

**THE CHARACTERISTICS OF JOBLESS HOUSEHOLDS IN AUSTRALIA:
EVIDENCE FROM WAVE 1 OF THE HOUSEHOLD INCOME AND LABOUR
DYNAMICS IN AUSTRALIA (HILDA) SURVEY**

Rosanna Scutella

and

Mark Wooden

*Melbourne Institute of Applied Economic and Social Research,
The University of Melbourne*

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ABSTRACT

An emerging trend in Australia, over the past twenty or so years, has been for any available employment to become increasingly polarised into households where either no adult is working (jobless households), or all adults are working (all-work households). Indeed studies have shown that Australia has one of the highest jobless household rates in the OECD for families with children. This paper uses the first wave of the Household Income and Labour Dynamics Survey for Australia (HILDA) to examine the characteristics of jobless households in Australia that distinguish them from others and render them disadvantaged in the labour market. Particular issues examined include household structure, family background, marital history, housing education, employment history, current labour market status, job search and income and financial wellbeing.

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Introduction

An emerging trend in Australia during recent decades has been for employment to become increasingly polarised into households where either no adult is working (*jobless households*) or where all adults are working (*all-work households*) (see Dawkins, 1996; Gregg and Wadsworth, 1996a, 1996b, 2000; Miller, 1997; OECD, 1998; Gregory, 1999; Dawkins, Gregg and Scutella, 2002a, 2002b). Indeed, while studies have shown that the jobless household rate in Australia is not especially high by comparison with other OECD countries, this is not true once we focus on households with children (OECD, 1998; Dawkins et al., 2002a, 2002b; Nevile 2002). Compared with other OECD countries, Australia has a relatively high incidence of children living in jobless households.

A major feature of this rise in the incidence of jobless households is that it does not mirror trends in unemployment and employment rates based on individual data. Most obviously, while the aggregate unemployment rate has been trending downwards since the recession of the early 1990s, the jobless household rate continued to rise, at least until 1996-97 (Dawkins et al., 2002b).¹ These trends imply that a growing proportion of those not in work at any point in time are located in households with no earned income, which in turn must mean that a growing proportion of households are dependent on savings, transfers from other households or, more often, from the State for income.

The policy significance of these trends have been given prominence in the recent McClure Report on Welfare Reform (Reference Group on Welfare Reform, 2000), which emphasised that the growth in jobless households and families over the last two decades was a major motivation for its recommendations, and that substantially reducing the number of jobless households and families should be one of three targets for reform. Moreover, one of its other recommended targets was a substantial reduction in the number of people who rely heavily on income support, which obviously would be greatly assisted by a substantial reduction in the number of jobless households.

In order to make informed policy decisions with respect to jobless families/households, however, it is important to know who they are and the characteristics that distinguish them from other households and render them disadvantaged in the labour market. Identifying such characteristics is thus the principal objective of this paper.

Interestingly, while awareness of the role of the growth in jobless households in contributing to inequality has clearly increased, relatively little is known about the characteristics of such households. Dawkins, Gregg and Scutella (2002b), for example, used the various Income Distribution Surveys and Income and Housing Costs Surveys that have been carried out by the Australian Bureau of Statistics (ABS) to examine how various observable characteristics of jobless households have changed over time. Unfortunately, the information provided in the ABS surveys is relatively limited and hence this analysis was restricted to a handful of characteristics – broad household type (e.g., lone parent, couple without children, couple with children, etc.), number of dependent children, home rental status, and a limited range of characteristics of the household head (age, gender, education, State, whether an immigrant and year of arrival, and duration of joblessness).² In contrast, the data used in this study – from the first wave of the Household, Income and

¹ The data used by Dawkins et al. (2002b), however, only tracked changes until 1997-98.

² The earlier analysis by Miller (1997), which examined unemployment rather than joblessness, was even more limited in terms of the range of characteristics that were considered.

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Labour Dynamics in Australia (HILDA) Survey – provide a richer source of information for exploring the characteristics of jobless households.

The paper is structured as follows. First, in Section 2, the data are described and key concepts defined. Section 3 then provides a brief summary of the incidence of jobless households and makes some observations about trends on the basis of comparisons with ABS data. A descriptive analysis of the characteristics of individuals living in jobless households is then presented in Section 4. This analysis focuses on demographic and various socio-economic characteristics of these individuals. A more formal statistical analysis of the determinants of household joblessness is then provided in Section 4. In Section 5 we examine the relationship between household joblessness and the distribution of household income. Section 6 concludes.

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1. Data and definitions

Sample

As already noted, the data used in this analysis come from the first wave of the Household, Income and Labour Dynamics Australia (HILDA) Survey. Described in more detail in Watson and Wooden (2002a), the HILDA Survey is based on similar studies conducted in both Germany and the UK (the German Socio-Economic Panel and the British Household Panel Survey respectively). The HILDA Survey thus involved the selection of a large wand then seeking interviews with members of those households. Specifically, a household interview was sought with at least one adult member. Individual interviews were then sought with all household members over the age of 15 years on the 30 June preceding interview. In addition to the collection of data through personal interview, all persons completing a personal interview were also given a self-completion questionnaire which they were asked to return, once completed, either by mail or by handing it to the interviewer at a subsequent visit to the household. Almost all of the interviews were conducted during the period between 24 August 2001 and 21 December 2001.

Households were selected into the sample by a multi-stage process. First, a random sample of 488 Census Collection Districts (CDs), based on 1996 Census boundaries, was selected from across Australia (each of which consists of approximately 200 to 250 households). Second, within each of these CDs all dwellings were fully enumerated and a sample of 22 to 34 dwellings randomly selected, depending on the expected response and occupancy rates within each area. Third, given dwellings can contain more than one household, rules were devised for the selection of households within dwellings. These rules stipulated that where a dwelling contained three or fewer households, all such households should be sampled. Where there were four or more households occupying one dwelling, all households had to be enumerated and a random sample of three households obtained (based on a predetermined pattern).

After adjusting for out-of-scope dwellings (e.g., unoccupied, non-residential) and households (e.g., all occupants were overseas visitors) and for multiple households within dwellings, the total number of households identified as in-scope was 11,693. Interviews were completed with all eligible members at 6872 of these households and with at least one eligible member at a further 810 households. The total household response rate was, therefore, 66 per cent.

Within the 7682 households at which interviews were conducted, there were 19,917 people. Of this group, 4790 were under 15 years of age on the preceding 30 June and hence were ineligible for an interview in Wave 1. This left 15,127 persons eligible for a personal interview, 13,969 of whom completed the Person Questionnaire. Additionally, of this group, 13,159 (94%) completed and returned the Self-Completion Questionnaire.

As discussed in Wooden et al. (2002), these response rates compare favourably with the rates achieved in the first waves of similar major household panel surveys conducted in other Western nations. They are also well in excess of the rates typically reported in other voluntary surveys conducted in Australia. More importantly, comparison with population benchmark data from ABS sources suggest that the sample has characteristics that are

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broadly in line with what would have been expected if the sample were truly random. There is, however, at least one major disparity, with residents from Sydney under-represented, a result that Wooden et al. (2002) attribute to both greater difficulties making contact with some Sydney residents (e.g., those in living in high-rise apartments) and a greater reluctance to participate because of time commitments.

Definitional issues

Following the ABS, a household in the HILDA Survey was defined as a group of people living at the same address who share meals. The simplest definition of a jobless household is thus one where no adult member of that household is in paid work. For this analysis an adult is defined as anyone of working age (15 to 64 years of age) who is not a full-time student. Full-time students are excluded since their economic inactivity is a productive investment in their future and thus joblessness on their part will, in the longer-term at least, typically not be associated with significant levels of economic distress. Further, joblessness is a common characteristic of students and hence carries no social stigma nor is likely to be associated with any significant degree of social exclusion. For similar reasons, individuals of retirement age (65 years or older) are also excluded. Note that these exclusions mean that where a household contains a student or an individual aged 65 years over, that household is effectively redefined so as to exclude that individual.

The choice of these age-based criteria for inclusion is, however, somewhat arbitrary. For example, the definition employed in this analysis means that an older household where the male is of retirement age but his partner is below retirement age with no recent workforce experience will be treated as a single-adult jobless household, even though that household might more appropriately be described as retired from the workforce. Interestingly, this type of household would not be classified as jobless in the definition employed by Dawkins et al. (2002b). They only took into account the age of the nominated household reference person (often thought of as the household head), and omitted from their definition of jobless households all households where the nominated household reference person had reached the age for eligibility to the age pension, irrespective of the age of any other household members. The concept of household head, however, is not employed in the HILDA Survey and hence we do not make a similar exclusion in this analysis. This has obvious ramifications when making comparisons with the figures reported in Dawkins et al. (2002b), and is an issue that we will return to in the next section.

At the other end of the age distribution, and again following the ABS, dependent children are defined as comprising all children under 15 years of age as well as full-time students between the ages of 15 and 25 years who are still living at home with their parents. Note that any household member aged between 15 and 24 years who is not a full-time student will be counted as an adult in our calculations. This means that any household where all members are out of work other than say a part-time student will not be defined as a jobless household since at least one household member (i.e., the part-time working student) has earnings from employment. This is potentially a problem given that such households are almost certainly “job poor”, and hence of interest to policy makers. However our estimates show that only 41,900 households or just 0.7 per cent of all working-age households avoid falling into the jobless basket simply because of the presence of a young adult (under 25 years of age) child. Moreover, in only 6,600 of these households (or 0.1 per cent of

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working-age households) was the young adult a part-time student.³ Overall, therefore, this would seem to be an issue that can be safely ignored.

