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Jobless Households: Longitudinal Analysis
of the Persistence and Determinants of
Joblessness Using HILDA Data for 2001–03

Bruce Headey and Sher Verick

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Executive Summary

The HILDA panel survey enables policy makers to gain an improved understanding of joblessness by making it possible to analyse how many households are persistently or multi-year jobless. Previous research was almost entirely based on cross-sectional snapshots of how many household were jobless at one point in time. Annual joblessness rates do not change much, so it seems an 'obvious' conclusion that many households remained persistently jobless. This report compares cross-sectional and longitudinal joblessness rates and finds that, for some types of household - especially lone parent and lone person households - joblessness is indeed persistent. However, for other types of household (especially couple households), joblessness is usually a transient or short term experience.

This summary of results for the five sets of issues set out in DEWR's brief to Melbourne Institute refers only to working age (15-64) and prime working age (25-54) individuals and households who are the main focus of the report.

1. The magnitude of the problem: household joblessness 2001-03

The HILDA data for 2001-03 can be analysed from the standpoint of how many working age *individuals* lived in jobless households, and also from the standpoint of how many *households* headed by working age reference persons were jobless. Viewing the issue cross-sectionally, it was found that around 14% of working age *individuals* were in jobless households each year in 2001-03. Longitudinally, it transpires that 80.7% were never in a jobless household in this period, which implies that 19.3% were jobless for at least one year. 8.2% were 'persistently' jobless; that is, jobless for all three years. The corresponding figures for prime working age individuals indicate that about 10% were in jobless households each year, while 14.5% were jobless for at least one year, and 5.4% were jobless for all three years.

From a *household* standpoint, it was found that around 15-16% of households with working age reference persons were jobless each year, with 18.6% being jobless for at least one year and 9.8% every year. Among households headed by prime age reference persons, about 11% were jobless each year, 12.9% were jobless at least once, and 6.0% were jobless throughout this period.

Annual rates of household joblessness declined just slightly in 2001-03; by about half a percentage point for both prime age individuals and prime age households. This was a smaller decline than occurred in the rate of individual unemployment and confirms that household joblessness is a more intractable problem than individual unemployment.

Different types of household vary enormously in their *risk* of being jobless. Nearly three-quarters of Australian residents living in prime age households are partnered. If couples stay together, they are at low risk of joblessness. Annual rates of joblessness among prime age couple households in 2001-03 were around 4%, and the three-year rate was 1.6%. At the other end of the spectrum, three types of prime age household – those headed by single mothers, single fathers and disabled persons – had three-year joblessness rates over 25%.

Prime age lone persons (i.e. one person households) also have a very high rate of persistent joblessness; a three-year rate of 13.5% in 2001-03 (men 13.2%, women 14.0%). Households headed by a person from a non-English speaking background were more at risk of one-year joblessness than average, but were only slightly above average in three-year joblessness.

2. Children in jobless households

Compared with most other Western countries, Australia has a high rate of children under 15 in jobless households (OECD, 1998). In 2001-03 close to 50% of children in single mother households were jobless each year, and 29.8% were jobless for three years running. Less well known is the fact that children in single father households also have joblessness rates far above the national average.

It appears that close to three-quarters (73.3%) of the children who lived in jobless households for three years running in 2001-03 were in lone parent households. An interesting if not quite conclusive result is that people who reported that their parents were both not working when they were about 14 years old were more likely to be in jobless households themselves. So far as we know, these are the first Australian results on inter-generational joblessness.

3. Determinants of household joblessness: multivariate analysis

Controlling for many other variables, single mother households were at 11.7 times higher risk of being jobless than all other households combined. Lone person households were at 7.7 times higher risk, and households headed by people with disabilities were at 6.2 times the

risk of others. Prime age households headed by a person with inadequate English had 2.2 times the odds of being jobless as other households. Formal educational attainment was moderately related to joblessness with households headed by early school leavers being at about 1.7 times the risk as others, and household headed by people with degrees being less at risk.

