only 8 percentage points back in 1982. If public housing tenants were charged market rents and CRA eligibility were extended to them the 2002 (1982) median replacement rate would be 8 (4) percentage points lower, and the incidence of unemployment traps would fall by 25 (2) percentage points³⁸. The much smaller impact in 1982 arises because an estimated 30% of public renters were paying market rents back then, and this declined to only 10% by 2002. In addition, CRA was a small program in 1982 with eligibility extending to only a small minority of renters (see table 2.1). Female public housing tenants' median replacement rates would remain at relatively high levels despite these changes.

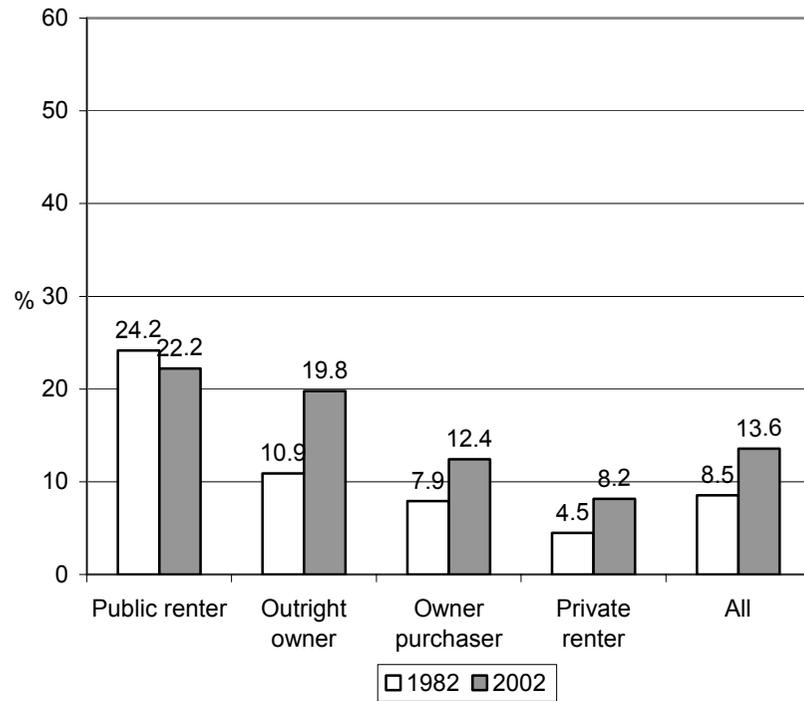
³⁶ The median replacement rate of all working age males was nearly double that of females in 1982, yet their more dispersed distribution of replacement rates was such that a larger proportion of females had replacement rates above 75%.

³⁷ 70% of unwaged working age partnered males have unwaged female partners while only 42% of unwaged working age partnered females have unwaged male partners

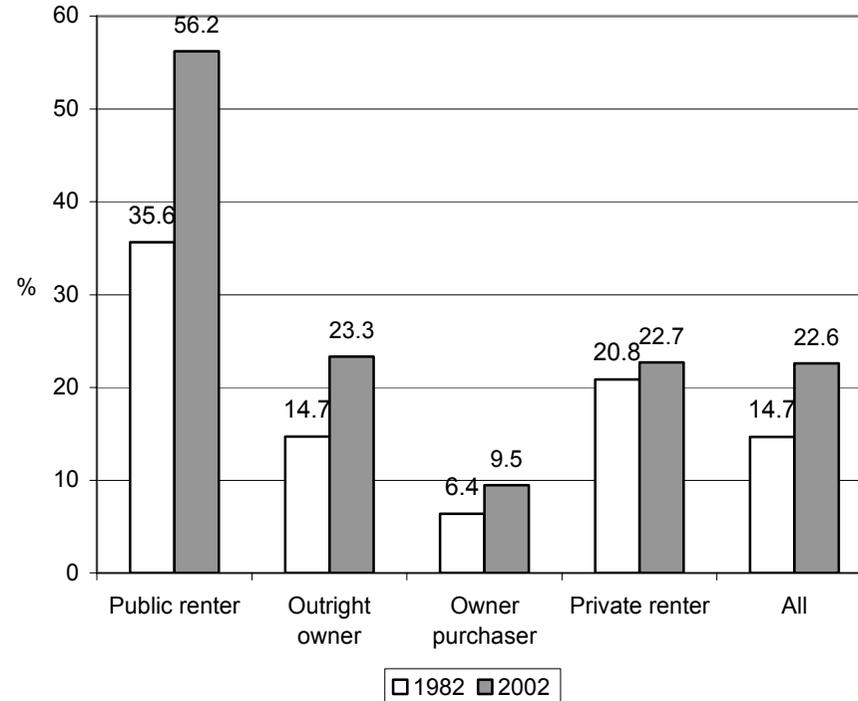
³⁸ If housing subsidy to public housing tenants were abolished/removed (and not replaced by say cash transfers) the 2002 (1982) median replacement rate would be 11 (7) percentage points lower, and the incidence of unemployment traps would fall by 29 (13) percentage points.

Figure 5.1: Percentage of unwaged working age persons with replacement rate >75%, by housing tenure and gender, 1982-2002

Males



Females



Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Table 5.2: Median replacement rates of unwaged working age persons, by housing tenure and gender, 1982-2002

	Males					Females				
	Public renter	Outright owner	Owner purchaser	Private renter	All	Public renter	Outright owner	Owner purchaser	Private renter	All
1982 median replacement rate	67.4	51.0	47.8	54.9	53.2	67.9	38.3	12.6	49.8	27.4
1982 sample	146	918	809	869	3,151	470	1,984	2,133	1,271	6,300
2002 median replacement rate	67.6	59.9	55.3	56.9	58.6	76.0	62.2	39.4	65.2	62.4
2002 sample	135	389	185	417	1,230	249	738	560	643	2,319

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

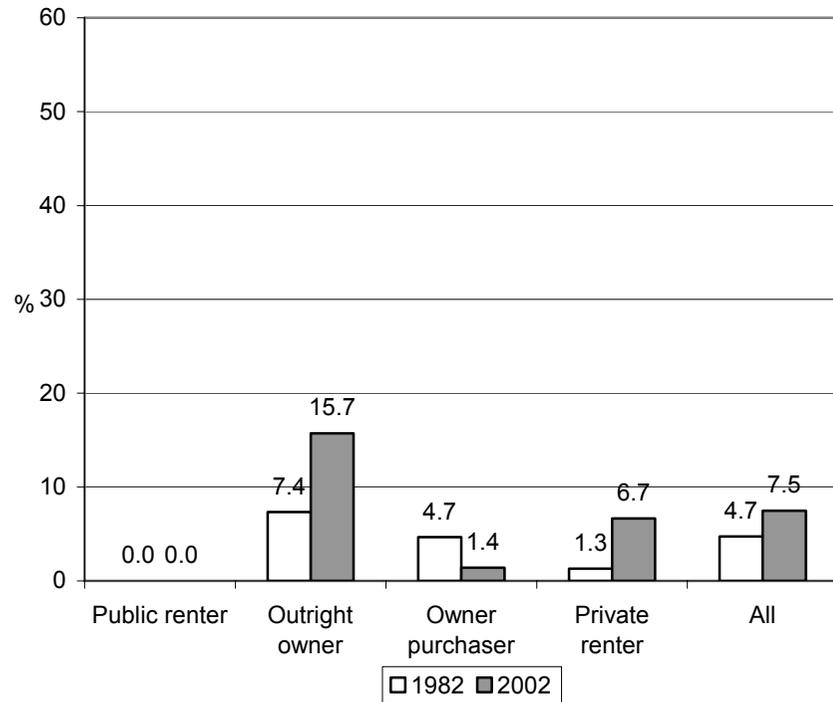
Our logit models suggest that the employment participation rate of partnered females is particularly adversely affected if their male partners were unemployed or not in the labour force. Figures 5.2a and 5.2b show the incidence of unemployment traps among partnered males and females, and as expected they demonstrate that those whose partners are unwaged are much more likely to be caught in unemployment traps³⁹. Females fare relatively poorly and female public renters in particular, with over 50% caught in unemployment traps by 2002. The median rates presented in table 5.3 reveal the same pattern. Having an unwaged partner makes the individual much more vulnerable to unemployment traps, as these are the sort of circumstances where there is likely to be multiple stacking involving the simultaneous loss of ISP entitlements, housing subsidies and additional tax liabilities that include phased introduction of the Medicare Levy. The percentage of unwaged males (females) with unwaged partners subject to multiple stacking problems in 2002 is 75% (63%). Public renters, especially females, face the most severe multiple stacking problems. In 2002, 96% of unwaged female public renters with unwaged partners were subject to multiple stacking. For males, this percentage was 94%. The incidence of multiple stacking was less severe in 1982 (see table 5.4). The relatively high and increasing rate of jobless households among partnered public renters is to be expected in such circumstances.

³⁹ The number of unwaged partnered males and females in figures 5.2a and 5.2b are not equal. Some unwaged working age males have partners aged 65 or over. These female partners do not appear in the unwaged partnered working age female sample. Similarly, some unwaged working age females have partners aged 65 or over. These male partners do not appear in the unwaged partnered working age male sample in figure 5.2a. Unwaged partnered working age females are more likely to have unwaged partners aged 65 or over. In 2002, 14% of unwaged partnered working age females have unwaged partners aged 65 or over. However, only 3% of unwaged partnered working age males have unwaged partners aged 65 or over. Hence, the female sample in figure 5.2b is larger than the male sample in figure 5.2a.

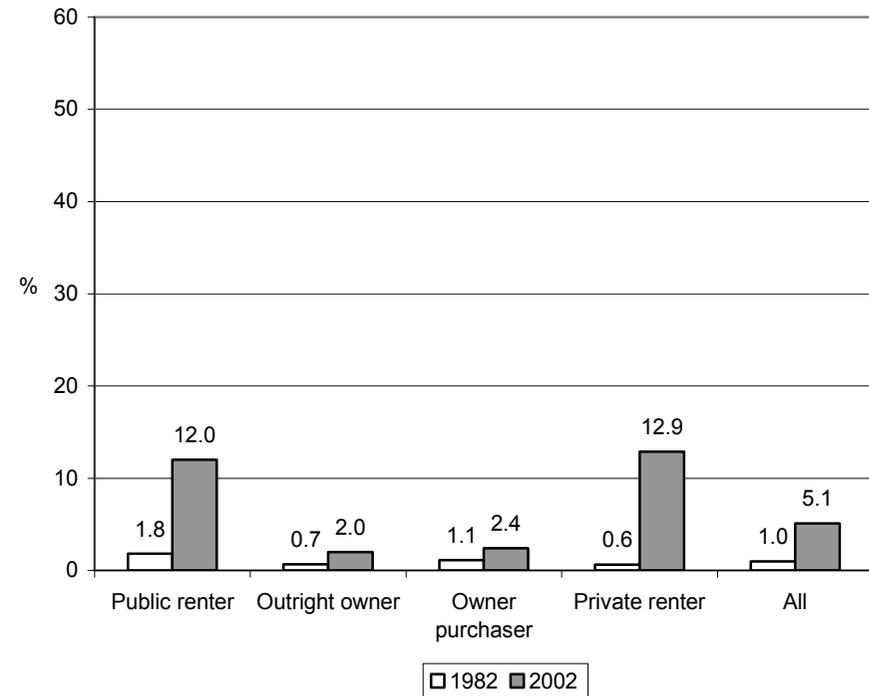
Figure 5.2: Percentage of unwaged partnered working age persons with replacement rate >75%, by household type, housing tenure and gender, 1982-2002