It is also important to be aware that the concept of joblessness employed in this analysis makes no distinction between persons who are actively seeking work, and who would be classified by the ABS as unemployed, and those who are not, and hence would be classified as not in the labour force. In short, not every member of a jobless household has to be actively seeking work. Indeed, the ABS data analysed by Dawkins et al. (2002b) indicates that only 25 to 30 per cent of all adult members of jobless households are actually job seekers. However, just because an individual is not actively seeking work does not mean that individual does not face significant economic and social disadvantages. For example, many of the jobless may not be looking for work because they have given up hope of ever finding work or because they face significant barriers that prevent either job search or accepting employment. For instance, sole parents or those with a disability face very different barriers to securing work than other members of the community. In the case of sole parents, they are the primary carer of their child/children and thus may be unable to work many hours or may even choose, in the interests of their children, not to work at all. But what happens to these parents (primarily women) in the future when their children are no longer so dependent on them? While they may now have both the desire and opportunity to return to the workforce, their long absence is likely to make it difficult to secure employment, and especially employment which is stable and offers attractive working conditions. These sole parents may thus find themselves reliant on income support indefinitely or alternatively are only able to obtain employment that is intermittent and relatively poorly paid.

Clearly the circumstances surrounding household joblessness are likely to be diverse. It thus follows that when considering the characteristics of jobless households, it may be important to distinguish between different households on the basis of the different reasons members of those households have for being out of work.

Finally, it needs to be recognised that the analysis reported on here mostly involves static comparisons. This is an obvious weakness given the significance of joblessness is a function of how long households are likely to remain jobless. Unfortunately, the cross-sectional nature of the Wave 1 HILDA Survey data render a detailed analysis of the dynamics of joblessness not possible at this time.⁴

2. The incidence of jobless households

Based on the HILDA Survey data, Figure 1 provides a breakdown of the population-weighted estimates of both households and individuals in Australia by work status. This figure indicates that in mid-2001 (when the HILDA sample was drawn) there were 7.4 million households living in private residences in (non-remote parts of) Australia, which in turn were comprised of just over 15 million members aged 15 years or older. Over six million of these households (or almost 84 per cent) had at least one member of working-age (as defined in Section 2). We refer to these households as working-age households. Of

³ Indeed, this estimate is far too small to be reliable (it is based on just 5 cases).

⁴ The dynamics are complicated further by the fact that household composition changes over time.

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these working-age households, close to 17 per cent (just over 1 million) had no working-age member in paid employment. These households are our *jobless households*. The remaining working-age households are either *all-work households* (63%) – that is households where all members of working age are in paid employment – or *mixed-work households* (21%) – that is, households where at least one adult member is employed and at least one other is not.

Figure 2 is similar to Figure 1, but focuses on households with members of retirement age, and hence highlights the significance of the age-based criteria that are used to define joblessness in this study. As can be seen, there are approximately 425,000 working-age households with at least one member of retirement age. Of these, almost 200,000 are defined as jobless, which amounts to around 19 per cent of all jobless households. In some of these households, however, the jobless adult will be a partner nearing retirement age and thus arguably would be better treated as non-working-age household. Thus in Figure 2 we also report the number of jobless households where one adult is of retirement age and the other adult is at least 55 years of age. The data suggest that around 12 per cent (or 127,000) of all jobless households fall into this category. This is clearly a sizeable number and moreover is likely to grow given demographic dynamics.

Table 1 represents a different way of presenting these same data. It provides summary information on the distribution of employment among households in Australia. As already noted, almost 17 per cent of working-age households are estimated to have no adult in paid employment. This is what we describe as the jobless household rate. This translates to nearly 13 per cent of working-age adults living in households where no adult member is employed. Consistent with previous research, this table also reveals that joblessness is a relatively serious problem in households where there are dependent children present. While the rate of joblessness among households with children under 15 years of age is, at 13.6 per cent, less than that for all households, this converts into an individual rate for children of 14.7 per cent. That is, 1 in 7 children under 15 years are growing up in a home where no adult is employed and with no earned income.

Table 1 also provides some summary information about the duration of joblessness within households. As noted earlier, the dynamics of joblessness are clearly important, with the extent of economic disadvantage arising from joblessness likely to be a direct function of its duration. Wave 1 of the HILDA data, however, does not provide complete data on duration, though obviously such data will evolve as future waves of the panel are conducted. What is provided in the first wave, however, are retrospective data extending back to the start of the preceding financial year (30 June 2000). These data suggest that joblessness within households is generally not a short-term phenomenon – around three-quarters of all households that were defined as jobless at the time of interview had no adult members who had had any attachment to the labour force during the preceding twelve months.

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Figure 1: Population composition by joblessness

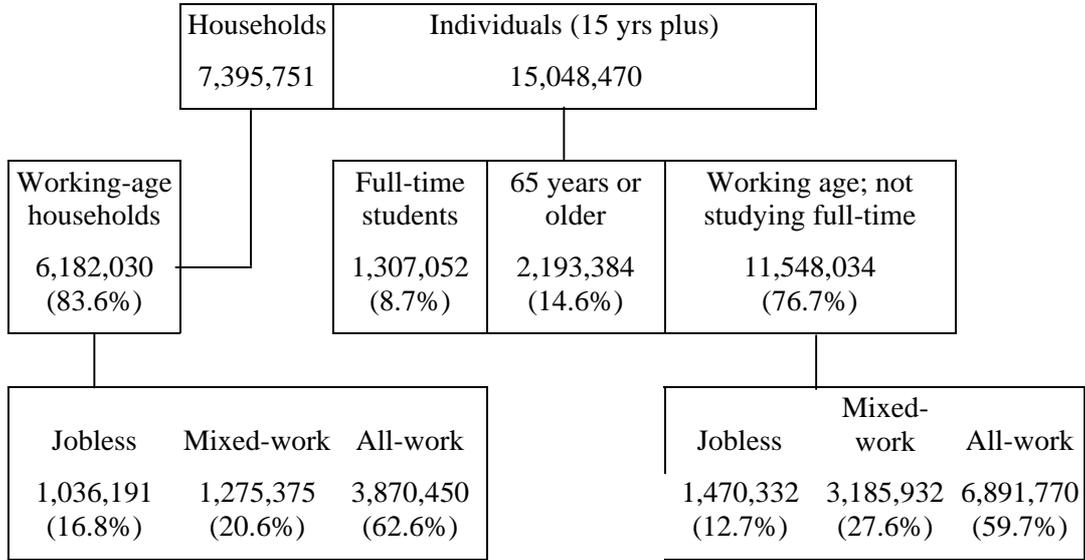


Figure 2: Working-age households with individuals of retirement age



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Table 1: Aggregate statistics on the distribution of employment across households, 2001

	%	<i>Weighted population estimate</i>
Jobless household rate (% of households)	16.8	1,036,191
All-work household rate	62.6	3,870,450
Mixed-work household rate	20.6	1,275,375
Adults in jobless households (% of individuals 15 yr plus)	12.7	1,470,332
Jobless household rate – with kids (under 15 years)	13.6	295,436
Jobless household rate – with dependents (includes hh's with children under 15 years and full-time students aged 15-24 years)	13.0	333,858
Children under 15 years living in jobless households	14.7	607,500
Jobless households – spent at least 12 months jobless	74.3	1,036,191

Finally, these data can also be compared with estimates for earlier periods reported in Dawkins et al. (2002b), but based on data from the ABS Survey of Income and Housing Costs. A summary of such comparisons is provided in Table 2. Taken at face value, the HILDA Survey estimates suggest that the upward trend in the incidence of jobless households came to an end around 1996/97, with the rate of jobless households in the HILDA Survey being identical to that calculated from ABS data using data for the 1996/97 financial year. In fact, this is entirely coincidental, since the definition of a jobless household that is employed here is not the same as that employed by Dawkins et al. (2002b). Specifically, the latter excluded all households where the notional household head was of retirement age or older and defined the female retirement age to be 60 years of age. Table 2 thus provides two different sets of estimates from the HILDA Survey. The first set – series A – is based on the definition set out earlier, and used in the rest of this study. The second set – series B – is intended to produce estimates that are based on a definition which is very similar (but not identical) to that used by Dawkins et al. (2002b). We thus excluded from our definition of working-age all females aged between 60 and 64 years. Further, we also excluded from our definition of working-age households all couple households where the male was 65 years or older. The estimated rate of jobless households under this definition is much lower – 14.9 per cent – and hence suggests that the incidence of jobless households has actually been falling since the mid-1990s. That said, the level of joblessness has still yet to return to the levels experienced prior to the recession of the early 1990s. Further, the extent to which children are living in jobless households appears not to have declined by as much as the overall jobless household rate. According to Dawkins et al. (2002b), 15.6 per cent of children under the age of 15 years were living in jobless households in 1996/97. The HILDA Survey suggests that by 2001 this rate had fallen by about one percentage point.

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**Table 2: The changing incidence of jobless households:
The HILDA Survey and ABS estimates compared**

	<i>ABS</i>		<i>HILDA</i>	
	<i>1990</i>	<i>1996/97</i>	<i>2001 A</i>	<i>2001 B</i>
Jobless household rate (% of households)	14.2	16.8	16.8	14.9
Adult in jobless households (% of individuals aged 15 years plus)	10.5	12.3	12.7	10.9
Children in jobless households (% of individuals aged less than 15 years)	11.4	15.6	14.7	14.6

Note: The series “A” estimates from the HILDA Survey are based on the definition of jobless household provided elsewhere in this paper. The series “B” estimates use a definition that is compatible with that used in Dawkins et al. (2002b).

Source: ABS data come from Dawkins et al (2002b, Table 2, p. 137).

3. The characteristics of jobless households

In this section the characteristics of individuals living in jobless households are summarised. Comparisons are made between the composition of jobless households and all-work and mixed-work households. General demographic characteristics are initially examined. We then move on to looking at relationships with education, labour market status, employment and the socio-economic status of the neighbourhood in which people live.

Before proceeding, however, an important data issue needs to be noted. As observed earlier, interviews were not completed with all members of the households in the responding sample. Specifically, there were 1158 members of cooperating households that were eligible for interview but with whom a completed interview was not obtained. This represents 7.7 per cent of the total sample of adult household members. Fortunately, data on a small number of key characteristics were collected about all household members as part of the household interview, and one of these characteristics was labour force status. As a consequence, we are able to determine with a reasonable degree of accuracy the employment status of all households in the sample. However, apart from their age, sex, place of residence and relationship in the household, we know very little about the other characteristics of these non-responding sample members. Consequently, in many of the tables to follow there is a relatively high proportion of missing cases.

Demographics

In 3 we present information about the distribution of employment across households by household type. Unlike most of the other tables to follow, the unit of analysis in this table is the household. The first column presents the incidence of joblessness among households while the second and third present rates of all-work and mixed-work households in each category respectively. The final column reports the composition of jobless households.

In general, this table reveals that both jobless household and all-work household rates are higher among single-adult households than among couple households. This is hardly surprising given that a household with one adult can only be a jobless household or an all-work household.⁵ Of greater interest, this table reveals that the rate of joblessness is highest among lone parents with young dependent children, with around 44 per cent of lone parent households with dependent children under the age of 15 years being jobless. Further, such households represent about 18 per cent of all jobless households, even though they only account for around 7 per cent of all households. As might be expected, the rate of joblessness is much lower in lone parent households where the children are older. Nevertheless, the rates of joblessness for lone parents where the youngest child is 15 years or over are still quite high, and certainly much higher than among comparable couple households. Such findings are consistent with hysteresis; that is, that the probability of exiting joblessness declines with the length of time without a job.

⁵ Though, as explained in the note to Table 3, the way we have categorised households means that lone parent households could include working children and hence meaning that mixed-work outcomes are a distinct possibility.

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Table 3 also indicates that, in contrast to the lone parents, the rate of joblessness among couple households with children is relatively low – just 5.8 per cent of couple households with children under the age of 15 years are classified as jobless. However such households account for a large proportion of children, and combined with the high rates of joblessness among lone parents leads to a comparatively high rate of incidence of children living in jobless households in Australia (relative to other Western countries).

Finally, despite the emphasis placed here on households with children, Table 3 also reveals that the majority of jobless households do not have children present. Many of these are households where the members are nearing retirement age. Nevertheless, there is a sizeable proportion of younger households which have yet to commence child rearing.

Table 3: The distribution of employment across households by household type

	<i>Jobless household rate (%)</i>	<i>All-work household rate (%)</i>	<i>Mixed-work household rate (%)</i>	<i>% of jobless households</i>
Couple-no children	19.4	64.8	15.8	28.3
Couple-children under 15	5.8	60.4	33.8	9.4
Couple-dependent students	*	65.2	28.9	*
Couple-non dependent children	8.1	46.1	45.9	3.6
Lone parent – children under 15	43.8	48.0	8.2	17.7
Lone parent – dependent students	22.8	70.5	*	2.0
Lone parent – non-dependent children	18.0	52.7	29.3	3.8
Lone person	26.7	73.3	-	30.0
Other	11.1	70.1	18.8	3.5
Total	16.8	62.6	20.6	100
Weighted N (households)	1,036,191	3,870,450	1,275,375	

Notes: Construction of household type: If a household is coded as having children under 15, it may also contain dependent students or non-dependent children. If a household is coded as having dependent students, it may also contain non-dependent children, but it does not contain children under 15, hence all of lone parent household categories above may include non-dependent children and thus may be a mixed-work household.

* Estimate is based on too small a sample (less than 20 observations) to be reliable.

Returning again to the issue of children living in jobless households, in Table 4 we present data on household jobless rates by not only the presence of children but also by the number of children.⁶ This table reveals that the incidence of joblessness actually falls with the number of children until three children are reached. Close to two-thirds of individuals in jobless households have no children resident; the remaining one-third largely consists of

⁶ Note that the household continues to be the unit of analysis in this table.

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smaller families, with around 12 per cent with one child, 9 per cent with two children and 8 per cent with three children or more. The rate of jobless households, however, is most pronounced in the largest households – those with 4 or more children. Such observations raise a number of questions. Most obviously, do large families preclude working, as might seem reasonable in the case of a lone parent, or does joblessness provide some incentive for parents to have additional children, as might exist if levels of income support rise with the number of children? Alternatively, perhaps individuals with large families are treated more leniently when it comes to determining whether they meet the work test when applying for unemployment benefits?

Table 4: Distribution of employment across households by number of children under 15 years of age

	<i>Jobless household rate (%)</i>	<i>All-work household rate (%)</i>	<i>Mixed-work household rate (%)</i>	<i>% of jobless households</i>
No children	18.5	65.4	16.1	71.5
1 child	13.9	58.7	27.4	12.0
2 children	11.0	59.8	29.2	8.6
3 children	13.8	57.5	28.7	4.4
4 children +	26.6	35.7	37.7	3.5
Total	16.8	62.6	20.6	100
Weighted N	1,036,191	1,470,332	6,891,770	1,036,191

The prevalence of females and different age groups in jobless households are presented in Table 5. In this case the unit of analysis is the individual. The first column in the table again presents the incidence of household joblessness, but in this case it represents the proportion of individuals in each category living in a jobless household. For instance, the first number in column 1 indicates that close to 11 per cent of working-age males live in a household where no adult is employed. For comparative purposes the second and third columns present the composition of all-work and mixed-work households respectively. The final column then reports the composition of individuals living in jobless households by sex and age. Thus, close to 43 per cent of individuals living in jobless households are male and almost 42 per cent are aged 55 years or over.

The table shows that females are more likely to be living in a jobless household than males. Almost 15 per cent of working-age females are living in jobless households compared with 11 per cent of men, and women represent 57 per cent of all persons living in jobless households. In part, this difference reflects the high incidence of joblessness among single-adult and sole-parent households, who are more likely to be female. In addition, this gender difference will also reflect age differences within couples, with many of the women in the oldest age group likely to be married to older retired men. Finally, and most obviously, the

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higher rate of joblessness among women simply reflects a lesser propensity on the part of women to seek paid work.

Table 5: Distribution of employment across households by gender and age

	<i>Individuals in jobless households (%)</i>	<i>Individuals in all-work households (%)</i>	<i>Individuals in mixed-work households (%)</i>	<i>% of jobless households</i>
Gender				
Male	10.8	61.3	28.0	42.6
Female	14.8	58.1	27.2	57.4
Age				
15-19 yrs	8.5	46.9	44.6	2.8
20-24 yrs	7.9	58.9	33.3	5.6
25-34 yrs	7.9	66.3	25.7	14.8
35-44 yrs	8.6	66.2	25.2	16.8
45-54 yrs	10.3	63.2	26.5	18.4
55 yrs +	34.0	38.0	28.1	41.7
Total	12.7	59.7	27.6	100
Weighted N	1,470,332	6,891,770	3,185,932	1,470,332

Jobless household rates also tend to rise markedly with age, particularly at the end of the age distribution. Indeed, individuals aged 55 years or over easily represent the largest group of those living in jobless households. This is not surprising with the high rates of joblessness among older persons likely to reflect both voluntary early retirement decisions and forced redundancy. Again it needs to be noted that many of these older jobless households are what may be termed quasi-retired. That is, while the individual may not have reached the age for eligibility to the age pension, their partner might have. In Section 3, for example, it was estimated that around 127,000 persons are over the age of 55 but are in a couple household where the partner is over 65 years of age. Such people are unlikely to be of the same level of concern to policy makers as other jobless households.

Of some interest, unlike Dawkins et al. (2002b), we find very little evidence of a u-shaped relationship with age. This difference with the earlier study, however, is easily explained. Dawkins et al. were concerned with the age of household heads. In contrast, our figures are based on the age of all individuals and of course most young people are not usually nominated as the household head. The lower rate of joblessness among young people reported here thus reflects the tendency for most young people, especially teenagers, to still be living at home with their parents, and parents have a much higher likelihood of being in work than their children.

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Another demographic factor that might be expected to be of importance is country of birth. It has, for example, been well established in previous research that immigrants from a non-English-speaking background are much more likely to experience spells of unemployment than individuals born in Australia or in English-speaking countries (see Wooden 1994 for a review). In Table 6 we present information on the birthplace of individuals in jobless households. As the Australian born are by far the largest group in the population, they also make up the largest group of individuals living in jobless households. Nevertheless, as expected, it is immigrants from non-English-speaking countries who are at greatest risk of residing in jobless households. Almost 18 per cent of adults in this group live in jobless households compared with only 12.5 per cent of the Australian born and 12.8 per cent of immigrants born overseas in the main English-speaking countries (that is, the UK, Ireland, New Zealand, Canada, the USA and the Republic of South Africa).

Table 6: Distribution of employment across households by country of birth

	<i>Individuals in jobless households (%)</i>	<i>Individuals in all-work households (%)</i>	<i>Individuals in mixed-work households (%)</i>	<i>% of jobless households</i>
Australia	12.5	62.7	24.9	64.8
Main-English speaking	12.8	64.2	23.0	10.1
Non-English speaking	17.7	48.8	33.5	19.6
Missing	7.1	50.6	42.3	5.5
Total	12.7	59.7	27.6	100
Weighted N	1,470,332	6,891,770	3,185,932	1,470,332

The distribution of employment across households by area of residence is presented in Table 7. As a general rule, it is more common for those living outside capital cities to be in a jobless household. Note, however, that some of the sample sizes are quite small; particularly for the smaller States, thus confidence bounds around the estimates are quite large. In Table 8 we focus much more explicitly on the relationship between joblessness and the distance from major centres, or remoteness, where the degree of remoteness is measured by a banded scale derived from the Accessibility/Remoteness Index of Australia (ARIA) scores from the 1996 Census. With the exception of remote Australia, the likelihood of living in a jobless household appears to rise the further the distance from major cities, yet another indicator of the higher levels of economic disadvantage associated with living in regional Australia.