(a) Waged partners

Males

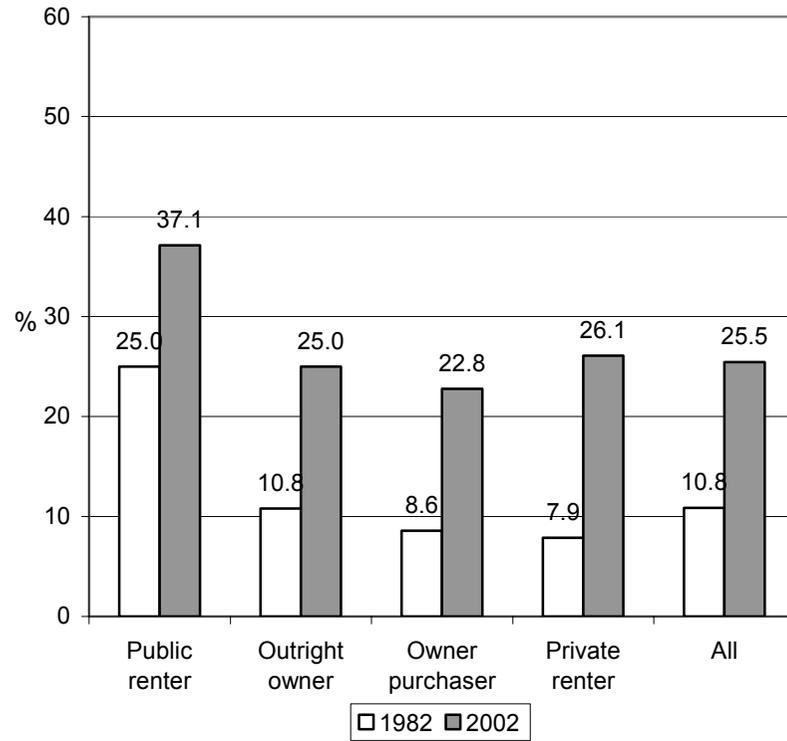


Females

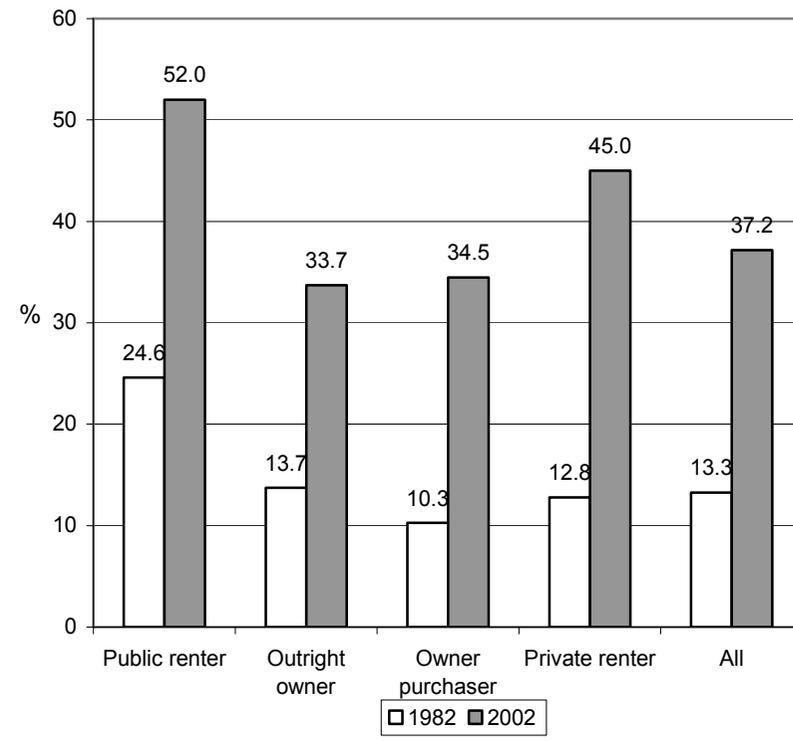


(b) Unwaged partners

Males



Females



Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Table 5.3: Median replacement rates of unwaged working age partnered persons, by employment status of partners, housing tenure and gender, 1982-2002

	Males					Females				
	Public renter	Outright owner	Owner purchaser	Private renter	All	Public renter	Outright owner	Owner purchaser	Private renter	All
<i>Waged partners</i>										
1982 median replacement rate	34.6	39.3	40.9	29.5	39.2	11.8	9.5	11.7	10.3	11.7
1982 sample	9	163	299	77	571	162	767	1,510	486	3,034
2002 median replacement rate	57.4	31.9	29.0	20.6	29.0	62.1	14.3	32.4	39.7	30.4
2002 sample	9	70	71	45	200	25	202	414	194	861
<i>Unwaged partners</i>										
1982 median replacement rate	67.5	50.5	50.3	56.4	53.1	67.2	54.9	44.1	55.9	55.0
1982 sample	114	631	432	203	1,446	128	866	467	219	1,755
2002 median replacement rate	66.9	62.7	62.4	67.2	64.6	75.6	68.9	69.6	71.7	70.0
2002 sample	35	228	79	92	440	50	365	87	100	611

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Table 5.4: Percentage of unwaged working age persons with unwaged partners subject to multiple stacking, by gender and housing tenure, 1982 and 2002

	Public renter	Outright owner	Owner purchaser	Private renter	Total
<i>Males</i>					
1982	90.5	29.6	24.5	50.7	36.8
2002	94.3	64.9	81.0	88.0	75.0
<i>Females</i>					
1982	85.4	34.4	21.8	40.6	35.8
2002	96.0	56.4	62.1	72.0	63.0

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Note:

- a. A person is subject to multiple stacking when over the income range generated when moving into employment there is a simultaneous change in at least two of the following:
 - Loss of ISP payments;
 - Loss of housing subsidy;
 - Additional tax liabilities.

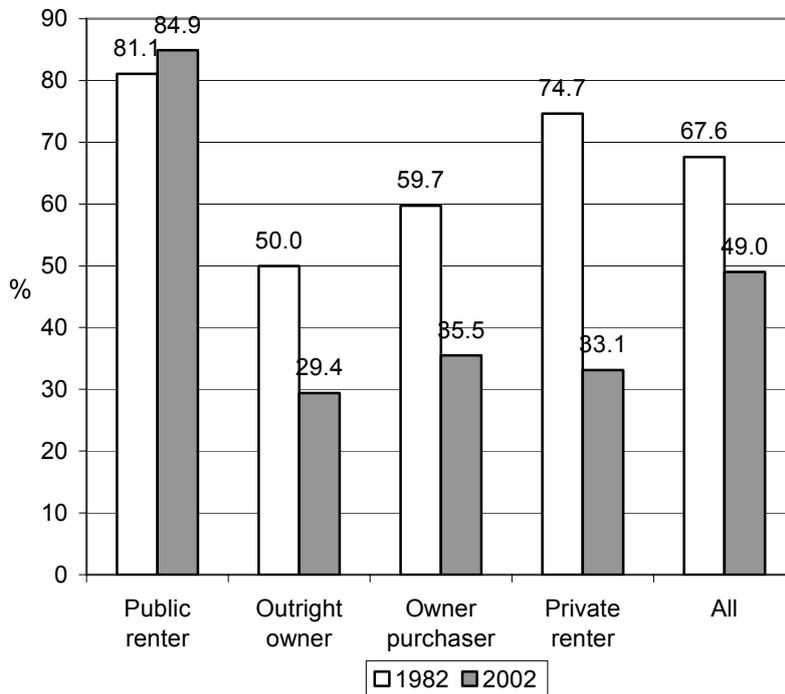
Female sole parents are increasingly concentrated in public housing tenancies and in figure 5.3 we compare their work incentives by housing tenure. The proportion of female sole parents caught in unemployment traps has fallen across all tenures other than public housing, as has their median replacement rates (see table 5.5). The fall is particularly pronounced among those resident in private rental housing. This group's work incentives have improved in part because of changes to CRA⁴⁰. For sole parents in all tenures the pension taper rates are lower in 2002⁴¹, and the post-'82 introduction of low income tax offsets will have further helped improve work incentives. But these changes have been insufficient to improve work incentives for sole parents in public housing, with over 80% still caught in unemployment traps in 2002⁴². The correlation with employment outcomes is noteworthy. The jobless rates for female sole parents living in public housing have remained at the very high levels of 84% in 1982 and 81% in 2002; the jobless rates for female sole parents in private rental housing (owner occupied housing) have fallen by 14 (22) percentage points.

⁴⁰ Back in 1982 CRA was subject to a separate income means test that caused multiple stacking of CRA and ISP over the same income range. Eligibility for an ISP is now a 'passport' to eligibility for CRA and the latter is withdrawn once entitlement for the ISP has been withdrawn.

⁴¹ The sole parent pension taper rates have fallen from 50% in 1982 to 40% in 2002.

⁴² In 2002, 84% of female sole parents in public housing experience simultaneous withdrawal of ISP payments, housing subsidies and additional tax payments over the income range defined by movement into employment. Female sole parents in other housing tenures do not experience simultaneous changes in all three payments because they do not receive public housing subsidies. The fraction of assessable income that public renter female sole parents pay in rents has also increased since 1982.

Figure 5.3: Percentage of unwaged working age female sole parents with replacement rate >75%, by housing tenure, 1982-2002



Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Table 5.5: Median replacement rates of female sole parents, by housing tenure, 1982-2002

	Public renter	Outright owner	Owner purchaser	Private renter	All
1982 median replacement rate	79.6	75.4	77.5	79.6	78.4
1982 sample	124	58	72	217	522
2002 median replacement rate	80.4	71.4	71.3	72.7	74.9
2002 sample	106	34	31	163	347

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

6 CONCLUDING COMMENTS

Access to stable living arrangements and an adequate standard of housing is a pre-requisite for people to maintain an acceptable standard of living, to engage effectively with the labour market and to realise their potential in other domains within society. The provision of public housing to individuals on low incomes, and who could not otherwise afford to rent or purchase functional accommodation, particularly those with dependent children, has thus been an important and well-established arm of welfare policy in Australia and other developed countries. Like many welfare programs, however, the provision of public housing may have unintended and negative effects on those who it is designed to assist, and the evidence revealed in this paper poses something of a quandary for policy-makers.

The analysis of long-run trends in employment participation demonstrates that between 1982 and 2002, the proportion of male public renters in employment effectively halved, from 67% to 35%. The 35% figure for male public renters in 2002 compares to 85% for home-owners and 78% for private rental tenants. For females in public housing, an employment participation rate of 24% in 2002 compares to rates of 66% for home owners and 64% for females who rent privately. The 2002 figure for females represents an increase in employment participation of just 2 percentage points since 1982, while the increase for female home-owners in this period was 19 percentage points. In 2002, seven of every ten public rental households had no working adult, compared to less than one in every ten owner purchaser households.

These startling trends do not warrant a housing policy response if they could be attributed to an 'adverse selection' process in which a diminishing supply of public housing is increasingly targeted to those with the lowest employment potential. The results from modelling employment participation conditional upon a range of variables known to impact upon employment outcomes, including age, marital status, level of education and English-speaking background, show that this may explain the deterioration in employment participation for males. State housing authorities in 2002 housed males who are much less employable, relative to males in other tenures, than was the case in 1982 because of inferior human capital and significant impediments to employment. In the case of females in public housing, however, differences in observable characteristics cannot explain the decline in their employment participation relative to women in other tenures.

One likely mechanism impeding employment participation by females in public housing is blunt work incentives. Evidence can be found in support of this hypothesis on a number of fronts. First, though male public renters have high replacement rates, female public renters face even higher replacement rates and hence greater work disincentives than their male counterparts. Second, female public renters have experienced sharper increases in replacement rates than females in other tenures. Third, female sole parents and women with unwaged partners have particularly high replacement rates if resident in public housing. Sole parents represent the fastest growing household type among female public renters, while among public rental couples, the proportion of unwaged females whose partner is also unwaged has increased dramatically. Thus women within public housing are increasingly caught up in unemployment traps. Over 56% of unwaged females in public housing, and as many as 85% of female sole parents, face a replacement rate in excess of 75%. These trends correlate with the growing gap in employment participation for female public tenants

that could not be explained by other observable characteristics. Microsimulation exercises indicate that reforms to public housing rent policies could lower replacement rates and sharpen work incentives. But unless accompanied by complementary changes to Federal government tax and benefit programs, the impact on replacement rates is typically small. This might be one reason why econometric models of labour supply have found that housing subsidies have only small impacts on employment participation (see Shroder, 2002).

The employment participation modelling reported in this paper is subject to caveats. There are unobservable or omitted variables that determine employment outcomes, and they might offer additional explanations for the relatively low employment participation rates among female public renters. One possibility is prompted by the finding that females with unwaged male partners are significantly less likely to be employed, and these females have particularly high replacement rates. Partnered female public renters are much more likely to have unwaged male partners, but work disincentives may not be the relevant explanation for low employment participation rates. Public housing allocation programs may contribute by exacerbating spatial concentrations of the poor that promote positive assortative mating. If disadvantaged females in public housing are as a consequence more likely to partner with males that have low levels of human capital, negative peer group effects could be responsible for their low labour supply⁴³. A related omitted variable is the negative neighbourhood externalities arising from increased targeting of public housing on the poorest and most disadvantaged. Finally, the way in which we have measured work incentives may not capture all or even the most important of the work disincentives created by public housing programs. Income eligibility rules applied to those on waiting lists can deter applicants from accepting job offers because they fear losing eligibility. The so called welfare traps that are caused by such abrupt changes in eligibility could be partly responsible for the falling employment participation rates among public housing tenants⁴⁴.

Notwithstanding these qualifications, the strong correlation between high replacement rates and low employment participation among female public renters, is firm evidence that work disincentives due to multiple stacking are at least partly responsible and warrant consideration from policy makers. Significant amelioration of these work disincentives requires any changes in rent policies to be complemented by Federal reform of the tax benefit system. Alternatively, other programs that encourage employment participation and employability, such as priority access to employment services or public tenant work programs could be implemented on a grander scale than at present. However, their effectiveness in the presence of high replacement rates is questionable. The shift in employment policy to mutual obligation and sanctions for non-compliance is perhaps unsurprising in view of the work disincentives pervasive among the low paid, and women in low pay jobs in particular.

⁴³ Our empirical findings on assortative mating (see page 23) are exploratory and inconclusive, and so this explanation cannot be definitively ruled out as irrelevant. .

⁴⁴ Periods of economic inactivity as applicants 'wait their turn on the list' will result in depreciation of human capital. It should be noted that housing assistance has shifted away from public housing and so vacancies have become more stringently rationed over the 1982-2002 period, and the welfare trap has become correspondingly more significant. Females and in particular female sole parents could be more likely to join waiting lists as they benefit more from the stable living arrangements public housing offers, given the relatively insecure housing circumstances that afflict separated and divorced women with children, particularly those from a low income background. This group are then more prone to fall into these welfare traps.

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APPENDIX A: PUBLIC HOUSING ALLOCATION POLICIES

State housing authorities typically have more than one wait list. Applicants on wait lists are categorised by household type, preference for housing type and preference for location. There are three main ways in which Australian state housing authorities rank applications according to housing need:

Categorisation into segments of need (segmented wait lists):

- Priority points allocation to different types of need to determine relative priority of individual applications (priority points system);
- Wait list plus priority system based on date of application plus priority criteria based administrative guidelines (wait list and priority wait list).
- Victoria, South Australia, New South Wales and the ACT have segmented wait lists. Tasmania has a priority points system without segments. Other states and territories have a wait list plus priority system. Table A1 provides details of public housing wait list allocation policies by state and territory.

Table A 1: Public housing wait list allocations systems, by state/territory

(a) Segmented

New South Wales	Victoria	Australian Capital Territory	South Australia
S1: Emergency temporary accommodation	S1: Long-term homelessness	S1: Applicants in urgent need of Housing (e.g. extreme housing crisis)	S1: Applicants in urgent need of housing
S2: Priority (incl. not being able to access the private rental market, homelessness, medical condition)	S2: Disability, frail aged, severe medical needs, significant personal support and/or major housing modifications	S2: Applicants for whom the private rental market is not suitable or accessible as a long-term option (e.g. extreme affordability problems or discrimination)	S2: Applicants with high/complex housing need
S3: Elderly (applicant aged 80+ years or 55+ years for Aboriginal clients)	S3: Those with unsuitable housing who cannot access the private rental market	S3: Normal wait turn	S3: Affordability related need
S4: Priority transfers (because of factors similar to categories 1 to 3 above)	S4: Low incomes only	S4: Transfers	S4: Transfers
S5: Other eligible applicants			

(b) Wait and priority, and priority pints

Queensland	Northern Territory	Western Australia	Tasmania
<p>Primarily wait turn system with limited priority allocation system. Wait list based on suburbs.</p> <p>Priority access for:</p> <ul style="list-style-type: none"> → Homelessness → Medical conditions → Emergency housing situation → Violence (incl. domestic violence and continual harassment) → Natural disaster 	<p>Wait list with separate non-priority listings for:</p> <ul style="list-style-type: none"> → Singles → Single pensioners (aged) → Single pensioners (with disability) <p>Urgent/priority access for:</p> <ul style="list-style-type: none"> → At risk of homelessness → Serious social problems, eg. domestic violence, that are related to current housing situation → Disability 	<p>There are separate waiting lists for emergency housing, priority assistance, wait turn assistance and Aboriginal housing. Applicants are wait listed by zones.</p> <p>Wait list plus urgent/priority access for:</p> <ul style="list-style-type: none"> → Urgent medical condition → Domestic violence / child abuse → Racial harassment → Homelessness 	<p>Housing need factors:</p> <ul style="list-style-type: none"> → Adequacy-maximum points 38 → Affordability-maximum points 25 → Appropriateness-maximum points 20 → Exceptional need-not weighted, but will enable an applicant to be housed immediately → Offer rejection-minus 10 points for every 2 offers rejected <p>Categorisation of need:</p> <ul style="list-style-type: none"> → Category 1-Points >= 35 → Category 2-Points 25-34 → Category 3-Points 15-24 → Category 4-Points 10-14 → Category 5-Points <10

Source: Hulse and Burke (2005)

Table A 2: Public housing non-assessable income sources (X=Not assessable), by state/territory, 2004^a

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
Bereavement Allowance	X		X		X			
CDEP ^b Supplement	X	X	X			X		
Child Care Benefit	X	X			X	X	X	X
Child support payment expenses	X						X	X
Double Orphans Pension	X	X Except if over 18 years	X	X	X		X	X
Mobility Allowance	X	X	X	X	X	X	X	X
Pensioner Education Supplement	X	X	X	X	X	X	X	X
Carer Allowance	X	X	X	X	X	X	X	X
DVA ^b Disability Pension	X	X		X	X	X	X	X
Family Tax Benefit Part B			X	X			X	X
Large Family Supplement		X	X			X	X	X
Overseas pensions						X		
Pharmaceutical Allowance	X	X	X	X	X	X	X	X

Source: Department of Family and Community Services (2003), Department of Disability, Housing and Community Services (2004), Housing Tasmania (2004), Office of Housing (2004), New South Wales Department of Housing (2004), Queensland Department of Housing (2004a), Queensland Department of Housing (2004b), South Australian Housing Trust (2004), Territory Housing (2004), Western Australia Department of Housing and Works (2002)

Notes:

- a. Income sources that are assessable in all state and territories are excluded from the table.
- b. CDEP = Community Development Employment Program; DVA = Department of Veterans' Affairs

Table A 3: Key rent calculation rules, by state/territory, 30 June 2002

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory
Persons exempted from the 25% rule	Aged 18-20: 12.5%; Aged 21-24: 20%		Not main tenant, single, aged <25: 10%	Assessable income below the adult single Newstart rate: 19.5% in metropolitan regions and 18.5% in non-metropolitan region; <i>Tenant's children</i> Aged <21: \$5 Aged 21-25: 5% Aged >25: 15%			Sole parent ISP recipients: 18%; <i>Persons earning more than the Youth Allowance living-at-home rate</i> Aged 17-24: 10% Aged 25 or over: 20%	Aged <18: 10%
Allowances			Tax allowance: Income up to \$20,800 is assessed on an after-tax basis, income above \$20,800 is assessed on a gross basis		Working allowance: If a non-disabled (disabled) tenant gains employment, \$30 (\$50) is deducted from weekly assessable income			
Percentage of Family Tax Benefit (FTB) paid as rent	11% of FTB(A); 11% of FTB(B)	11% of FTB(A); 11% of FTB(B)	13.9% of FTB(A) base rate for the first 4 children aged <16	10% of FTB(A)	10% of FTB(A) component above the base rate; 5% of FTB(B)	75% for first 3 children and 50% for 4 th and subsequent children added to assessable income	10% of FTB(A)	10% of FTB(A)

Source: Department of Family and Community Services (2003), Dalton and Ong (2005)

APPENDIX B: TAX-BENEFIT MODELS, 1982-2002

Table B 1: Tax-benefit parameters in the simulation, by tax-benefit regime

Tax-benefit regime	1982-83	1996-97	2000-01	2002-03
Tax				
Applicable date	July 1982	July 1996	July 2000	July 2002
Personal income tax	Tax-free threshold \$4,462	Tax-free threshold \$5,400	Tax-free threshold \$6,000	Tax-free threshold \$6,000
Medicare levy	Not applicable	Beyond the upper income limit, the levy is calculated at 1.7% of taxable income. Family concessions apply	Beyond the upper income limit, the levy is calculated at 1.5% of taxable income. Family concessions apply	Beyond the upper income limit, the levy is calculated at 1.5% of taxable income. Family concessions apply
Non-refundable tax offsets	Dependent spouse tax rebate	Dependent spouse tax offset	Dependent spouse tax offset	Dependent spouse tax offset
	Pensioner tax offset	Pensioner tax offset	Senior Australians tax offset	Senior Australians tax offset
	Sole parent tax offset	Beneficiary tax offset	Pensioner tax offset	Pensioner tax offset
		Sole parent tax offset	Beneficiary tax offset	Beneficiary tax offset
		Low income tax offset	Low income tax offset	Low income tax offset
		Low income aged persons tax offset	Superannuation pension or annuity tax offset	Superannuation pension or annuity tax offset
		Superannuation pension or annuity tax offset		
	Franking tax offset			
Refundable tax offsets	Not applicable	Not applicable	Franking tax offset	Franking tax offset
Superannuation surcharge	Not applicable	Not applicable	Employer superannuation contribution rate based on 2002-03 ^a average rate by industry	Employer superannuation contribution rate based on 2002-03 ^b average rate by industry

Tax-benefit regime	1982-83	1996-97	2000-01	2002-03
Government benefits				
Applicable date	November 1982	July 1996	July 2000	July 2002
Government benefits modelled	Age Pension	Age Pension	Age Pension	Age Pension
	Invalid Pension	Disability Support Pension	Disability Support Pension	Disability Support Pension
	Wife Pension	Wife/Carer Pension ^c	Wife Pension	Wife Pension
	Widows Pension	Sole Parent Pension	Carer Payment	Carer Payment
	Supporting Parents Benefit	Parenting Allowance	Parenting Payment	Parenting Payment
	Unemployment Benefit	Newstart Allowance	Newstart Allowance	Newstart Allowance
	Sickness Benefit	Youth Training Allowance	Youth Allowance	Youth Allowance
	DVA War Widows Pension	Mature Age Allowance ^d	Mature Age Allowance ^d	Mature Age Allowance ^d
	DVA War Disability Pension	Sickness Allowance	Sickness Allowance	Sickness Allowance
	Family Allowance	Special Benefit	Special Benefit	Special Benefit
	Guardian's Allowance	Widow Allowance	Widow Allowance	Widow Allowance
	Additional Pension for Child	Partner Allowance	Partner Allowance	Partner Allowance
	Additional Benefit for Child	Child Disability Allowance	Carer Allowance	Carer Allowance
	Additional Benefit for Partner	Austudy	Austudy	Austudy
		DVA Service Pension	DVA Service Pension	DVA Service Pension
		DVA War Widow's Pension	DVA War Widow's Pension	DVA War Widow's Pension
		DVA Disability Pension	DVA Disability Pension	DVA Disability Pension
		Family Payment	FTB	FTB
		Pharmaceutical Allowance	Pharmaceutical Allowance	Pharmaceutical Allowance
		DVA War Widow's Income Support Supplement	DVA War Widow's Income Support Supplement	DVA War Widow's Income Support Supplement

Tax-benefit regime	1982-83	1996-97	2000-01	2002-03
<i>Housing assistance programs</i>				
Housing assistance modelled	CRA Public housing subsidy	CRA Public housing subsidy	CRA Public housing subsidy	CRA Public housing subsidy

Notes:

- a. See ABS (2004). The 2000-01 average rates are not used because the ABS did not publish data for that year. The rates for the closest year available are the 2002-03 rates. The employer superannuation contribution rates are not available for the agriculture, forestry and fishing industry. Therefore, the average for all industries is used for this industry. If the average rate for a particular industry is lower than the minimum employer contribution rate for that year, the minimum employer contribution rate is used for that industry. The minimum employer contribution rates are 8% and 9% in 2000-01 and 2004-05 respectively.
- b. See ABS (2004).
- c. The 1996-97 SIHC does not differentiate between Wife Pension and Carer Payment beneficiaries. However, this problem is of no consequence as the rates and means tests for both the Wife Pension and Carer Payment are the same. Thus, whether an income unit is a Wife Pension or Carer Payment recipient, the income unit is still subject to the same rates and meanst test limits.
- d. The 1996-97 *and* 2000-01 SIHC do not differentiate between pre-1 July 1996 or post-1 July 1996 grants. Thus, it is assumed that all income units who report that they are Mature Age Allowance beneficiaries receive post-1 July 1996 grants.

APPENDIX C: EMPLOYMENT PARTICIPATION LOGITS

Table C 1: Employment participation logit, 1982, partnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std. err.	Sig.	Marg. effect	Coef.	Std. err.	Sig.	Marg. effect
Age band	25-34	-0.324	0.276	0.240	-0.021	-0.036	0.111	0.748	-0.009
	35-44	-0.473	0.315	0.133	-0.032	-0.336	0.136	0.014	-0.082
	45-54	-0.657	0.351	0.061	-0.048	-0.792	0.160	0.000	-0.184
	55-64	-1.768	0.375	0.000	-0.181	-1.718	0.189	0.000	-0.350
Country of birth ^c	Main English-speaking countries	-0.225	0.142	0.112	-0.015	-0.042	0.085	0.619	-0.010
	Other	-0.167	0.166	0.312	-0.011	-0.066	0.095	0.491	-0.016
Highest post-school qualification	Bachelor degree or higher	0.512	0.202	0.011	0.026	1.348	0.148	0.000	0.315
	Other post-school qualifications	0.300	0.086	0.001	0.018	0.564	0.055	0.000	0.140
Recent unemployment history ^d		-2.737	0.120	0.000	-0.424	-0.637	0.293	0.030	-0.146
DSP recipient		-4.818	0.341	0.000	-0.826	-1.244	0.453	0.006	-0.256
Full-time study status		-2.667	0.870	0.002	-0.436	-1.247	0.800	0.119	-0.255
Partner's age band	25-34	-0.248	0.208	0.233	-0.016	0.011	0.147	0.941	0.003
	35-44	-0.087	0.257	0.736	-0.005	0.176	0.166	0.291	0.043
	45-54	0.096	0.305	0.753	0.006	0.001	0.184	0.996	0.000
	55-64	-0.804	0.326	0.014	-0.065	-0.247	0.206	0.230	-0.060
	65 or over	-1.740	0.418	0.000	-0.217	-0.484	0.266	0.068	-0.114
Partner's country of birth ^c	Main English-speaking countries	-0.126	0.146	0.389	-0.008	0.231	0.083	0.006	0.057
	Other	-0.093	0.170	0.584	-0.006	0.140	0.092	0.129	0.035
Partner's labour force status	Employed part-time	0.244	0.170	0.152	0.014	0.289	0.152	0.058	0.072
	Unemployed	-1.278	0.254	0.000	-0.132	-0.921	0.159	0.000	-0.203
	Not in the labour force	-0.928	0.128	0.000	-0.058	-1.344	0.122	0.000	-0.285