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Table 7: Distribution of employment across households by area of residence

	<i>Individuals in jobless households (%)</i>	<i>Individuals in all-work households (%)</i>	<i>Individuals in mixed-work households (%)</i>	<i>% of jobless households</i>
Sydney	10.1	60.7	29.2	17.6
Rest of NSW	16.7	57.2	26.1	15.3
Melbourne	11.5	59.6	29.0	16.6
Rest of Vic	13.9	60.5	25.6	7.0
Brisbane	12.0	60.1	27.9	8.4
Rest of Qld	15.0	57.6	27.4	12.0
Adelaide	17.0	59.0	24.0	7.5
Rest of SA	19.5	65.9	14.7	3.0
Perth	8.9	60.3	30.8	5.1
Rest of WA	12.4	59.3	28.3	2.6
Tasmania	21.3	55.7	23.0	3.9
NT	*	64.0	*	*
ACT	*	68.3	25.0	*
Total	12.7	59.7	27.6	100
Weighted N	1,470,332	6,891,770	3,185,932	1,470,332

Note: * Estimate is based on too small a sample (less than 20 observations) to be reliable.

We also might expect patterns of household joblessness to be associated with patterns in home ownership, with the jobless households much less likely to own their home or to have a mortgage. This is confirmed in Table 9, which reveals that renters are much more likely to find themselves in a jobless household than households that own or are paying off their home, with close to 19 per cent of those renting residing in a household where no adult is working. Note further that the incidence of jobless households is particularly acute for households living in public housing, with jobless household rates approaching 50 per cent.

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Table 8: Distribution of employment across households by remoteness

	<i>Individuals in jobless households (%)</i>	<i>Individuals in all-work households (%)</i>	<i>Individuals in mixed-work households (%)</i>	<i>% of jobless households</i>
Major city	11.5	59.8	28.7	57.9
Inner regional	14.7	59.4	25.8	28.4
Outer regional	17.0	58.6	24.4	13.2
Remote	*	65.4	30.5	*
Total	12.7	59.7	27.6	100
Weighted N	1,470,332	6,891,770	3,185,932	1,470,332

Notes: Remoteness index derived from the Accessibility/Remoteness Index of Australia (ARIA) scores from the 1996 Census. See ABS, *Australian Standard Geographical Classification* (cat. no. 1216.0, pp. 36-37).

* Estimate is based on too small a sample (less than 20 observations) to be reliable.

Table 9: Distribution of employment across households by residences ownership status

	<i>Individuals in jobless households (%)</i>	<i>Individuals in all-work households (%)</i>	<i>Individuals in mixed-work households (%)</i>	<i>% of jobless households</i>
Own outright	16.7	51.0	32.3	44.7
Mortgage/Rent-buy scheme	4.6	69.2	26.2	13.3
Rent-private (includes boarders)	14.3	62.9	22.9	26.5
Public housing	45.5	24.4	30.2	13.9
Other	11.0	66.1	22.9	1.6
Total	12.7	59.7	27.6	100
Weighted N	1,470,332	6,891,770	3,185,932	1,470,332

1. The categories are defined as: own outright: own home with any loan completely paid off, mortgage/rent-buy scheme: currently paying off mortgage or involved in a rent-buy arrangement, rent-private: renting or paying board, public housing: landlord is a Government housing authority or housing provided by public housing, other: includes those living in rent-free accommodation, those with life tenure etc.

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Education

In line with the predictions of human capital theory, it has long been established that the likelihood of employment is sensitive to educational attainment. Combined with the impact of assortative mating, wherein individuals with similar socio-economic characteristics are more likely to enter relationships and hence form families, it is expected that education would be a very significant factor in determining household joblessness. This is confirmed by the figures presented in Table 10, which shows the distribution of employment across households by education level. Living in a jobless household is clearly strongly associated with educational attainment, with the incidence of household joblessness much more pronounced among individuals who have relatively little formal education. Approximately 45 per cent of persons who have no formal education beyond primary school are living in jobless households, and for those with some secondary school, but not up to or past Year 10 the rate is almost 30 per cent. In contrast, only around 5 per cent of individuals with degree-level qualifications live in jobless households and around 75 to 80 live in all-work households.

Table 10: Distribution of employment across households by highest educational qualification

	<i>Individuals in jobless households (%)</i>	<i>Individuals in all-work households (%)</i>	<i>Individuals in mixed-work households (%)</i>	<i>% of jobless households</i>
Postgraduate	4.9	78.9	16.2	2.3
Undergraduate	5.3	75.5	19.2	6.6
Certificate	8.3	68.5	23.2	4.6
Completed secondary studies	9.3	62.6	28.1	7.1
Completed at least yr 10	13.7	58.2	28.1	40.6
Secondary less than yr 10	28.6	39.7	31.7	25.8
Completed primary or below	45.6	20.5	33.9	6.9
Underdetermined	7.6	50.8	41.6	6.2
Total	12.7	59.7	27.6	100.0
Weighted N	1,470,332	6,891,770	3,185,932	1,470,332

Employment history and status

In this section we turn our attention to various labour market characteristics of individuals in jobless households. From earlier studies, and confirmed in Table 11, we know that the majority of those in jobless households are not in the labour force and thus no longer actively seek employment. Indeed, Table 11 indicates that only 18 per cent of people living in jobless households are actively seeking work. Instead individuals in jobless are more

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likely to classify themselves as being retired (36%), bearing in mind that this is after excluding all persons aged 65 years or more from the population of interest, undertaking home duties (29%), or provide some other reason for not wanting work (15%), such as illness or disability or caring responsibilities.

Table 11: Distribution of employment across households by labour force status

	<i>Individuals in jobless households (%)</i>	<i>Individuals in all-work households (%)</i>	<i>Individuals in mixed-work households (%)</i>	<i>% of jobless households</i>
Employed full-time	-	79.1	20.8	-
Employed part-time	-	84.3	15.8	-
Looking for work	50.2	-	49.8	18.0
Retired	73.9	-	26.1	36.1
Home duties	33.7	-	66.3	28.6
Non-working student	22.9	-	77.1	2.7
Other	68.5	-	31.5	14.6
Total	12.7	59.7	27.6	100
Weighted N	1,470,332	6,891,770	3,185,932	1,470,332

Although only around a fifth of individuals in jobless households are actively searching for work, it may be the case that individuals have become discouraged from searching for work due to prolonged job search in the past that was unsuccessful, or even just due to a perception of poor employment opportunities. The HILDA survey asks respondents not searching for work what their intentions for work are at the time of the interview, the results of which are presented in Table 12 for individuals in jobless households.

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Table 12: Individuals in jobless households' preferences for work

	<i>% of jobless households</i>
Searching for work	18.0
Want to work	18.9
Maybe wants to work	4.6
Does not want to work	33.9
Don't know	-
Missing	24.6
Total	100
Weighted N	1,470,332

As we saw earlier, 18 per cent of individuals in jobless households are actively seeking employment. In addition around 19 per cent claim that they want to work even though they are not actively searching for work. Close to 5 per cent say that they may want to work depending on various circumstances, with only around a third saying that they definitely do not want to work. Around 25 per cent of individuals in jobless households did not respond to this question. So over a third of individuals in jobless households would definitely work if they were offered reasonable employment. In Table 13 the main activity of individuals in jobless households since searching for work is presented. Presented in the top row of the table are the 18 per cent of individuals actively searching for employment. Then in the body of the table are those not actively searching for work.

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Table 13: Individuals in jobless households, main activity since looking for work

	%
Searching for work	18.0
Retired/voluntarily inactive	19.8
Home duties/child care	22.5
Study	*
Sickness/injury	8.1
Carer	2.4
Leisure time	1.9
Voluntary work	1.5
Other	*
Missing	24.2
Total individuals in jobless households	1,470,332

Note: * Estimate is based on too small a sample (less than 20 observations) to be reliable.

More information on the circumstances of the group of individuals in jobless households can be found by examining the main reason their last job ended and for individuals no longer searching for work. This clarifies a little further the circumstances of individuals in jobless households and to what extent social policy makers should be concerned with the class of jobless households. The main reason for last job ending for individuals in jobless households is presented in Table 14.

Table 14: Individuals in jobless households – reason last job ended

	%
Job was temporary/holiday job	5.2
Laid off/no work available	15.6
Not satisfied/ to obtain better job	3.8
Self employed - business closed down	2.2
Retired	12.3
Sickness/disability	22.7
Pregnancy/Care for children or other dependents	16.8
Other	9.9
Missing	11.5

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Total	1,470,332
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The largest single reason reported for last job ending is due to sickness or disability. Other common reasons are pregnancy or care for dependents, being laid off or there not being work available, or wishing to move into retirement. It is interesting that in this table just over 12 per cent of individuals in jobless households reported that the main reason their last job ended was due to retirement, while referring back to Table 11 around 36 per cent are reported as retired at the time of the interview. It seems to be the case that while a significant amount of household joblessness for older Australians can be explained by trends for early retirement it is clear that this is not in all cases a voluntary occurrence. In Table 15 we examine in further detail the reason for last job ending for that subset of individuals in jobless households reporting to currently be in retirement. Less than a third report that the reason they left their last job was to retire with sickness or disability, being laid off from their job and pregnancy or care for dependents other common reasons why these individuals went into retirement.

Table 15: Retired individuals in jobless households – reason last job ended

	%
Job was temporary/holiday job	*
Laid off/no work available	14.5
Not satisfied/ to obtain better job	*
Self employed - business closed down	*
Retired	30.2
Sickness/disability	26.7
Pregnancy/Care for children or other dependents	11.7
Other	7.1
Missing	*
Total	530,316

Note: * Estimate is based on too small a sample (less than 20 observations) to be reliable.

Family employment history

Previous studies have shown that family employment history, particularly that of the father, can have quite significant effects on an individual's current socio-economic status (for instance see Broom et al, 1980; Prior and Beggs, 1989; and Jensen and Seltzer, 2000) In table 15 we examine the family employment history of those in jobless households and compare that to the outcomes for other individuals. Respondents were asked about both their mothers and fathers employment status at age 14 and additional information on

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whether the respondent's father was unemployed for 6 months or more while the respondent was growing up.