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std. err.	Sig.	Marg. effect	Coef.	Std. err.	Sig.	Marg. effect
Partner's highest post-school	Bachelor degree or higher	-0.027	0.298	0.927	-0.002	-0.060	0.097	0.537	-0.015
	Other post-school qualifications	-0.087	0.100	0.386	-0.005	-0.073	0.050	0.150	-0.018
Partner's recent unemployment		-1.289	0.353	0.000	-0.136	-1.105	0.136	0.000	-0.237
Partner's DSP recipient		-0.223	0.365	0.542	-0.015	-0.733	0.289	0.011	-0.166
Partner's full-time study status		-2.062	1.059	0.052	-0.289	0.029	0.812	0.971	0.007
Number of dependent children	One dependent child	0.244	0.132	0.065	0.014	-0.479	0.077	0.000	-0.115
	Two dependent children	0.517	0.150	0.001	0.029	-0.578	0.086	0.000	-0.138
	Three dependent children	0.356	0.182	0.050	0.019	-0.748	0.107	0.000	-0.172
	Four or more dependent children	0.121	0.235	0.605	0.007	-0.624	0.150	0.000	-0.144
Presence of young children	Children aged 0 to 4					-1.277	0.074	0.000	-0.287
	Children aged 5 to 9					-0.222	0.070	0.002	-0.054
Location	Rest of New South Wales	-0.211	0.163	0.196	-0.014	-0.241	0.101	0.016	-0.058
	Melbourne	-0.038	0.150	0.801	-0.002	0.031	0.087	0.721	0.008
	Rest of Victoria	0.046	0.207	0.824	0.003	0.178	0.114	0.119	0.044
	Brisbane	0.331	0.195	0.090	0.018	-0.153	0.104	0.142	-0.037
	Rest of Queensland	-0.178	0.168	0.289	-0.012	-0.027	0.099	0.784	-0.007
	Adelaide	-0.166	0.158	0.292	-0.011	0.034	0.096	0.719	0.008
	Rest of South Australia	0.353	0.246	0.151	0.019	0.222	0.135	0.101	0.055
	Perth	0.050	0.168	0.765	0.003	-0.055	0.096	0.567	-0.013
	Rest of Western Australia	0.405	0.269	0.132	0.021	0.013	0.135	0.925	0.003
	Tasmania	-0.051	0.183	0.779	-0.003	-0.194	0.108	0.073	-0.047
	Territories	0.252	0.312	0.418	0.014	0.418	0.151	0.006	0.104
Constant		3.956	0.281	0.000		1.108	0.140	0.000	

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std. err.	Sig.	Marg. effect	Coef.	Std. err.	Sig.	Marg. effect
Diagnostics	Sample	8,599				8,980			
	LR Chi-sq	2,249.79				1,954.31			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-2,111.300				-5,215.616			
	Pseudo R-sq	0.348				0.158			

Source: Authors' own calculations from 1982 SIHC

Notes:

- a. All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- b. The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- c. See appendix C table C11.
- d. Whether received Unemployment Benefit in the last financial year.

Table C 2: Employment participation logit, 1982, unpartnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Age band	25-34	-0.011	0.118	0.923	-0.002	-0.080	0.130	0.535	-0.018
	35-44	0.333	0.186	0.073	0.045	-0.389	0.155	0.012	-0.092
	45-54	-0.388	0.179	0.030	-0.063	-1.296	0.144	0.000	-0.313
	55-64	-1.399	0.157	0.000	-0.279	-3.101	0.131	0.000	-0.628
Sole parent		0.828	0.628	0.188	0.093	-1.202	0.222	0.000	-0.288
Country of birth ^c	Main English-speaking countries	0.266	0.146	0.068	0.036	-0.206	0.130	0.113	-0.048
	Other	-0.222	0.145	0.125	-0.034	-0.510	0.147	0.001	-0.122
Highest post-school qualification	Bachelor degree or higher	0.341	0.195	0.081	0.045	1.134	0.223	0.000	0.208
	Other post-school qualifications	0.043	0.108	0.688	0.006	0.606	0.097	0.000	0.131
Recent unemployment history ^d		-2.509	0.100	0.000	-0.511	-1.659	0.114	0.000	-0.393
DSP recipient		-3.669	0.259	0.000	-0.722	-3.383	0.369	0.000	-0.606
Full-time study status		-2.810	0.205	0.000	-0.601	-2.476	0.232	0.000	-0.522
Number of dependent children		-1.040	0.356	0.003	-0.152	-0.256	0.109	0.019	-0.058
Presence of young children	Children aged 0 to 4					-1.484	0.203	0.000	-0.355
	Children aged 5 to 9					-0.595	0.186	0.001	-0.143
Location	Rest of New South Wales	0.100	0.191	0.602	0.014	-0.176	0.171	0.304	-0.041
	Melbourne	0.237	0.155	0.127	0.033	0.008	0.144	0.958	0.002
	Rest of Victoria	0.397	0.233	0.088	0.052	-0.108	0.206	0.599	-0.025
	Brisbane	0.163	0.187	0.384	0.023	-0.301	0.162	0.062	-0.071
	Rest of Queensland	0.244	0.187	0.192	0.033	-0.391	0.175	0.025	-0.093
	Adelaide	0.100	0.175	0.567	0.014	-0.175	0.158	0.267	-0.041
	Rest of South Australia	0.195	0.278	0.482	0.027	-0.456	0.256	0.075	-0.109
	Perth	0.074	0.173	0.668	0.011	-0.118	0.153	0.441	-0.027
	Rest of Western Australia	0.335	0.254	0.187	0.044	-0.436	0.263	0.097	-0.104
	Tasmania	-0.046	0.194	0.811	-0.007	-0.085	0.187	0.651	-0.019
Territories		-0.510	0.244	0.037	-0.086	0.587	0.248	0.018	0.121

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Constant		2.115	0.130	0.000		2.048	0.127	0.000	
Diagnostics	Sample	4,225				4,057			
	LR Chi-sq	1,163.42				1,544.91			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-1,694.614				-1,935.568			
	Pseudo R-sq	0.256				0.285			

Source: Authors' own calculations from 1982 SIHC

Notes:

- a. All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- b. The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- c. See appendix C table C11.
- d. Whether received Unemployment Benefit in the last financial year.

Table C 3: Employment participation logit, 1990, partnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Age band	25-34	0.078	0.238	0.745	0.005	0.136	0.128	0.287	0.033
	35-44	-0.231	0.274	0.398	-0.016	0.258	0.151	0.089	0.061
	45-54	-0.547	0.308	0.076	-0.043	-0.301	0.175	0.086	-0.074
	55-64	-1.772	0.331	0.000	-0.203	-1.143	0.202	0.000	-0.278
Country of birth ^c	Main English-speaking countries	-0.098	0.148	0.508	-0.007	-0.052	0.093	0.579	-0.012
	Other	-0.307	0.141	0.030	-0.023	-0.287	0.087	0.001	-0.070
Highest post-school qualification	Bachelor degree or higher	0.718	0.185	0.000	0.040	1.144	0.123	0.000	0.234
	Other post-school qualifications	0.293	0.089	0.001	0.020	0.587	0.058	0.000	0.137
Recent unemployment history ^d		-2.479	0.122	0.000	-0.385	-0.695	0.260	0.007	-0.172
DSP recipient		-4.541	0.308	0.000	-0.801	-2.701	0.620	0.000	-0.511
Full-time study status		-2.494	0.349	0.000	-0.415	-1.491	0.275	0.000	-0.347
Partner's age band	25-34	0.388	0.200	0.052	0.025	0.053	0.171	0.759	0.013
	35-44	0.473	0.242	0.050	0.030	0.120	0.188	0.524	0.029
	45-54	0.652	0.282	0.021	0.038	-0.122	0.206	0.553	-0.030
	55-64	0.209	0.306	0.494	0.013	-0.464	0.225	0.039	-0.114
	65 or over	-0.351	0.428	0.413	-0.028	-1.087	0.280	0.000	-0.265
Partner's country of birth ^c	Main English-speaking countries	0.081	0.159	0.608	0.005	-0.038	0.089	0.670	-0.009
	Other	-0.078	0.144	0.587	-0.005	-0.066	0.087	0.448	-0.016
Partner's labour force status	Employed part-time	0.253	0.143	0.076	0.017	0.173	0.124	0.166	0.041
	Unemployed	-1.214	0.180	0.000	-0.132	-1.133	0.139	0.000	-0.275
	Not in the labour force	-0.976	0.119	0.000	-0.078	-1.336	0.117	0.000	-0.321
Partner's highest post-school	Bachelor degree or higher	0.273	0.235	0.244	0.017	-0.132	0.092	0.152	-0.032
	Other post-school qualifications	0.172	0.100	0.084	0.012	0.029	0.056	0.596	0.007

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Partner's recent unemployment		-0.654	0.275	0.017	-0.059	-1.214	0.129	0.000	-0.293
Partner's DSP recipient		-0.838	0.391	0.032	-0.081	-1.049	0.235	0.000	-0.256
Partner's full-time study status		-0.107	0.426	0.801	-0.008	0.185	0.357	0.603	0.044
Number of dependent children	One dependent child	0.265	0.130	0.042	0.017	-0.247	0.084	0.003	-0.060
	Two dependent children	0.481	0.145	0.001	0.030	-0.349	0.092	0.000	-0.085
	Three dependent children	0.384	0.181	0.034	0.023	-0.579	0.118	0.000	-0.143
	Four or more dependent children	-0.206	0.235	0.381	-0.015	-0.449	0.170	0.008	-0.111
Presence of young children	Children aged 0 to 4					-1.228	0.079	0.000	-0.297
	Children aged 5 to 9					-0.136	0.080	0.087	-0.033
Location	Rest of New South Wales	0.096	0.179	0.593	0.006	-0.074	0.108	0.490	-0.018
	Melbourne	-0.083	0.156	0.597	-0.006	-0.141	0.094	0.134	-0.034
	Rest of Victoria	-0.193	0.202	0.339	-0.014	0.166	0.126	0.187	0.039
	Brisbane	0.149	0.181	0.410	0.010	-0.057	0.108	0.601	-0.014
	Rest of Queensland	-0.058	0.172	0.736	-0.004	-0.018	0.105	0.867	-0.004
	Adelaide	-0.158	0.181	0.381	-0.011	0.121	0.112	0.283	0.029
	Rest of South Australia	-0.235	0.239	0.325	-0.018	0.295	0.160	0.066	0.069
	Perth	0.056	0.170	0.740	0.004	-0.031	0.102	0.761	-0.007
	Rest of Western Australia	-0.157	0.241	0.515	-0.011	-0.146	0.148	0.324	-0.036
	Tasmania	-0.299	0.186	0.109	-0.023	-0.064	0.122	0.600	-0.016
	Territories	0.077	0.276	0.779	0.005	0.463	0.164	0.005	0.105
Constant		2.865	0.243	0.000		1.311	0.164	0.000	

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Diagnostics	Sample	8,181				8,538			
	LR Chi-sq	2575.350				2,386.990			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-2,035.588				-4,577.929			
	Pseudo R-sq	0.388				0.207			

Source: Authors' own calculations from 1990 SIHC

Notes:

- a. All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- b. The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- c. See appendix C table C11.
- d. Whether received Unemployment Benefit in the last financial year.

Table C 4: Employment participation logit, 1990, unpartnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Age band	25-34	0.186	0.120	0.123	0.029	0.149	0.126	0.240	0.032
	35-44	-0.156	0.154	0.313	-0.026	0.108	0.148	0.466	0.023
	45-54	-0.438	0.169	0.009	-0.079	-0.517	0.142	0.000	-0.120
	55-64	-1.186	0.170	0.000	-0.244	-2.849	0.140	0.000	-0.600
Sole parent		-1.214	0.473	0.010	-0.256	-1.474	0.195	0.000	-0.346
Country of birth ^c	Main English-speaking countries	-0.210	0.170	0.216	-0.036	-0.135	0.156	0.384	-0.030
	Other	-0.449	0.133	0.001	-0.080	-0.569	0.125	0.000	-0.133
Highest post-school qualification	Bachelor degree or higher	1.028	0.189	0.000	0.129	1.234	0.178	0.000	0.216
	Other post-school qualifications	0.515	0.107	0.000	0.079	0.822	0.094	0.000	0.170
Recent unemployment history ^d		-2.045	0.114	0.000	-0.440	-1.470	0.130	0.000	-0.351
DSP recipient		-4.380	0.309	0.000	-0.774	-3.519	0.321	0.000	-0.633
Full-time study status		-2.272	0.178	0.000	-0.503	-2.112	0.167	0.000	-0.479
Number of dependent children		0.074	0.275	0.788	0.012	0.138	0.105	0.187	0.030
Presence of young children	Children aged 0 to 4					-1.326	0.177	0.000	-0.318
	Children aged 5 to 9					-0.607	0.181	0.001	-0.143
Location	Rest of New South Wales	0.229	0.208	0.272	0.035	-0.167	0.178	0.350	-0.038
	Melbourne	-0.101	0.166	0.545	-0.017	0.076	0.149	0.612	0.017
	Rest of Victoria	-0.096	0.243	0.693	-0.016	0.015	0.214	0.943	0.003
	Brisbane	0.051	0.186	0.783	0.008	0.115	0.166	0.486	0.025
	Rest of Queensland	-0.009	0.192	0.964	-0.001	0.094	0.166	0.570	0.020
	Adelaide	-0.316	0.188	0.093	-0.055	0.357	0.170	0.036	0.074
	Rest of South Australia	0.455	0.306	0.137	0.065	0.472	0.297	0.112	0.095
	Perth	0.092	0.178	0.603	0.015	0.306	0.162	0.059	0.065
	Rest of Western Australia	-0.449	0.265	0.090	-0.082	0.181	0.258	0.483	0.039
	Tasmania	-0.003	0.216	0.990	0.000	0.157	0.198	0.427	0.034
Territories		0.466	0.278	0.094	0.066	0.540	0.234	0.021	0.108

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Constant		1.911	0.138	0.000		1.468	0.127	0.000	
Diagnostics	Sample	3,836				3,811			
	LR Chi-sq	1,149.680				1,374.480			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-1,560.025				-1,819.165			
	Pseudo R-sq	0.269				0.274			

Source: Authors' own calculations from 1990 SIHC

Notes:

- a. All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- b. The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- c. See appendix C table C11.
- d. Whether received Unemployment Benefit in the last financial year.