Table 16: Family employment history

	<i>Individuals in jobless households</i>	<i>Other individuals</i>
<i>Was father in paid employment when you were 14 years?</i>		
Yes	79.2	80.1
No	4.4	2.5
Father deceased	5.0	2.6
Not living with father	3.8	1.8
Missing	7.7	13.0
<i>Was father unemployed for a total of 6 months or more when growing up?</i>		
Yes	12.1	8.7
No	72.2	74.6
Missing or not applicable	15.7	16.7
<i>Was mother in paid employment when you were 14 years?</i>		
Yes	35.0	43.4
No	54.5	40.9
Mother deceased	2.0	1.1
Not living with mother	1.1	*
Missing	7.4	14.0
<i>Total</i>	<i>100</i>	<i>100</i>
	<i>1,470,332</i>	<i>10,077,702</i>

Note: * Estimate is based on too small a sample (less than 20 observations) to be reliable.

Fathers' employment status at age 14 does not seem to have a significant effect on household joblessness. However, individuals in jobless households were more likely to report that their father was unemployed for at least 6 months while growing up than other individuals. In addition, individuals whose mothers were not employed at age 14, or who were not living with their member due to death or other reasons are also more likely to currently be in a jobless household.

Neighbourhood characteristics

It has been well established that unemployment tends to be concentrated in specific communities and neighbourhoods (e.g., Gregory and Hunter 1995). We thus would expect

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jobless households to be more common in localities where average levels of unemployment are high and mean incomes are low. As a simple test of this, we correlated joblessness with measures of socio-economic disadvantage within areas.

These measures of socio-economic disadvantage come from the ABS, which have used data from the Census of Population and Housing to construct several summary indices to measure various aspects of social and economic conditions across areas in Australia.⁷ Since the HILDA sample employs a clustered sample using 1996 Census boundaries, it was a relatively simple matter to match these socio-economic indicators for areas (SEIFA) scores from the 1996 Census to individuals and households in the HILDA Survey. As recommended by the ABS, however, the raw scores are not provided in the HILDA data set, only the sorting of areas (Collection Districts) into deciles ranked according to these scores (and based on population counts).

Three different indices that the ABS produces are available in HILDA: the Index of Relative Socio-Economic Disadvantage; the Index of Economic Resources; and the Index of Education and Occupation. The relationship between individuals in jobless households and the three indices respectively are presented in Figures 3 to 5. “High scores on the Index of Relative Disadvantage occur when the area has few families of low income and few people with little training and in unskilled occupations. Low scores on the index occur when the area has many low income families and people with little training and in unskilled occupations” (ABS, 1996, p.3). Whereas “A higher score on the Index of Economic Resources indicates that the area has a higher proportion of families on high income, a lower proportion of low income families, more households purchasing or owning dwellings and living in large houses. A low score indicates the area has relatively large proportions of households on low incomes and living in small dwellings.” (ABS, 1996, p.3) Regarding the Index of Education and Occupation: “An area with a high score on this index would have a high concentration of persons with higher education or undergoing further education, with people being employed in the higher skilled occupations, rather than being labourers or unemployed. A low score indicates an area with concentrations of either persons with low educational attainment or unskilled or unemployed people” (ABS, 1996, p.4).

From the figures the relationship is clear; as expected, individuals living in jobless households are, compared with other individuals, much more likely to live in areas that are disadvantaged and much less likely to live in affluent areas than other individuals.

⁷ For more information on the construction of these indices, see ABS (1996).

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Figure 3: Index of relative socio-economic disadvantage

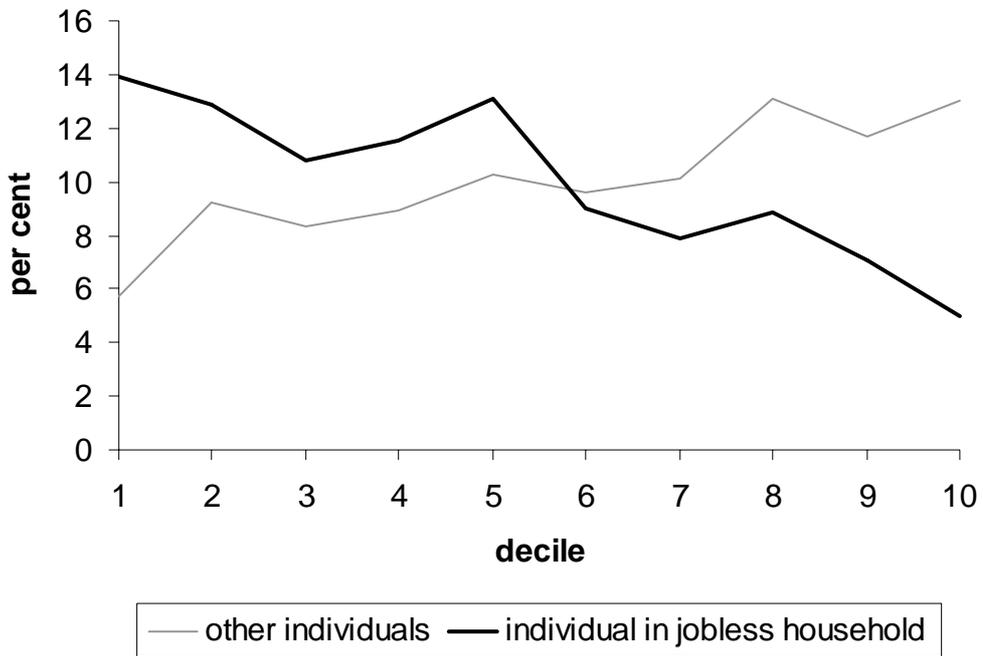
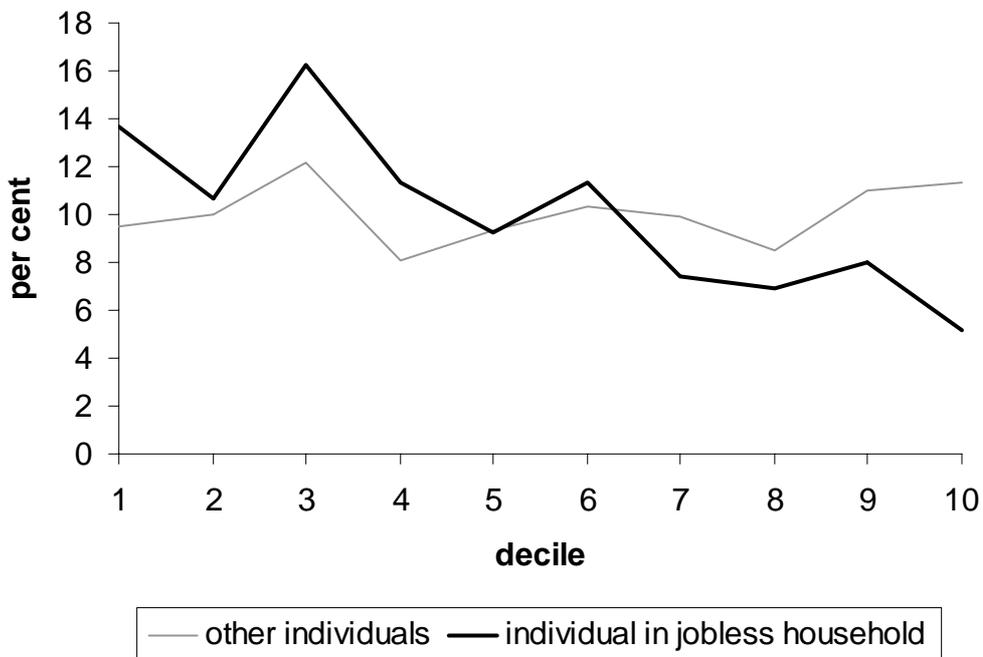
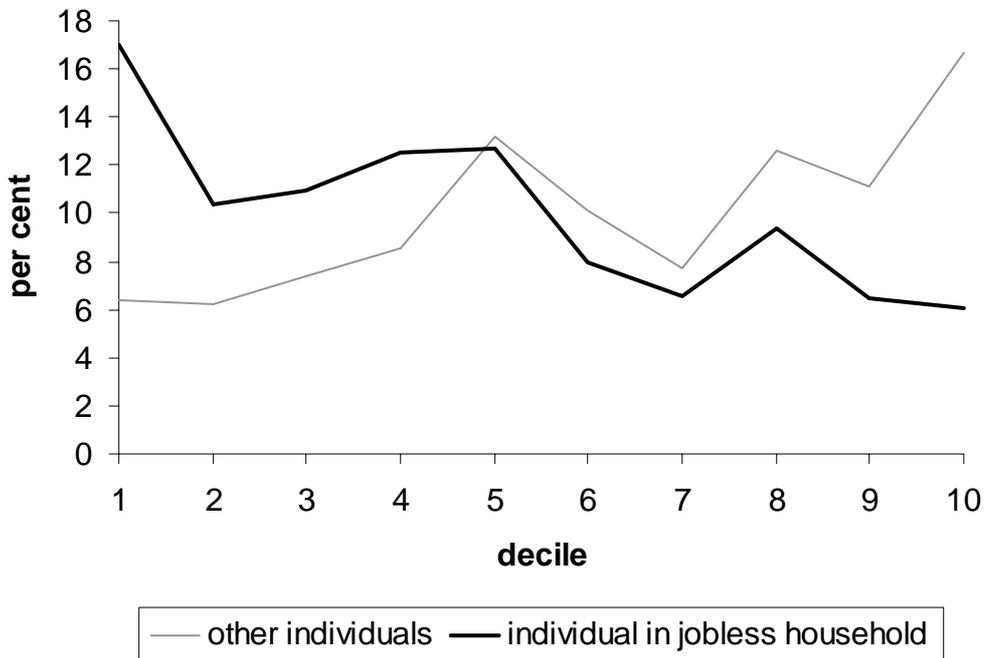


Figure 4: Index of economic resources



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Figure 5: Index of education and occupation



To summarise, this section showed that the largest group of jobless households are single adult households at just less than a third of all jobless households. Couple households without children make up around 28 per cent of all jobless households. The remaining jobless households are lone parents (24 per cent) and couple households with children (18 per cent). In general jobless households are more likely to contain females, the young or those approaching retirement age, individuals with non-English speaking backgrounds, live outside of capital cities and have low educational qualifications. Jobless households are more likely to have large families (in terms of children), live in rental accommodation and live in areas of socio-economic disadvantage.

4. Multi-variate analysis on determinants of household joblessness

In this section we examine the determinants of household joblessness more formally. A model is set up where the household employment status of each individual is determined by a set of independent variables. Using maximum likelihood techniques we estimate the probability of living in i) a jobless household, ii) a mix-work household or iii) an all-work household with a multinomial logit model. Non-independence of observations within census collection districts is accounted for with robust standard errors estimated.⁸ The base state in the estimation is the group of individuals living in mix-work households.

Care needs to be taken to ensure that the explanatory variables included in the model are not determined by the jobless outcome, and thus endogenous to the dependent variable. Income is a good example of an endogenous variable – incomes are clearly determined by the employment status of household members. Similarly, the various measures of health and well being examined in the previous section are also likely to be endogenous given they can both contribute to, and are affected by, joblessness. We thus do not exclude income and subjective measures of health and well being in the analysis. Nevertheless, there are variables included that are potentially endogenous. The socio-economic status of the area in which respondents reside is an obvious example. Low socio-economic status areas generally offer more affordable accommodation, thus when adult members of a household lose employment with a significant cut in income, they may have to move to an area that is more affordable to cut housing costs. Thus their decision on where to live is to an extent determined by their employment state. While we try to restrict covariates to those that are largely exogenous, the possibility of endogeneity is something that we have to be aware of when analysing the results. The covariates used are discussed below. Summary statistics for each of the variables used are presented in Appendix 1.

Covariates

Standard human capital theory provides the basis for the model specification. As such most of the covariates included in the analysis are straightforward and need little by the way of explanation. As noted by Le and Miller (2000) factors determining labour force participation are quite different to the factors determining employment with the former generally reflecting supply side factors and the latter reflecting the demand for labour. As we focus on the individuals' relationship relative to other members of the household in this analysis, combining the unemployed with those not in the labour force, included are covariates designed to pick up both demand and supply side factors in the specification. Separate equations are estimated by gender as we expect males and females with similar characteristics to behave differently.

⁸ The cluster option in Stata was used. This procedure uses the Huber/White/Sandwich estimate of variance, which relaxes the assumption of independent errors across all observations and only assumes that errors are independent across areas but not necessarily within areas.

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Typical of a standard human capital model, age and age squared are included to capture the possibility of a u-shaped relationship between age and household joblessness. To keep the age variables to a similar scale to the other covariates age is divided by 10 (and thus the age squared variable divided by 100).

Educational attainment has been found to be the single most important contributor to labour market productivity and thus the likelihood of being unemployed (Inglis and Stromback, 1986; Miller and Neo, 1997; and Chiswick et al, 1997). With the additional presence of assortative mating in household formation we expect quite a strong negative relationship between educational attainment and household joblessness. Included are zero-one indicators for: postgraduate qualification, which includes masters or doctorate and graduate diplomas or certificates; undergraduate qualification, including bachelor degrees and advanced diplomas or diplomas; certificate, including certificate levels I to IV and those not defined; completion of Year 12; not completing secondary school but having at least reached Year 10 or 11; secondary but no completion of Year 10; and finally the reference group is individuals not reaching secondary school and having either no formal education or a primary level of education.

Family variables are included denoting marital status and the presence and number of children. Individuals never married are the reference group. The effect of children is unclear. It is possible that families with children may make an additional effort to find work as they have additional needs. However there are all sorts of relationships between family size and income. Single parent families face the additional responsibility of being the primary carer of their child/children and thus are less likely to be employed than multiple parent households thus we also include a dummy variable for sole parents. As noted in Sections 3 and 4 many older jobless households include women with a partner of retirement age, thus we also include a variable which indicates whether any member of a household is of retirement age to control for this.

Immigrants of non-English speaking backgrounds face language and cultural barriers in the Australian labour force thus dummies for country of birth are included. The reference group are individuals born in Australia with dummy variables indicating immigrants from English speaking and non-English speaking backgrounds. Year of arrival is also interacted with each group of immigrants as it is expected that those living in Australia for longer periods of time will have had a chance to adapt to the situation in Australia. A dummy variable for English language ability is also included which picks up whether the individual in question does not speak English well. This is likely to be correlated with year of arrival as recent immigrants will have had less time to learn the English language. We also include an indicator variable for Aboriginal and Torres Strait Islanders.

To control for the almost definitional concept that larger households are less likely to be jobless we include a variable for the number of working-age adults.

While self-assessed health is likely to be endogenous, we nevertheless believe it necessary to control for the presence of work-limiting disabilities. Moreover, we also distinguish between people with disabilities according to the severity of the disability. A disability is defined in the HILDA Survey as any long-term health condition, impairment or disability that restricts the respondent in their everyday activities and has lasted or is likely to last for 6 months or more. Serious conditions are defined here as those where the respondent indicates that the condition makes it impossible for them to undertake any work at all,

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while minor conditions are those where is no impact on the amount or type of work that can be done.

Studies such as Harris (1996) and Miller and Neo (1997) have found that rates of unemployment are higher in rural areas than elsewhere. We expect a similar relationship with participation in the labour market. As members of households all live at the same location we expect locational factors to affect household joblessness. To pick up these likely structural effects we include two sets of regional indicators in the specification. State and Territory dummies are included to control for differences in employment opportunities across the States. Also included are remoteness indicators based on the ABS's ARIA scores from the 1996 Census. 'Major city' is used as the reference group.

The importance of family background on an individual's current socio-economic status has been fairly well established in both the international and Australian literature (for instance see Broom et al, 1980; Prior and Beggs, 1989; and Jensen and Seltzer, 2000). Thus included in our list of covariates are certain variables reflecting family employment history. Indicator variables reflecting whether an individual's mother and father were both present when they were aged 14 years, whether they were employed and whether their father was unemployed for six months or greater were included in the list of covariates. It is expected that fathers employment history will have a significant effect on current joblessness, however it is uncertain as to what effect mothers employment history will have.

We also include the ABS SEIFA indices by decile reflecting the degree of well being across geographic areas to determine whether living in an area with low socio-economic status has a significant effect on household joblessness. As these indices are highly correlated we ran three different models including the index of relative socio-economic disadvantage, index of economic resources and index of education and occupation included respectively. The results were all very similar across the specifications and thus only present the outcome using the index of relative socio-economic disadvantage.

Table 17 presents the results of our estimation on the probability of being in a jobless household or all-adult household relative to a mix-work household. Relative risk ratios (RRR) – or odds ratios - are presented, which give the likelihood (or risk) of a particular factor contributing to a particular state relative to the base state. Standard errors are presented in the second column of each model specification.

The estimates are generally as expected. Age has the expected u-shaped relationship with household joblessness more apparent among the young, with this effect diminishing at a quite young age level and then increasing quite rapidly for older age groups. Almost the exact opposite occurs with members of all-work households with an inverse u-shaped relationship with the 'risk' of being in an all-work household and age. Here the middle age groups are the most likely to be in an all-work household relative to a mix-work household. Single males and females were more at risk of being in a jobless household than married or defacto individuals, even after accounting for household size. The exception to this is widowed females who are significantly less at risk of being in a jobless household relative to a mix-work household than other single females. This is also the case with members of all-work households, singles are more at 'risk' of being in an all-work household relative to a mix-work household, with separated or divorced females more likely to be in an all-work household than widowed or never married females. As many older women with males of retirement age remain in our sample, females in households with members over the age of

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65 years were significantly more at risk of household joblessness relative to a mix-work household at the 10 per cent significance level.

The presence of children increases the likelihood of being in a mix-work household with the risk ratio's for jobless households and all-work households both being less than one suggesting each of these alternatives is relatively less likely. However, as the cross tabulations in Section 3 showed, as the number of children present in a household increases individuals are more at risk of household joblessness. It is difficult to determine whether this result is an outcome of joblessness or a cause of it or a combination of both. For instance large families may preclude working. On the other hand joblessness may provide some incentive for parents to have additional children.

As previous research suggests individuals (particularly males) born in non-English speaking countries were more at risk of being in a jobless household than the Australian born and respondents born in English speaking countries. Men born in non-English speaking countries are, *ceteris paribus*, nearly twice as likely to be in a jobless household relative to a mix-work household than the Australian born. They are also about half as likely to be in an all-work household relative to a mix-work household than the Australian born. Interestingly (and worryingly), as time spent in Australia increases the risk of household joblessness does not appear to wane however the likelihood of being in an all-work household does increase again gradually. Female Aboriginal or Torres Strait Islanders are nearly three times as likely to be in a jobless household relative to a mix-work household than other Australian born women. Male Aboriginal or Torres Strait Islanders were just over half as likely to be in an all-work household than other Australian born men. English speaking ability is highly correlated with the length of time spent in Australia, thus the inclusion of one variable masks the significance of the other.

Not surprisingly a long-term health condition or disability increases the risk of household joblessness, with the risk decreasing as the severity of the illness or disability declines. The effects of illness or disability also appear to be larger for males than females. Minor illnesses seem to be no hindrance to a household's employment situation.

In line with all of the literature on the determinants of employment status of individuals, education exhibits the expected pattern in determining household joblessness, although somewhat surprisingly the statistical significance of education for males is not as high as initially expected. Females not completing at least year 10 at secondary school are the most at risk of household joblessness; with the risk of joblessness generally decreasing with educational qualification. While the relative risk ratios for males exhibit the expected pattern (with risk decreasing with educational qualification) surprisingly the value of the ratio is only significantly lower than for those with a primary school education for males with a post-graduate degree, and this being at the 10 per cent level of significance. The opposite pattern is evident on the likelihood of being in an all-work household: women are generally more likely if they have completed at least year 10 at secondary school, while males if they have a tertiary qualification (significant at the 10 per cent level).

Residing in an outer regional area increases the risk of household joblessness, particularly for females. Males in South Australia and Tasmania were more likely to be in a jobless household than males in the ACT than in the Northern Territory or other States. While for females the risk of being in a jobless household did not depend on the State of residence. State of residence had no effect on the likelihood of being in an all-work household relative to a mix-work household.