Table C 5: Employment participation logit, 1996, partnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Age band	25-34	0.347	0.474	0.464	0.026	-0.058	0.243	0.810	-0.014
	35-44	0.379	0.518	0.465	0.029	0.112	0.271	0.680	0.026
	45-54	-0.097	0.550	0.860	-0.008	-0.596	0.297	0.045	-0.144
	55-64	-0.979	0.575	0.089	-0.103	-1.605	0.334	0.000	-0.380
Country of birth ^c	Main English-speaking countries	0.261	0.454	0.566	0.019	-0.065	0.236	0.782	-0.016
	Other	-0.352	0.157	0.025	-0.031	-0.371	0.105	0.000	-0.089
Highest post-school qualification	Bachelor degree or higher	0.691	0.219	0.002	0.046	1.328	0.150	0.000	0.262
	Other post-school qualifications	0.475	0.132	0.000	0.038	0.421	0.092	0.000	0.097
Recent unemployment history ^d		-2.073	0.177	0.000	-0.323	-0.581	0.280	0.038	-0.143
DSP recipient		-4.126	0.315	0.000	-0.758	-1.987	0.531	0.000	-0.437
Full-time study status		-3.557	0.394	0.000	-0.682	-1.791	0.380	0.000	-0.405
Partner's age band	25-34	0.277	0.365	0.448	0.021	-0.092	0.329	0.780	-0.022
	35-44	-0.173	0.412	0.674	-0.014	-0.244	0.352	0.488	-0.059
	45-54	0.107	0.453	0.813	0.009	0.207	0.372	0.579	0.048
	55-64	-0.836	0.488	0.087	-0.089	-0.008	0.395	0.984	-0.002
	65 or over	-0.942	0.666	0.157	-0.111	-0.646	0.454	0.155	-0.159
Partner's country of birth ^c	Main English-speaking countries	0.409	0.423	0.333	0.029	-0.249	0.243	0.307	-0.060
	Other	-0.026	0.162	0.872	-0.002	-0.166	0.103	0.107	-0.040
Partner's labour force status	Employed part-time	0.416	0.195	0.033	0.031	0.122	0.183	0.507	0.028
	Unemployed	-1.622	0.274	0.000	-0.235	-1.127	0.199	0.000	-0.274
	Not in the labour force	-0.789	0.164	0.000	-0.072	-1.370	0.161	0.000	-0.330
Partner's highest post-school	Bachelor degree or higher	0.009	0.231	0.969	0.001	-0.207	0.132	0.115	-0.050
	Other post-school qualifications	0.151	0.151	0.320	0.012	0.027	0.085	0.750	0.006

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Partner's recent unemployment		-0.183	0.305	0.549	-0.016	-0.994	0.177	0.000	-0.243
Partner's DSP recipient		-1.334	0.465	0.004	-0.180	-1.008	0.259	0.000	-0.247
Partner's full-time study status		-0.401	0.497	0.420	-0.038	0.253	0.390	0.517	0.058
Number of dependent children	One dependent child	-0.058	0.187	0.756	-0.005	-0.135	0.123	0.272	-0.032
	Two dependent children	0.148	0.204	0.468	0.012	-0.249	0.133	0.061	-0.060
	Three dependent children	-0.156	0.243	0.520	-0.013	-0.396	0.169	0.019	-0.096
	Four or more dependent children	-0.356	0.374	0.341	-0.033	-0.703	0.271	0.009	-0.173
Presence of young children	Children aged 0 to 4					-1.241	0.115	0.000	-0.300
	Children aged 5 to 9					-0.424	0.114	0.000	-0.102
Location	Rest of New South Wales	-0.394	0.251	0.117	-0.037	-0.409	0.171	0.017	-0.100
	Melbourne	0.368	0.232	0.112	0.027	-0.485	0.146	0.001	-0.118
	Rest of Victoria	-0.035	0.306	0.909	-0.003	0.019	0.201	0.926	0.004
	Brisbane	-0.015	0.263	0.955	-0.001	-0.372	0.171	0.030	-0.091
	Rest of Queensland	0.246	0.267	0.357	0.018	-0.300	0.169	0.075	-0.073
	Adelaide	-0.113	0.271	0.676	-0.010	-0.096	0.179	0.593	-0.023
	Rest of South Australia	0.203	0.386	0.599	0.015	-0.014	0.241	0.955	-0.003
	Perth	0.473	0.270	0.080	0.033	-0.463	0.160	0.004	-0.113
	Rest of Western Australia	0.079	0.359	0.826	0.006	-0.502	0.222	0.024	-0.123
	Tasmania	-0.183	0.262	0.485	-0.016	-0.498	0.180	0.006	-0.122
	Territories	-0.139	0.296	0.638	-0.012	0.163	0.195	0.404	0.038
Constant		2.706	0.430	0.000		2.008	0.302	0.000	

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Diagnostics	Sample	3,717				3,889			
	LR Chi-sq	1,305.010				1,173.750			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-987.175				-2,034.624			
	Pseudo R-sq	0.398				0.224			

Source: Authors' own calculations from 1996-97 SIHC

Notes:

- a. All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- b. The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- c. See appendix C table C11.
- d. Whether received Newstart Allowance in the last financial year.

Table C 6: Employment participation logit, 1996, unpartnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Age band	25-34	0.420	0.167	0.012	0.071	0.366	0.178	0.040	0.079
	35-44	0.193	0.202	0.339	0.033	0.163	0.203	0.423	0.036
	45-54	-0.177	0.227	0.435	-0.033	-0.011	0.205	0.958	-0.002
	55-64	-1.140	0.234	0.000	-0.246	-2.349	0.204	0.000	-0.524
Sole parent		-1.261	0.677	0.063	-0.280	-1.187	0.276	0.000	-0.280
Country of birth ^c	Main English-speaking countries	-0.084	0.353	0.812	-0.015	-0.087	0.299	0.771	-0.020
	Other	-0.423	0.172	0.014	-0.081	-0.543	0.155	0.000	-0.127
Highest post-school qualification	Bachelor degree or higher	0.635	0.229	0.006	0.098	1.358	0.201	0.000	0.247
	Other post-school qualifications	0.408	0.145	0.005	0.069	0.636	0.143	0.000	0.133
Recent unemployment history ^d		-2.111	0.148	0.000	-0.462	-1.541	0.180	0.000	-0.367
DSP recipient		-4.007	0.352	0.000	-0.739	-3.256	0.307	0.000	-0.624
Full-time study status		-2.920	0.275	0.000	-0.622	-2.259	0.231	0.000	-0.503
Number of dependent children		0.146	0.416	0.725	0.026	-0.168	0.139	0.228	-0.037
Presence of young children	Children aged 0 to 4					-1.516	0.264	0.000	-0.362
	Children aged 5 to 9					-0.371	0.238	0.119	-0.086
Location	Rest of New South Wales	0.083	0.282	0.769	0.014	-0.048	0.277	0.861	-0.011
	Melbourne	-0.004	0.227	0.987	-0.001	0.234	0.210	0.267	0.051
	Rest of Victoria	-0.188	0.298	0.530	-0.035	0.154	0.321	0.632	0.033
	Brisbane	0.488	0.280	0.081	0.077	-0.026	0.244	0.914	-0.006
	Rest of Queensland	0.194	0.263	0.459	0.033	0.099	0.250	0.692	0.022
	Adelaide	-0.030	0.262	0.909	-0.005	-0.022	0.247	0.928	-0.005
	Rest of South Australia	0.231	0.405	0.569	0.038	-0.417	0.391	0.287	-0.098

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
	Perth	0.435	0.257	0.090	0.070	0.318	0.239	0.182	0.068
	Rest of Western Australia	0.335	0.373	0.369	0.054	0.321	0.352	0.361	0.068
	Tasmania	-0.262	0.305	0.390	-0.049	0.062	0.282	0.826	0.014
	Territories	0.502	0.327	0.125	0.078	0.569	0.296	0.054	0.115
Constant		1.650	0.186	0.000		1.470	0.192	0.000	
Diagnostics	Sample	1,953				1,973			
	LR Chi-sq	661.46				793.150			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-816.920				-911.220			
	Pseudo R-sq	0.288				0.303			

Source: Authors' own calculations from 1996-97 SIHC

Notes:

- All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- See appendix C table C11.
- Whether received Newstart Allowance in the last financial year.

Table C 7: Employment participation logit, 2000, partnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Age band	25-34	0.093	0.487	0.849	0.007	0.520	0.257	0.043	0.113
	35-44	-0.367	0.544	0.500	-0.031	0.486	0.286	0.089	0.108
	45-54	-0.758	0.573	0.186	-0.070	-0.137	0.312	0.661	-0.032
	55-64	-1.759	0.596	0.003	-0.217	-1.301	0.343	0.000	-0.312
Country of birth ^c	Main English-speaking countries	-0.348	0.208	0.093	-0.031	-0.150	0.139	0.282	-0.035
	Other	-0.579	0.210	0.006	-0.054	-0.613	0.144	0.000	-0.146
Highest post-school qualification	Bachelor degree or higher	0.782	0.221	0.000	0.051	0.954	0.139	0.000	0.192
	Other post-school qualifications	0.313	0.138	0.024	0.025	0.604	0.099	0.000	0.132
Recent unemployment history ^d		-2.174	0.228	0.000	-0.351	-0.403	0.354	0.256	-0.096
DSP recipient		-4.368	0.408	0.000	-0.789	-1.823	0.391	0.000	-0.421
Full-time study status		-3.725	0.431	0.000	-0.708	-1.085	0.363	0.003	-0.264
Partner's age band	25-34	0.099	0.407	0.807	0.008	0.041	0.339	0.904	0.009
	35-44	0.034	0.465	0.942	0.003	-0.127	0.362	0.727	-0.029
	45-54	0.164	0.496	0.741	0.013	0.072	0.383	0.852	0.016
	55-64	-0.343	0.523	0.512	-0.030	0.078	0.408	0.849	0.018
	65 or over	0.447	0.812	0.582	0.030	-0.590	0.460	0.200	-0.142
Partner's country of birth ^c	Main English-speaking countries	0.010	0.216	0.962	0.001	-0.115	0.138	0.403	-0.027
	Other	0.001	0.213	0.997	0.000	-0.140	0.144	0.331	-0.032
Partner's labour force status	Employed part-time	0.577	0.201	0.004	0.042	0.038	0.190	0.844	0.009
	Unemployed	-0.594	0.363	0.102	-0.060	-0.926	0.260	0.000	-0.226
	Not in the labour force	-0.781	0.161	0.000	-0.070	-1.302	0.151	0.000	-0.313

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Partner's highest post-school	Bachelor degree or higher	-0.337	0.205	0.100	-0.030	-0.103	0.132	0.436	-0.024
	Other post-school qualifications	0.409	0.168	0.015	0.030	0.163	0.093	0.078	0.037
Partner's recent unemployment		-0.648	0.421	0.124	-0.067	-0.976	0.219	0.000	-0.238
Partner's DSP recipient		-0.729	0.375	0.052	-0.077	-0.498	0.260	0.055	-0.120
Partner's full-time study status		0.723	0.622	0.245	0.043	0.288	0.413	0.485	0.063
Number of dependent children	One dependent child	-0.029	0.195	0.883	-0.002	-0.316	0.141	0.025	-0.074
	Two dependent children	0.666	0.220	0.002	0.047	-0.435	0.148	0.003	-0.102
	Three dependent children	0.957	0.324	0.003	0.057	-0.747	0.193	0.000	-0.181
	Four or more dependent children	-0.241	0.388	0.535	-0.021	-1.139	0.303	0.000	-0.277
Presence of young children	Children aged 0 to 4					-1.391	0.131	0.000	-0.331
	Children aged 5 to 9					-0.275	0.131	0.037	-0.064
Location	Rest of New South Wales	-0.469	0.288	0.104	-0.044	-0.102	0.189	0.590	-0.024
	Melbourne	-0.171	0.244	0.482	-0.014	-0.052	0.155	0.738	-0.012
	Rest of Victoria	0.033	0.323	0.920	0.003	0.167	0.202	0.410	0.037
	Brisbane	-0.057	0.284	0.841	-0.005	-0.022	0.180	0.901	-0.005
	Rest of Queensland	-0.308	0.273	0.260	-0.027	0.259	0.175	0.139	0.057
	Adelaide	-0.266	0.260	0.307	-0.023	-0.081	0.173	0.639	-0.019
	Rest of South Australia	-0.013	0.396	0.974	-0.001	0.117	0.260	0.653	0.026
	Perth	0.073	0.273	0.788	0.006	0.167	0.172	0.331	0.037
	Rest of Western Australia	0.449	0.428	0.294	0.030	0.189	0.257	0.462	0.042
	Tasmania	-0.427	0.299	0.153	-0.040	-0.090	0.200	0.652	-0.021
	Territories	0.152	0.348	0.662	0.012	0.515	0.217	0.018	0.109
Constant		3.112	0.441	0.000		1.327	0.306	0.000	

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Diagnostics	Sample	3,248				3,405			
	LR Chi-sq	1,105.060				982.29			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-872.731				-1,765.085			
	Pseudo R-sq	0.388				0.218			

Source: Authors' own calculations from 2000-01 SIHC

Notes:

- a. All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- b. The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- c. See appendix C table C11.
- d. Whether received Newstart Allowance in the last financial year.