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Family employment history did not have a significant effect on the probability of individuals being in a jobless household relative to a mix-work household. However for males, having an out of work father or mother at age 14 significantly decreased the likelihood of being in an all-work household relative to a mix-work household while for females the likelihood was significantly reduced for females whose father had been unemployed for 6 months or more or whose mother was not employed at age 14.

The results show a significant negative relationship between the risk of being in a jobless household and each of the ABS SEIFA indices by decile. Thus individuals living in lower socio-economic status areas (with higher levels of unemployment, a large proportion of the population on low incomes, lower levels of resources and lower levels of education and training) are more likely to be in a household with no adult in paid employment than those in higher socio-economic status areas. This is in line with the other studies examining the effect of neighbourhood characteristics on things such as family income, educational attainment and other employment related characteristics (such as Jensen and Seltzer, 2000 and Jensen, 2002). There is no relationship between socio-economic status of areas and the likelihood of being in an all-work household relative to a mix-work household.

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Table 17: Determinants of distribution of employment across households, by gender

	Males		Females	
	Relative risk ratio	z-statistic	Relative risk ratio	z-statistic
<i>In a mix-work household</i> (base category)				
<i>In a jobless household</i>				
age/10	0.209	-4.000	0.349	-2.930
(age/10) ²	1.275	5.250	1.203	4.210
married	0.264	-5.230	0.337	-3.890
de facto	0.355	-3.840	0.427	-2.960
separated	1.243	0.540	1.093	0.320
divorced	1.040	0.120	0.770	-0.910
widowed	1.125	0.100	0.440	-2.110
retired household member	1.205	0.560	1.615	1.840
presence of children	0.578	-1.850	0.723	-1.500
number of children	1.282	2.220	1.280	2.820
Number of working-age adults	0.240	-9.530	0.142	-10.780
Lone parent	0.891	-0.430	0.884	-0.560
co-b-english speaking	1.354	0.720	0.815	-0.460
co-b-non English speaking	1.974	1.950	1.537	1.540
English speaking immigrant*years in Australia	0.995	-0.420	1.015	1.010
Non-English speaking immigrant*years in Australia	0.994	-0.500	0.996	-0.450
Aboriginal or Torres Strait Islander	1.461	0.970	2.802	3.110
English speaking ability poor	1.545	1.040	1.499	1.350
Severe illness or disability	6.830	2.690	2.566	1.780
Moderate illness or disability	3.448	8.200	1.354	2.170
Minor illness or disability	1.069	0.210	0.747	-0.960
postgraduate	0.388	-1.820	0.382	-2.130
undergraduate	0.561	-1.300	0.322	-3.060
certificate	0.575	-1.190	0.650	-1.080
yr 12	0.834	-0.420	0.470	-2.020
yr 10/11	0.689	-0.940	0.518	-1.960
secondary under yr 10	1.029	0.070	0.704	-1.020

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inner regional	1.104	0.550	1.204	1.260
outer regional	1.517	1.720	1.613	2.230
remote	0.574	-1.020	0.228	-2.290
New South Wales	1.677	0.970	1.363	0.620
Victoria	1.583	0.850	1.395	0.670
Queensland	1.811	1.090	1.526	0.840
South Australia	3.610	2.230	1.850	1.190
Western Australia	1.437	0.640	1.086	0.160
Tasmania	3.407	1.870	1.882	0.980
Northern Territory	2.162	0.650	0.390	-0.680
Not living with both parents at age 14	1.196	1.210	1.197	1.320
father not emp at age 14	1.343	0.900	0.702	-1.320
father unemp for > 6 mths	1.248	1.240	1.076	0.440
mother not emp at age 14	0.871	-1.140	1.208	1.710
Index of relative socio-economic disadvantage (deciles)	0.901	-3.920	0.919	-3.690
<i>In an all-work household</i>				
age/10	3.408	5.100	5.605	7.080
(age/10) ²	0.854	-5.470	0.794	-7.720
married	0.776	-1.720	0.619	-2.770
de facto	0.641	-2.950	0.570	-3.310
separated	1.585	1.460	1.836	2.540
divorced	1.469	1.470	2.289	3.440
widowed	1.861	0.610	1.481	1.090
retired household member	0.912	-0.320	0.753	-1.090
presence of children	0.581	-3.500	0.589	-3.500
number of children	0.832	-2.800	0.776	-4.190
Number of working-age adults	0.384	-12.400	0.399	-13.050
Lone parent	0.526	-3.000	0.390	-5.090
cob-english speaking	0.874	-0.570	0.753	-1.110
cob-non English speaking	0.481	-3.490	0.416	-4.530
English speaking immigrant*years in Australia	1.003	0.340	1.014	1.510
Non-English speaking immigrant*years in Australia	1.014	1.910	1.018	2.430

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Aboriginal or Torres Strait Islander	0.529	-2.230	1.125	0.420
English speaking ability poor	0.742	-0.800	0.621	-1.530
Severe illness or disability	0.346	-1.590	0.058	-3.130
Moderate illness or disability	0.439	-6.330	0.293	-8.710
Minor illness or disability	0.844	-0.860	0.882	-0.620
postgraduate	1.923	1.820	7.615	5.200
undergraduate	1.786	1.740	4.469	4.160
certificate	1.671	1.460	3.912	3.610
yr 12	1.585	1.360	2.941	2.930
yr 10/11	1.116	0.330	2.594	2.740
secondary under yr 10	0.834	-0.540	1.554	1.200
inner regional	1.227	1.890	1.139	1.220
outer regional	1.397	1.890	1.321	1.760
remote	1.208	0.690	0.870	-0.650
New South Wales	1.008	0.030	0.889	-0.470
Victoria	0.955	-0.160	0.849	-0.660
Queensland	0.831	-0.600	0.697	-1.380
South Australia	1.181	0.500	1.016	0.060
Western Australia	0.769	-0.840	0.754	-1.080
Tasmania	0.973	-0.070	1.028	0.090
Northern Territory	1.068	0.130	0.917	-0.260
Not living with both parents at age 14	0.885	-1.360	0.863	-1.570
father not emp at age 14	0.561	-2.410	0.775	-1.450
father unemp for > 6 mths	0.859	-1.150	0.801	-2.010
mother not emp at age 14	0.826	-2.440	0.792	-2.940
Index of relative socio-economic disadvantage (deciles)	0.994	-0.400	1.011	0.660
<hr/>				
Wald Chi-sq =		1480.39		1844.46
Prob>chi-sq =		0.000		0.000
Pseudo R2 =		0.215		0.249
Log likelihood =		-3557.249		-3868.724
n		5,055		5,486
<hr/>				

5. Income and financial well-being

In this section we concentrate on one of the main outcomes of joblessness, financial wellbeing. Generally associated with periods of joblessness are relatively poor financial circumstances, with all members of households out of work we expect financial problems to be aggravated. In this section we concentrate on the relationship between household joblessness and income a little further in the context of jobless households.

First we examine the relationship between total household income and household joblessness. The unit of analysis here is the household and to keep things comparable we look at the closest thing we have to current total income. We want to have an indication of the total resources available to the household thus disposable income would be the ideal measure of income to examine, however this is not as of yet available in the HILDA data set and thus we construct a measure of income as close as possible to current gross income. Thus we use current wage, salary and benefit income and the previous financial years income from business, investments and other sources such as superannuation. To account for economies of scale in the household we use equivalence scales and deflate household income by the square root of household size.

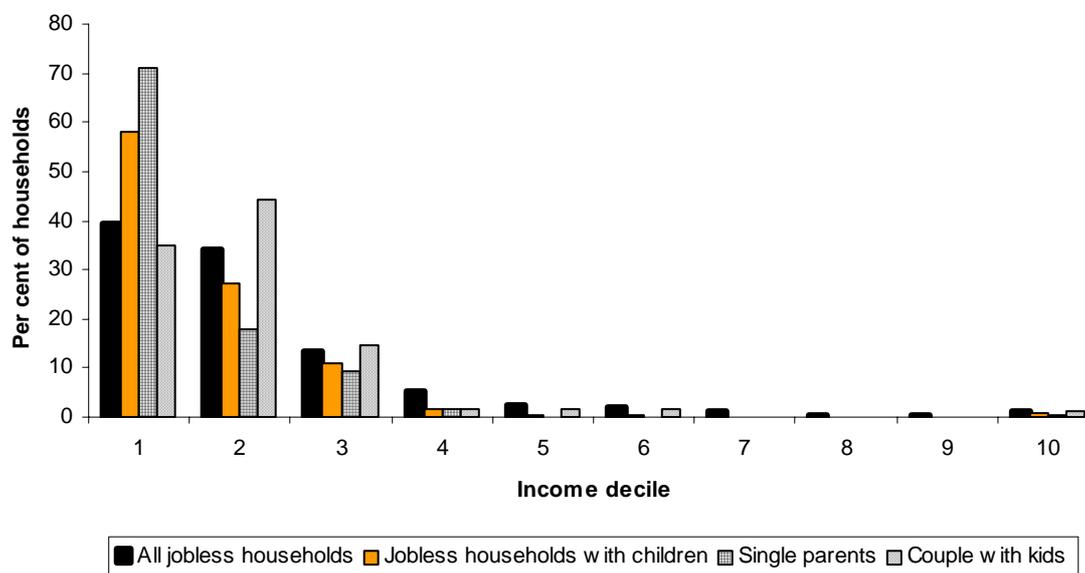
One significant problem when analysing data on household income from the HILDA Survey is that a relatively large number of missing observations. As reported in Watson and Wooden (2002b), an estimate of total household gross income can only be derived in 71 per cent of cases. Almost two-thirds of this missing data is the result of incomplete responses by respondents within complete households, with the remainder mainly due to incomplete households. In the absence of imputation, we are thus forced to exclude many households.⁹ More importantly, the exclusions tend to be biased towards households containing employed member. The weighted number of households we are forced to omit from the analysis is just over 1.8 million, around 9 per cent of which are jobless households, which is much less than the estimated prevalence of jobless households.