Table C 8: Employment participation logit, 2000, unpartnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Age band	25-34	0.362	0.190	0.057	0.059	0.240	0.203	0.236	0.049
	35-44	-0.051	0.208	0.807	-0.009	0.218	0.222	0.328	0.044
	45-54	-0.434	0.209	0.038	-0.081	-0.007	0.222	0.975	-0.001
	55-64	-1.369	0.241	0.000	-0.296	-2.264	0.220	0.000	-0.512
Sole parent		-0.417	0.721	0.563	-0.079	-0.751	0.272	0.006	-0.165
Country of birth ^c	Main English-speaking countries	-0.423	0.222	0.057	-0.080	0.164	0.230	0.474	0.033
	Other	-0.622	0.205	0.002	-0.121	-0.912	0.189	0.000	-0.210
Highest post-school qualification	Bachelor degree or higher	0.721	0.224	0.001	0.106	1.495	0.215	0.000	0.243
	Other post-school qualifications	0.599	0.159	0.000	0.096	0.532	0.144	0.000	0.105
Recent unemployment history ^d		-1.879	0.178	0.000	-0.414	-1.574	0.229	0.000	-0.371
DSP recipient		-3.682	0.309	0.000	-0.718	-3.588	0.312	0.000	-0.675
Full-time study status		-2.390	0.246	0.000	-0.532	-2.025	0.229	0.000	-0.467
Number of dependent children		-0.347	0.466	0.456	-0.060	-0.475	0.135	0.000	-0.099
Presence of young children	Children aged 0 to 4					-1.568	0.251	0.000	-0.369
	Children aged 5 to 9					-0.163	0.235	0.490	-0.035
Location	Rest of New South Wales	-0.340	0.285	0.233	-0.063	-0.358	0.282	0.204	-0.079
	Melbourne	0.246	0.242	0.309	0.040	0.746	0.237	0.002	0.137
	Rest of Victoria	-0.251	0.319	0.431	-0.046	-0.106	0.308	0.732	-0.022
	Brisbane	0.097	0.270	0.719	0.016	0.196	0.257	0.445	0.039
	Rest of Queensland	0.504	0.301	0.094	0.077	0.212	0.274	0.440	0.042
	Adelaide	0.284	0.284	0.316	0.046	0.423	0.267	0.113	0.082
	Rest of South Australia	-0.358	0.382	0.349	-0.067	-0.126	0.429	0.768	-0.027

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Constant	Perth	0.381	0.266	0.151	0.060	0.331	0.251	0.187	0.065
	Rest of Western Australia	0.620	0.471	0.188	0.090	0.307	0.428	0.473	0.060
	Tasmania	0.288	0.332	0.385	0.046	0.322	0.285	0.258	0.063
	Territories	0.898	0.325	0.006	0.123	0.512	0.299	0.086	0.096
		1.628	0.212	0.000		1.580	0.216	0.000	
Diagnostics	Sample	1,775				1,838			
	LR Chi-sq	574.820				756.79			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-743.619				-810.805			
	Pseudo R-sq	0.279				0.318			

Source: Authors' own calculations from 2000-01 SIHC

Notes:

- a. All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- b. The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- c. See appendix C table C11.
- d. Whether received Newstart Allowance in the last financial year.

Table C 9: Employment participation logit, 2002, partnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Age band	25-34	0.242	0.399	0.544	0.019	0.486	0.207	0.019	0.105
	35-44	0.037	0.445	0.933	0.003	0.549	0.230	0.017	0.119
	45-54	-0.145	0.470	0.757	-0.012	0.380	0.252	0.131	0.083
	55-64	-0.949	0.486	0.051	-0.099	-0.518	0.276	0.061	-0.122
Country of birth ^c	Main English-speaking countries	0.176	0.179	0.325	0.014	-0.101	0.116	0.385	-0.023
	Other	-0.314	0.173	0.070	-0.028	-0.635	0.119	0.000	-0.151
Highest post-school qualification	Bachelor degree or higher	0.621	0.178	0.000	0.044	1.067	0.111	0.000	0.210
	Other post-school qualifications	0.222	0.114	0.051	0.018	0.662	0.081	0.000	0.142
Recent unemployment history ^d		-1.850	0.172	0.000	-0.284	-0.852	0.251	0.001	-0.207
DSP recipient		-3.805	0.270	0.000	-0.714	-2.151	0.323	0.000	-0.478
Full-time study status		-2.045	0.319	0.000	-0.340	-0.833	0.253	0.001	-0.202
Partner's age band	25-34	-0.020	0.323	0.949	-0.002	-0.280	0.275	0.308	-0.065
	35-44	-0.124	0.368	0.737	-0.010	-0.233	0.296	0.432	-0.053
	45-54	-0.287	0.395	0.466	-0.025	-0.238	0.315	0.450	-0.055
	55-64	-1.037	0.419	0.013	-0.117	-0.613	0.332	0.065	-0.145
	65 or over	-2.872	0.718	0.000	-0.546	-1.434	0.374	0.000	-0.344
Partner's country of birth ^c	Main English-speaking countries	0.163	0.184	0.377	0.013	-0.041	0.111	0.713	-0.009
	Other	-0.092	0.172	0.592	-0.008	-0.062	0.121	0.610	-0.014
Partner's labour force status	Employed part-time	0.230	0.158	0.145	0.018	0.055	0.141	0.695	0.012
	Unemployed	-1.289	0.285	0.000	-0.172	-0.519	0.211	0.014	-0.124
	Not in the labour force	-0.902	0.136	0.000	-0.086	-1.340	0.122	0.000	-0.321
Partner's highest post-school	Bachelor degree or higher	0.079	0.180	0.660	0.006	-0.117	0.108	0.282	-0.027
	Other post-school qualifications	0.017	0.123	0.889	0.001	0.055	0.077	0.477	0.012

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Partner's recent unemployment		-1.052	0.276	0.000	-0.130	-0.788	0.173	0.000	-0.191
Partner's DSP recipient		-1.285	0.288	0.000	-0.172	-0.535	0.208	0.010	-0.128
Partner's full-time study status		-0.301	0.336	0.369	-0.028	0.168	0.323	0.603	0.037
Number of dependent children	One dependent child	0.034	0.159	0.833	0.003	-0.378	0.113	0.001	-0.088
	Two dependent children	0.029	0.177	0.871	0.002	-0.482	0.124	0.000	-0.113
	Three dependent children	0.191	0.238	0.423	0.015	-0.650	0.160	0.000	-0.156
	Four or more dependent children	-0.239	0.303	0.431	-0.022	-0.857	0.228	0.000	-0.208
Presence of young children	Children aged 0 to 4					-1.203	0.108	0.000	-0.287
	Children aged 5 to 9					-0.153	0.107	0.151	-0.035
Location	Rest of New South Wales	-0.306	0.235	0.193	-0.028	-0.005	0.158	0.976	-0.001
	Melbourne	-0.005	0.200	0.981	0.000	0.114	0.131	0.383	0.025
	Rest of Victoria	-0.104	0.257	0.686	-0.009	0.105	0.171	0.538	0.023
	Brisbane	0.045	0.230	0.845	0.004	0.237	0.148	0.108	0.052
	Rest of Queensland	-0.002	0.221	0.991	0.000	-0.034	0.145	0.815	-0.008
	Adelaide	0.002	0.228	0.995	0.000	0.090	0.150	0.551	0.020
	Rest of South Australia	0.341	0.356	0.338	0.025	0.393	0.219	0.073	0.083
	Perth	0.048	0.222	0.828	0.004	0.040	0.142	0.779	0.009
	Rest of Western Australia	0.738	0.368	0.045	0.046	0.252	0.210	0.230	0.055
	Tasmania	-0.126	0.247	0.611	-0.011	-0.100	0.164	0.542	-0.023
	Territories	-0.041	0.254	0.872	-0.003	0.744	0.178	0.000	0.148
Constant		3.111	0.364	0.000		1.277	0.250	0.000	

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Diagnostics	Sample	4,733				5,001			
	LR Chi-sq	1,404.13				1,414.50			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-1,310.806				-2,583.161			
	Pseudo R-sq	0.349				0.215			

Source: Authors' own calculations from 2002-03 SIHC

Notes:

- a. All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- b. The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- c. See appendix C table C11.
- d. Whether received Newstart Allowance in the last financial year.

Table C 10: Employment participation logit, 2002, unpartnered persons

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
Age band	25-34	0.185	0.156	0.235	0.032	0.304	0.167	0.069	0.062
	35-44	-0.019	0.171	0.912	-0.003	0.185	0.177	0.296	0.038
	45-54	-0.420	0.175	0.016	-0.080	-0.217	0.178	0.224	-0.047
	55-64	-1.430	0.188	0.000	-0.312	-1.904	0.172	0.000	-0.441
Sole parent		-0.687	0.485	0.156	-0.140	-0.872	0.217	0.000	-0.194
Country of birth ^c	Main English-speaking countries	0.286	0.201	0.156	0.047	-0.122	0.183	0.503	-0.026
	Other	-0.319	0.167	0.055	-0.060	-1.038	0.150	0.000	-0.242
Highest post-school qualification	Bachelor degree or higher	0.837	0.189	0.000	0.123	1.516	0.164	0.000	0.253
	Other post-school qualifications	0.564	0.123	0.000	0.093	0.675	0.117	0.000	0.132
Recent unemployment history ^d		-1.698	0.143	0.000	-0.374	-1.575	0.189	0.000	-0.372
DSP recipient		-3.456	0.225	0.000	-0.694	-3.420	0.275	0.000	-0.659
Full-time study status		-2.220	0.193	0.000	-0.498	-1.543	0.185	0.000	-0.365
Number of dependent children		-0.109	0.264	0.679	-0.019	-0.203	0.111	0.067	-0.043
Presence of young children	Children aged 0 to 4					-1.048	0.196	0.000	-0.246
	Children aged 5 to 9					-0.559	0.192	0.004	-0.126
Location	Rest of New South Wales	-0.649	0.234	0.005	-0.130	-0.658	0.227	0.004	-0.151
	Melbourne	0.078	0.205	0.705	0.013	-0.019	0.191	0.922	-0.004
	Rest of Victoria	0.062	0.291	0.831	0.011	-0.588	0.245	0.016	-0.134
	Brisbane	-0.096	0.222	0.666	-0.017	-0.003	0.221	0.991	-0.001
	Rest of Queensland	0.284	0.236	0.230	0.047	-0.124	0.210	0.555	-0.026
	Adelaide	-0.239	0.220	0.278	-0.044	0.038	0.218	0.863	0.008
	Rest of South Australia	-0.153	0.337	0.650	-0.028	-0.454	0.341	0.183	-0.103

Explanatory variable category ^{ab}	Explanatory variable	Males				Females			
		Coef.	Std.	Sig.	Marg.	Coef.	Std.	Sig.	Marg.
	Perth	0.145	0.217	0.504	0.025	0.150	0.212	0.478	0.031
	Rest of Western Australia	0.463	0.378	0.221	0.072	-0.235	0.330	0.477	-0.051
	Tasmania	-0.291	0.249	0.244	-0.055	-0.312	0.233	0.181	-0.069
	Territories	0.141	0.262	0.590	0.024	-0.062	0.262	0.812	-0.013
Constant		1.806	0.177	0.000		1.765	0.188	0.000	
Diagnostics	Sample	2,656				2,649			
	LR Chi-sq	837.65				959.82			
	P>Chi-sq	0.000				0.000			
	Log likelihood	-1,132.177				-1,233.839			
	Pseudo R-sq	0.270				0.280			

Source: Authors' own calculations from 2002-03 SIHC

Notes:

- a. All explanatory variables are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is a dummy variable that takes the value of 1 if a working age person is employed, and 0 otherwise.
- b. The omitted categories are: Age band/Partner's age band-15-24; Country of birth/Partner's country of birth-Australia; Highest post-school qualification/Partner's highest post-school qualification-No post-school qualification; Partner's labour force status-Employed full-time; Number of dependent children-Zero; Location-Sydney.
- c. See appendix C table C11.
- d. Whether received Newstart Allowance in the last financial year.