Figure 6 shows the proportion of jobless households in each income decile. This is shown for all jobless households, for jobless households with dependent children under 15 years, for couple households with children and for lone parent households.

⁹ The HILDA Team is currently undertaking work to derive imputed estimates of household income for all cases where income data is incomplete.

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Figure 6: Income decile of jobless households



Note: The unit of analysis is the household and current total equivalised gross income is the measure of income used.

Consistent with the findings from Gregg, Dawkins and Scutella (2002b) three quarters of all jobless households have incomes in the lowest quintile. Especially worrying is the 85 per cent of jobless households with children with incomes in the lowest quintile. However as larger households are more prone to missing income data than smaller ones, sole parents are over-represented in the sample of households where incomes are observed. As sole parents typically have very low incomes, more households with children will appear in the lower quintile. This analysis in fact shows that over 70 per cent of sole parent households have incomes in the lowest decile. While it is difficult to know how reliable this overall figure is, it is clear that household joblessness does in most instances translate to a lower level of financial wellbeing. This is particularly problematic in households with children where children are growing up and having to go without.

Further analysis shows that around two-thirds of all jobless households obtain at least 90 per cent of their total current income from pensions or benefits and thus are reliant on income support from the government.

In section 2 we mentioned that quite a significant portion of older jobless households are indeed jobless couples with one member of retirement age. This may not be of the same policy concern as other households, however if these households are still largely reliant on income support while the policy implications are very different to those of say the problem of joblessness amongst sole parents or other families with dependent children it is still important as these households are, and will remain, dependent on the government for the remainder of their lives. This is of particular importance with the aging of the population. Of those two adult jobless households with one retired (over 65 years) member and one 55 years plus, nearly half rely on income support payments with at least 90 per cent of their

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household income coming from pensions or benefits. Over two thirds (69 per cent) receive at least half of their income from pensions or benefits.

There are problems with the use of income as a measure of well being however, particularly as we only have information on gross income. To measure financial prosperity more directly, a set of questions relating to financial stress was asked in HILDA. If individuals in jobless households indicate that they are quite comfortable in financial terms then perhaps joblessness, at least with regards to financial prosperity and inequality of incomes, is not an issue.

In Table 18 we report the outcomes of various questions relating to personal and household finances, comparing the outcomes of those in jobless households to other individuals. The questions asked of the respondents include a self-reported financial well-being assessment where respondents indicate on a scale of 1 (prosperous) to 6 (very poor) of the current situation of the household and questions relating to stressful financial events over the calendar year such as whether respondents: could not pay utility bills, rent or mortgage on time; had to pawn or sell something; went without meals; were unable to heat home; asked for financial help from friends, relatives or welfare/community organisations.

Table 18: Personal and household finances

	<i>Individuals in jobless households</i>	<i>Other individuals</i>
<i>Prosperity given needs and financial responsibilities</i>		
very comfortable/prosperous	8.7	12.2
reasonably comfortable	27.5	44.1
just getting along	37.2	24.0
poor/very poor	13.5	2.4
<i>Could not pay electricity, gas or phone bills on time</i>		
Yes	27.7	16.1
No	58.3	66.3
<i>Couldn't pay mortgage, rent on time</i>		
Yes	11.9	7.9
No	72.7	74.1
<i>Pawned or sold something</i>		
Yes	14.3	4.9
No	71.0	77.2
<i>Went without meals</i>		
Yes	11.7	3.2
No	73.6	79.0
<i>Unable to heat home</i>		

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	<i>Individuals in jobless households</i>	<i>Other individuals</i>
Yes	9.4	2.2
No	75.7	79.8
<i>Asked for financial help from friends/family</i>		
Yes	24.2	13.8
No	61.7	68.5
<i>Asked for help from welfare/community organisations</i>		
Yes	14.2	3.4
No	70.9	78.7
<i>Total</i>	<i>1,470,332</i>	<i>10,077,702</i>

Individuals in jobless households are more likely to report themselves as either ‘just getting along’ or ‘poor’ to ‘very poor’ and much less likely to place themselves in the ‘very comfortable’, ‘prosperous’ or ‘reasonably comfortable’ categories than other individuals. The most worrying is the overrepresentation of those considering their financial situation to be ‘poor’ to ‘very poor’ amongst those in jobless households.

Those in jobless households are also much more likely to report that they: were not able to pay their electricity, gas or phone bills on time; had to pawn or sell something; went without meals; and to have asked for financial help from friends, family or community or welfare organisations. Those in jobless households were slightly more likely than other individuals to find themselves in the situation where they are unable to heat their home or pay their rent or mortgage on time. The effect of mortgages is likely to be counterbalancing this latter effect slightly as jobless households are less likely to be living in a mortgaged home. Thus it is clear that jobless households suffer more in financial terms than their counterparts.

6. Concluding comments

An emerging trend in Australia, over the past twenty or so years, has been for any available employment to become increasingly polarised into households where either no adult is working (jobless households), or all adults are working (all-work households). This paper uses the first wave of the Household, Income and Labour Dynamics in Australia (HILDA) Survey to examine the characteristics of jobless households in Australia that distinguish them from others and render them disadvantaged in the labour market.

We find that households joblessness is most apparent for: the young and older age groups, the less educated (with those not completing secondary studies particularly at risk), sole parents, households with individual members with a moderate to severe disability or long-term health condition and households with a long history of unemployment or joblessness in general. It is evident that jobless households are also more likely to struggle with

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personal and household finances than other households, particular if they have children. Future research examining the dynamics of household joblessness will be important in determining the extent of the problem of household joblessness and of its possible effects on future generations in Australia.

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Appendix: Sample summary statistics

	mean	s.d.	max	min.
jobless household	0.130	0.336	0	1
female	0.507	0.500	0	1
age/10	4.016	1.242	2	6
(age/10) ²	17.670	10.154	2	41
married	0.583	0.493	0	1
de facto	0.118	0.323	0	1
separated	0.036	0.187	0	1
divorced	0.057	0.232	0	1
widowed	0.013	0.114	0	1
Never married	0.192	0.394	0	1
presence of elderly individuals	0.047	0.211	0	1
presence of children	0.409	0.492	0	1
number of children	0.778	1.096	0	4
Number of working age adults	2.133	0.858	1	6
Lone parent	0.092	0.288	0	1
cob-australian born	0.749	0.434	0	1
cob-english speaking	0.109	0.312	0	1
cob-non English speaking	0.142	0.349	0	1
English speaking immigrant*years in Australia	2.421	8.487	0	62
Non-English speaking immigrant*years in Australia	2.717	8.721	0	55
Aboriginal or Torres Strait Islander	0.018	0.132	0	1
English speaking ability poor	0.022	0.148	0	1
Severe illness or disability	0.004	0.067	0	1
Moderate illness or disability	0.097	0.296	0	1
Minor illness or disability	0.031	0.175	0	1
postgraduate	0.067	0.250	0	1
undergraduate	0.172	0.377	0	1
certificate	0.076	0.265	0	1
yr 12	0.104	0.305	0	1
yr 10/11	0.429	0.495	0	1

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	mean	s.d.	max	min.
secondary under yr 10	0.132	0.338	0	1
Primary-no formal education	0.020	0.141	0	1
major city	0.597	0.490	0	1
inner regional	0.270	0.444	0	1
outer regional	0.116	0.320	0	1
remote	0.017	0.130	0	1
New South Wales	0.314	0.464	0	1
Victoria	0.252	0.434	0	1
Queensland	0.197	0.398	0	1
South Australia	0.087	0.281	0	1
Western Australia	0.100	0.300	0	1
Tasmania	0.027	0.163	0	1
Northern Territory	0.006	0.076	0	1
ACT	0.017	0.131	0	1
Not living with both parents at age 14	0.258	0.438	0	1
father not emp at age 14	0.027	0.163	0	1
father unemp for > 6 mths	0.093	0.290	0	1
mother not emp at age 14	0.435	0.496	0	1
Index of relative socio-economic disadvantage (deciles)	5.704	2.830	1	10
occupation dummies (reference generalist managers)	0.016	0.125	0	1
never worked	0.015	0.121	0	1
specialist managers	0.035	0.185	0	1
farmers and farm managers	0.021	0.143	0	1
science, building and engineering professionals	0.015	0.122	0	1
business and information professionals	0.049	0.215	0	1
health professionals	0.034	0.180	0	1
education professionals	0.048	0.214	0	1
social, arts and miscellaneous professi	0.030	0.171	0	1
science, engineering and related associ	0.013	0.111	0	1
business and administration associate p	0.036	0.186	0	1
managing supervisors (sales and service	0.040	0.196	0	1

THE CHARACTERISTICS OF JOBLESS HOUSEHOLDS IN AUSTRALIA

	mean	s.d.	max	min.
health and welfare associate profession	0.006	0.075	0	1
other associate professionals	0.009	0.093	0	1
mechanical and fabrication engineering	0.016	0.127	0	1
automotive tradespersons	0.009	0.094	0	1
electrical and electronics tradesperson	0.015	0.122	0	1
construction tradespersons	0.020	0.140	0	1
food tradespersons	0.010	0.101	0	1
skilled agricultural and horticultural	0.010	0.101	0	1
other tradespersons and related workers	0.021	0.144	0	1
secretaries and personal assistants	0.020	0.138	0	1
other advanced clerical and service wor	0.015	0.123	0	1
intermediate clerical workers	0.080	0.272	0	1
intermediate sales and related workers	0.013	0.115	0	1
intermediate service workers	0.056	0.230	0	1
intermediate plant operators	0.014	0.118	0	1
intermediate machine operators	0.015	0.121	0	1
road and rail transport drivers	0.025	0.157	0	1
other intermediate production and trans	0.022	0.146	0	1
elementary clerks	0.010	0.099	0	1
elementary sales workers	0.054	0.227	0	1
elementary service workers	0.015	0.121	0	1
cleaners	0.025	0.158	0	1
factory labourers	0.029	0.168	0	1
other labourers and related workers	0.047	0.211	0	1
missing occupation	0.092	0.289	0	1
n	10,541		10,541	