Table C 11: Country of birth categories, 1982-2002

	1982 SIHC	1990 SIHC	1996-97 SIHC	2000-01 SIHC	2002-03 SIHC
Categories in the SIHC	Australia United Kingdom Italy Greece Yugoslavia Netherlands West Germany Austria Czechoslovakia Hungary Malta Poland Other Europe China (excluding Taiwan Province) India Lebanon Malaysia Vietnam Other Asia United States Canada Other America Egypt South Africa Other Africa New Zealand Other Oceania	Australia United Kingdom Italy Other Europe Asia North and South America Africa Oceania	Australia Other Oceania and Antarctica Europe and former Union of Soviet Socialist Republics Middle East and North Africa Southeast Asia Northeast Asia Southern Asia Northern America South and Central America and the Caribbean Africa (excluding North Africa)	Australia Main English-speaking countries (New Zealand, United Kingdom, Ireland, Canada, United States and South Africa) Other	Australia Main English-speaking countries (New Zealand, United Kingdom, Ireland, Canada, United States and South Africa) Other

	1982 SIHC	1990 SIHC	1996-97 SIHC	2000-01 SIHC	2002-03 SIHC
Categories in logits	Australia Main English-speaking countries (United Kingdom, United States, Canada, South Africa, New Zealand) Other	Australia Main English-speaking countries (United Kingdom, North and South America) Other	Australia Main English-speaking countries (Other Oceania and Antarctica, Northern America) Other	As per categories in the SIHC	As per categories in the SIHC

Source: Authors' own calculations from 2002-03 SIHC

APPENDIX D: WAGE EQUATIONS

Table D 1: Wage equation (Heckman two-step selection model), males and females, 1982

Explanatory variable ^{ab}	Males			Females			
	Coef.	Std. err.	Sig.	Coef.	Std. err.	Sig.	
Constant	5.322	0.060	0.000	5.232	0.055	0.000	
Age							
	20-24	0.487	0.034	0.000	0.351	0.034	0.000
	25-34	0.709	0.050	0.000	0.507	0.037	0.000
	35-44	0.838	0.071	0.000	0.453	0.051	0.000
	45-54	0.846	0.077	0.000	0.424	0.066	0.000
	55-64	0.850	0.099	0.000	0.452	0.102	0.000
Marital status		0.120	0.016	0.000	-0.004	0.028	0.899
Number of dependent children aged 0-4		0.045	0.015	0.004	-0.101	0.067	0.131
Number of dependent children aged 5-9		0.035	0.010	0.000	-0.144	0.026	0.000
Number of dependent children aged 10-14		0.029	0.011	0.010	-0.073	0.020	0.000
Australian-born		0.003	0.013	0.798	-0.038	0.021	0.063
Highest educational qualification	Bachelor degree or higher	0.325	0.025	0.000	0.359	0.052	0.000
	Other	0.139	0.011	0.000	0.194	0.028	0.000
Location	Sydney	-0.050	0.029	0.089	-0.070	0.042	0.097
	Rest of New South Wales	0.038	0.051	0.449	-0.187	0.058	0.001
	Melbourne	-0.101	0.029	0.001	-0.087	0.043	0.047
	Rest of Victoria	-0.039	0.054	0.470	-0.119	0.064	0.060
	Brisbane	-0.123	0.031	0.000	-0.106	0.049	0.031
	Rest of Queensland	0.048	0.055	0.375	-0.021	0.072	0.773

Explanatory variable ^{ab}	Males			Females		
	Coef.	Std. err.	Sig.	Coef.	Std. err.	Sig.
Adelaide	-0.123	0.032	0.000	-0.151	0.047	0.001
Rest of South Australia	0.044	0.068	0.515	-0.146	0.088	0.096
Perth	-0.102	0.032	0.001	-0.176	0.051	0.001
Rest of Western Australia	0.072	0.047	0.124	-0.172	0.068	0.011
Tasmania	-0.108	0.035	0.002	-0.307	0.050	0.000
Whether unemployed in last financial year ^c	0.509	0.166	0.002	0.127	0.094	0.177
Whether not in the labour force in last financial year ^c	1.241	0.459	0.007	0.609	0.338	0.072
Lambda (hazard rate)	-1.027	0.270	0.000	-0.613	0.197	0.002
Diagnostics	Censored observations	4,300		7,509		
	Uncensored observations	8,524		5,528		
	Prob>Chi-sq	0.000		0.000		
	Adjusted R-sq	0.279		0.202		
	F-stat	128.157		54.771		

Source: Authors' own calculations from 1982 SIHC

Notes:

- All explanatory variables except the dependent children variables and lambda, are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is log of current weekly wage.
- The omitted categories are: Age band-15-19; Country of birth-Australia; Highest qualification-None; Location-Territories.
- These two explanatory variables have negative coefficients if the hazard rate is excluded from the regression.

Table D 2: Wage equation (Heckman two-step selection model), males and females, 2002

Explanatory variable ^{ab}	Males			Females			
	Coef.	Std. err.	Sig.	Coef.	Std. err.	Sig.	
Constant	5.802	0.049	0.000	5.790	0.063	0.000	
Age							
	20-24	0.303	0.048	0.000	0.229	0.059	0.000
	25-34	0.524	0.052	0.000	0.480	0.056	0.000
	35-44	0.595	0.061	0.000	0.514	0.058	0.000
	45-54	0.594	0.071	0.000	0.379	0.060	0.000
	55-64	0.405	0.106	0.000	-0.041	0.095	0.664
Marital status		0.185	0.025	0.000	-0.031	0.022	0.159
Number of dependent children aged 0-2		-0.003	0.024	0.908	-0.340	0.052	0.000
Number of dependent children aged 3-4		0.061	0.031	0.044	-0.302	0.048	0.000
Number of dependent children aged 5-9		0.021	0.019	0.259	-0.221	0.029	0.000
Number of dependent children aged 10-14		-0.007	0.016	0.679	-0.138	0.020	0.000
Country of birth	Main English-speaking	0.074	0.025	0.003	0.029	0.031	0.338
	Others	-0.223	0.027	0.000	-0.254	0.041	0.000
Highest educational qualification	Still at school	-1.917	0.431	0.000	-1.058	0.382	0.006
	Higher/bachelor degree,	0.493	0.036	0.000	0.678	0.040	0.000
	Other	0.128	0.018	0.000	0.226	0.028	0.000
Location	Sydney	0.044	0.039	0.255	-0.125	0.045	0.006
	Rest of New South Wales	-0.168	0.056	0.003	-0.549	0.064	0.000
	Melbourne	0.003	0.035	0.933	-0.190	0.042	0.000
	Rest of Victoria	-0.239	0.055	0.000	-0.449	0.063	0.000
	Brisbane	-0.113	0.041	0.006	-0.299	0.048	0.000
	Rest of Queensland	-0.172	0.047	0.000	-0.407	0.055	0.000

Explanatory variable ^{ab}	Males			Females		
	Coef.	Std. err.	Sig.	Coef.	Std. err.	Sig.
Adelaide	-0.118	0.044	0.007	-0.259	0.047	0.000
Rest of South Australia	-0.136	0.065	0.038	-0.486	0.074	0.000
Perth	-0.036	0.044	0.411	-0.339	0.046	0.000
Rest of Western Australia	-0.086	0.056	0.124	-0.552	0.069	0.000
Hobart	-0.191	0.065	0.003	-0.322	0.074	0.000
Rest of Tasmania	-0.176	0.056	0.002	-0.610	0.072	0.000
Length of most recent unemployment spell in last 7 months	-0.252	0.055	0.000	-0.318	0.044	0.000
Length of most recent not in the labour force spell in last 7	-0.364	0.091	0.000	-0.548	0.074	0.000
Lambda (hazard rate)	0.414	0.195	0.034	0.866	0.168	0.000
Diagnosics						
Censored observations	2,378			3,258		
Uncensored observations	5,011			4,392		
Prob>Chi-sq	0.000			0.000		
Adjusted R-sq	0.265			0.225		
F-stat	18.499			17.295		

Source: Authors' own calculations from 2002-03 SIHC

Notes:

- a. All explanatory variables except the dependent children variables, unemployed/not in the labour force spell variables and lambda, are dummy variables that take the value of 1 if applicable; and 0 otherwise. The dependent variable is log of current weekly wage.
- b. The omitted categories are: Age band-15-19; Country of birth-Australia; Highest post-school qualification-No post-school qualification; Location-Territories.

APPENDIX E: CHI-SQUARE TESTS OF THE NULL HYPOTHESIS THAT THE 1982 AND 2002 COEFFICIENTS ARE THE SAME

A Chi-square test is used to test the null hypothesis that the 1982 and 2002 coefficients are the same, that is, $\beta_{1982} = \beta_{2002}$, using two alternative methods. Method 1 requires the estimation of the employment participation logits for both samples pooled together. A 2002 dummy, which is equal to 1 if the sample is from 2002, and 0 otherwise, is included in the pooled estimation. The test statistic is defined as $X = -2(L_1 - L_0)$, where L_1 is the log-likelihood for the pooled estimation and L_0 is the sum of the log-likelihoods for the separate 1982 and 2002 logit model estimates. The test statistic is distributed $\chi^2(k)$ where k is the number of parameters (excluding the 2002 dummy). Tests are conducted separately for partnered males and partnered females. The null hypothesis that $\beta_{1982} = \beta_{2002}$ is rejected at the 5% and 1% level for partnered males and females respectively (see table E1).

Table E 1: Chi-square test of the null hypothesis $\beta_{1982} = \beta_{2002}$, method 1

	Log-likelihood			$X = -2(L_1 - L_0)$	k	Sig.
	1982	2002	Pooled			
Partnered male	-2,111.300	-1,310.806	-3,452.299	60.386	41	0.026
Partnered female	-5,215.616	-2583.162	-7,857.507	117.458	43	0.000

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Method 2 requires the estimation of an unrestricted and a restricted employment participation logit for the pooled sample. The unrestricted logit includes the interaction terms, the interaction terms being the explanatory variables interacted with the 2002 dummy. The restricted logit excludes the interaction terms. The test statistic is defined as $X = 2(L_1 - L_0)$, where L_1 is the log-likelihood for the unrestricted logit and L_0 is the log-likelihood for the restricted logit. The test statistic is distributed $\chi^2(k)$ where k is the number of number of restrictions (the difference between the numbers of interaction terms in the unrestricted and restricted logits). The tests are performed separately for partnered males and partnered females. The null hypothesis that $\beta_{1982} = \beta_{2002}$ is rejected at the 5% and 1% level for partnered males and females respectively (see table E2).

Table E 2: Chi-square test of the null hypothesis $\beta_{1982} = \beta_{2002}$, method 2

	Log-likelihood		$X = 2(L_1 - L_0)$	K	Sig.
	Unrestricted	Restricted			
Partnered male	-3,422.105	-3,452.299	60.388	41	0.026
Partnered female	-7,798.776	-7,857.507	117.461	43	0.000

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Individual tests can be performed to test for the null hypothesis that $\beta_{p1982} = \beta_{p2002}$ where β_p represents the coefficients for the subset of partner characteristics using a variation of method 2. In the unrestricted logit all the explanatory variables are interacted with the 2002

dummy. In the restricted logit, the interaction terms are switched off for the subset of partner characteristics. The null hypothesis that $\beta_{p1982} = \beta_{p2002}$ is rejected at the 5% level for partnered females only (see table E3).

Table E 3: Chi-square test of the null hypothesis $\beta_{p1982} = \beta_{p2002}$, method 2

	Log-likelihood		$X = 2(L_1 - L_0)$	k	Sig.
	Unrestricted	Restricted			
Partnered male	-3,422.105	-3,429.541	14.872	15	0.461
Partnered female	-7,798.776	-7,811.889	26.226	15	0.036

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

In table E4, we construct classification tables that compare the actual and predicted employment probabilities for males and females in 1982. In table E5, we repeat this for males and females in 2002.

Table E 4: Classification table, by household type and gender, 1982

(a) Partnered

Observed	Predicted					
	Male			Female		
	Not employed	Employed	% correct	Not employed	Employed	% correct
Not employed	375	698	34.9	3,347	1,520	68.8
Employed	127	7,399	98.3	1,358	2,755	67.0
			90.4			68.0

(b) Unpartnered

Observed	Predicted					
	Male			Female		
	Not employed	Employed	% correct	Not employed	Employed	% correct
Not employed	561	409	57.8	1,067	504	67.9
Employed	316	2,939	90.3	386	2,100	84.5
			82.8			78.1

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

Table E 5: Classification table, by household type and gender, 2002**(a) Partnered**

Observed	Predicted					
	Male			Female		
	Not employed	Employed	% correct	Not employed	Employed	% correct
Not employed	303	414	42.3	966	875	52.5
Employed	72	3,944	98.2	394	2,766	87.5
			89.7			74.6

(b) Unpartnered

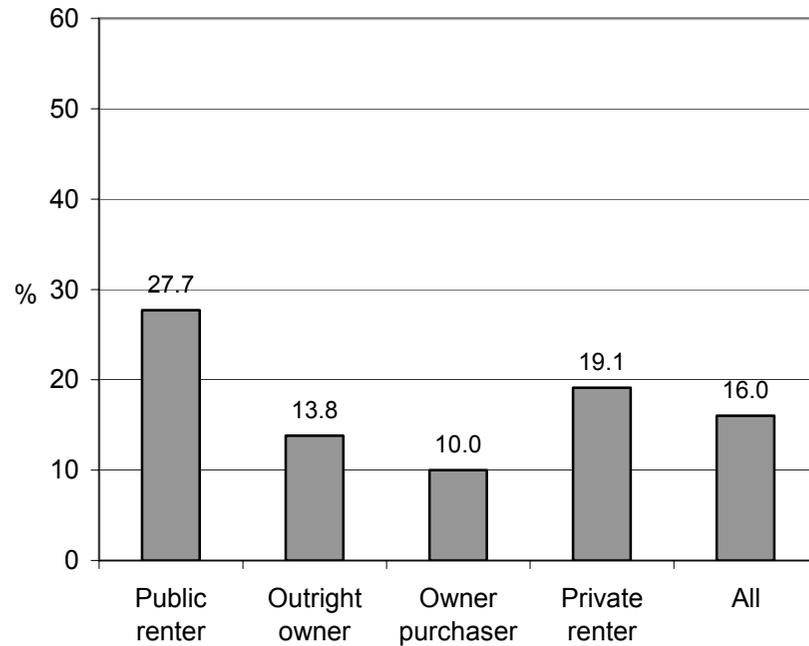
Observed	Predicted					
	Male			Female		
	Not employed	Employed	% correct	Not employed	Employed	% correct
Not employed	358	361	49.8	555	370	60.0
Employed	114	1,823	94.1	242	1,482	86.0
			82.1			76.9

Source: Authors' own calculations from 1982 SIHC and 2002-03 SIHC

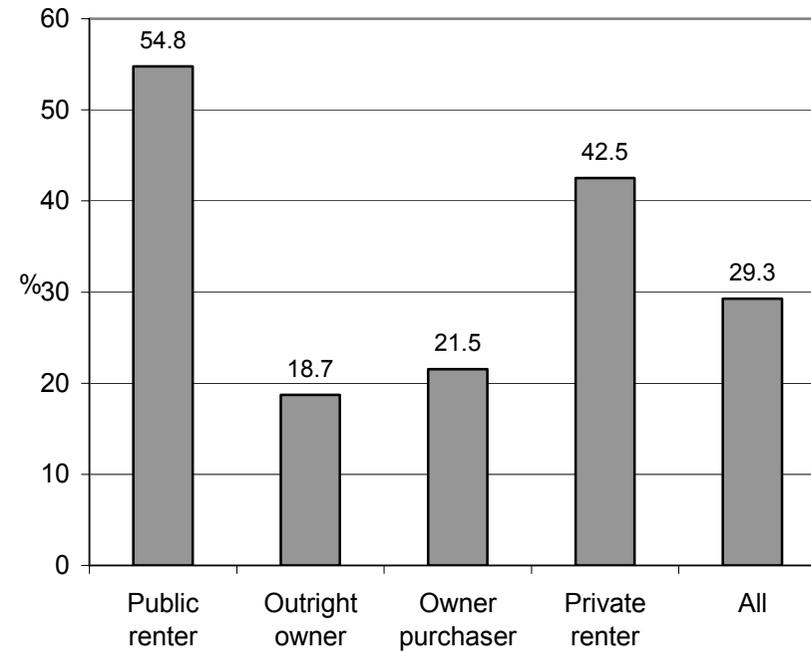
APPENDIX F: LOW INCOME TRAPS, GENDER AND PUBLIC HOUSING TENANTS, 2002 HILDA ESTIMATES

Figure F 1: Percentage of unwaged working age persons with replacement rate >75%, by housing tenure and gender, 2002

Males



Females



Source: Authors' own calculations from the confidentialised unit record files of wave 3 of the HILDA Survey (Release 4.1)

Table F 1: Median exit replacement rates of unwaged working age persons, by housing tenure and gender, 2002

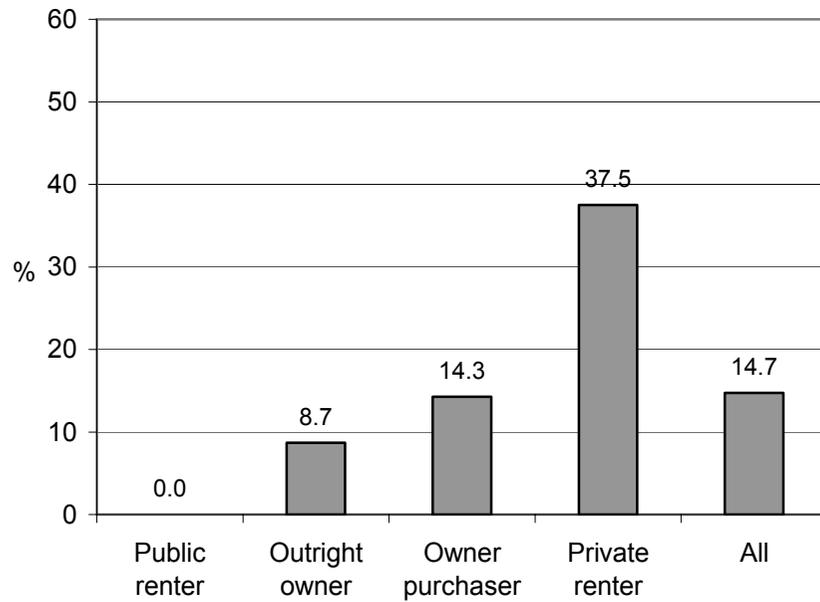
	Males					Females				
	Public renter	Outright owner	Owner purchaser	Private renter	All	Public renter	Outright owner	Owner purchaser	Private renter	All
Median replacement rate	62.6	54.9	50.7	58.0	55.4	77.4	60.8	48.3	71.7	64.1
Sample	64	210	90	157	561	115	379	288	301	1,120

Source: Authors' own calculations from the confidentialised unit record files of wave 3 of the HILDA Survey (Release 4.1)

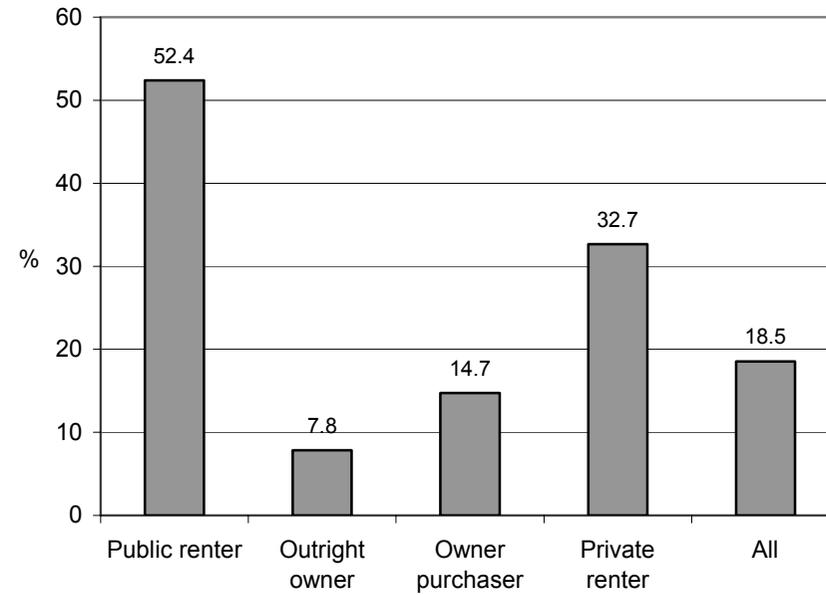
Figure F 2: Percentage of unwaged working age persons with replacement rate >75%, by household type, housing tenure and gender, 2002

(a) Waged partners

Males

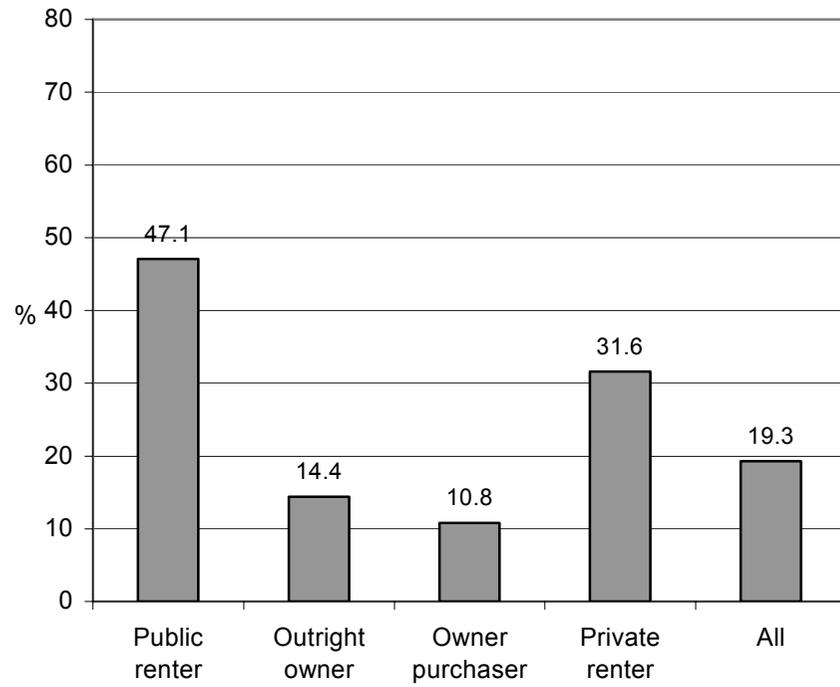


Females

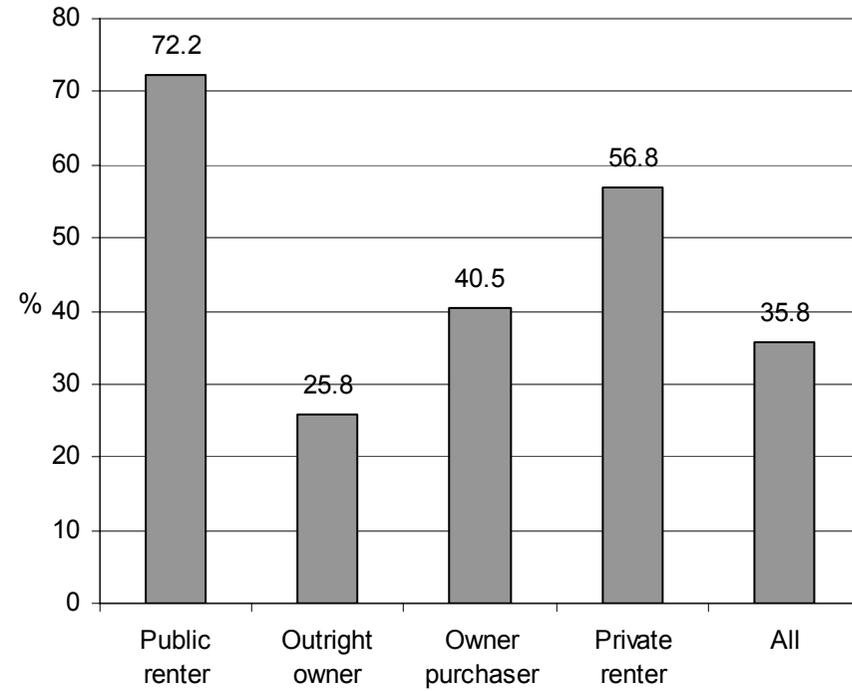


(b) Unwaged partners

Males



Females



Source: Authors' own calculations from the confidentialised unit record files of wave 3 of the HILDA Survey (Release 4.1)

Table F 2: Median exit replacement rates of unwaged working age partnered persons, by employment status of partners, housing tenure and gender, 2002

	Males					Females				
	Public renter	Outright owner	Owner purchaser	Private renter	All	Public renter	Outright owner	Owner purchaser	Private renter	All
<i>Waged partners</i>										
Median replacement rate	24.3	39.8	31.9	41.9	36.0	75.2	30.7	37.1	63.6	42.9
Sample	4	46	28	16	95	21	115	197	98	437
<i>Unwaged partners</i>										
Median replacement rate	68.8	59.6	56.0	65.3	60.6	84.9	66.6	71.5	79.6	69.8
Sample	17	104	37	38	202	18	178	37	44	282

Source: Authors' own calculations from the confidentialised unit record files of wave 3 of the HILDA Survey (Release 4.1)

Table F 3: Percentage of unwaged working age persons with unwaged partners subject to multiple stacking, by gender and housing tenure, 2002

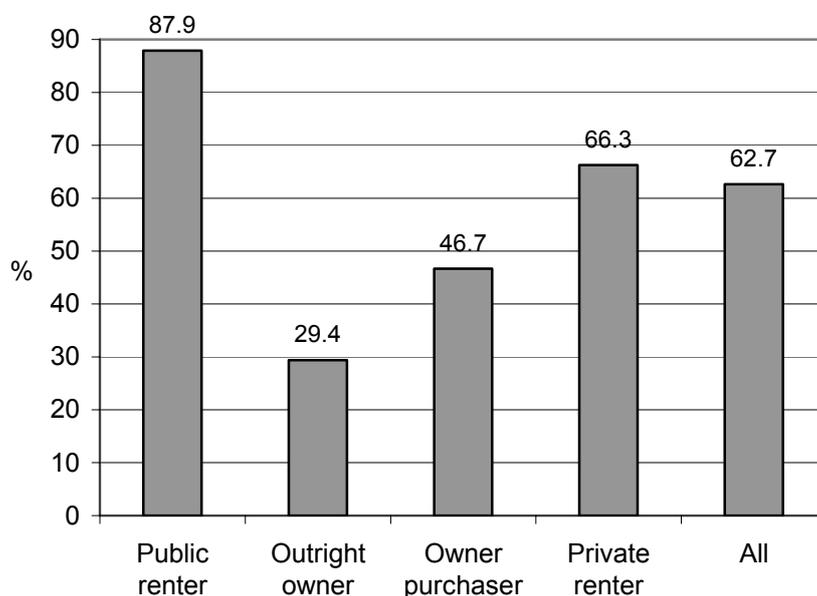
Gender	Public renter	Outright owner	Owner purchaser	Private renter	Total
Males	94.1	72.1	91.9	84.2	80.2
Females	100.0	61.8	54.1	63.6	63.1

Source: Authors' own calculations from the confidentialised unit record files of wave 3 of the HILDA Survey (Release 4.1)

Note:

- a. Refer to table 5.4 for the definition of multiple stacking.

Figure F 3: Percentage of unwaged working age female sole parents with replacement rate >75%, by housing tenure, 2002



Source: Authors' own calculations from the confidentialised unit record files of wave 3 of the HILDA Survey (Release 4.1)

Table F 4: Median replacement rates of female sole parents, by housing tenure, 2002

	Public renter	Outright owner	Owner purchaser	Private renter	All
Median replacement rate	84.4	67.1	73.9	80.2	79.2
Sample	33	17	30	83	166

Source: Authors' own calculations from the confidentialised unit record files of wave 3 of the HILDA Survey (Release 4.1)

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