The HILDA data can make only a limited contribution towards understanding possible *incentive effects* linking income support (IS) payments to joblessness. The report compares the propensity of three groups of IS recipients – those receiving Newstart, Parenting Payment (Single) and DSP – to remain on IS in 2001-03. Jobless households were much more likely to remain on all three types of payment than non-jobless households. However, many more exited Newstart, which imposes job search requirements, than exited Parenting Payment or DSP. It was stressed that it is not reasonable to make causal inferences based on these results. Beneficiaries of the three different programs certainly differ in terms of human capital and many other factors which it was not possible to control for in the analysis.

'Early' retirement might appear to be a significant cause of household joblessness. About 30% of households with a reference person in the 55-64 age group are now jobless. However, the HILDA retirement module (2002) found that over 45% of early retirees report that their exit from the labour force was involuntary or semi-involuntary.

4. Pathways: entries and exits from household joblessness

Even with only three years of data, it was clear that the longer a household remains jobless, the worse are its chances of 'exiting' that state. Further, household which have previously been jobless are at greater risk than average of returning to joblessness in a subsequent period. In all types of household the main proximate cause of entering and exiting joblessness was the household reference person gaining or losing his/her job. Far fewer entries and exits were due to changes in a partner's labour force status, or to other household members getting or losing work. Few women and almost no men repartnered their way out of joblessness.

5. Consequences of joblessness

There has been relatively little previous research on the consequences of household joblessness. This report has found that joblessness is associated with a wide range of seriously negative consequences. Controlling for a range of other factors, married/partnered people in jobless households are at 1.7 times the risk of marital break-up than other people. Unpartnered people have far worse prospects – only about half the chance – of finding a partner if they live in a jobless household. Jobless households are also at far higher risk of income poverty, welfare reliance and financial stress. On a standardised 0-100 scale, their physical health is 13 points worse and their mental health 9 points worse. They have significantly lower life satisfaction.

Policy implications

Fundamentally, the causes of household joblessness are the same as the causes of marital break-up and the causes of individual unemployment. The concluding section considers the policy implications of these underlying causes as well as of the more proximate determinants of joblessness analysed in this report.

1. Introduction and Motivation

The distribution of paid work among Australian households has become increasingly polarized. The number of households in which two or more adults have paid work is increasing; these are sometimes labeled 'job rich' households. At the other end of the spectrum, there has been a trend towards increasing numbers of jobless or 'job poor' households in which no members have work. As we shall see, this latter trend has been slightly reversed in the last few years.

Previous papers have documented trends and identified the characteristics of jobless households (Gregory and Hunter, 1995; Dawkins, 1996; Gregg and Wadsworth, 1996a, 1996b, 2000; Miller, 1997; OECD, 1998; Gregory, 1999; Reference Group on Welfare Reform, 2000; Dawkins, Gregg and Scutella, 2002a, 2002b; Scutella and Wooden, 2004). The main contribution of this paper is to investigate issues of *persistence.* Is household joblessness mainly a short term phenomenon, or do many of the same households remain jobless for year after year? What are the determinants of being in a persistently jobless household, rather than one which is more briefly or never without work? Plainly, persistent or longer term joblessness should be regarded as a more serious policy concern than short term. Short term joblessness may cause considerable distress, but longer term joblessness is likely to damage the future careers and well-being of both adults and children who experience it.

Previously there have been serious difficulties in investigating persistent joblessness in Australia. The best available longitudinal data were in the Longitudinal Data Set compiled by the Commonwealth Department of Family Services, covering the records of income support (IS) recipients from 1995 to 2004. The LDS provides invaluable evidence about who collected which payments and for how long. But it does not enable comparisons to be made between IS recipients and non-recipients, and it does not tell us anything about IS recipients in periods when they are not in receipt of payments. Consequently it is of limited value for analyzing the determinants of joblessness and reasons for entry and exit from that state.

The Household Income and Labour Dynamics (HILDA) Survey enhances opportunities for longitudinal analysis. Described in more detail below, the HILDA panel survey is based on repeated annual interviews with a representative national sample of about 15,100 individuals in 6,900 households. For this report, three years of data (2001-03) are available. The data

enable us to make preliminary assessments of the persistence and determinants of household joblessness.

In some respects household joblessness is a more serious policy concern than individual unemployment. As the McClure Report on welfare reform recognized, jobless households are more likely to be in income poverty and may be more likely to be socially marginalized than individuals living in households where other members have paid work (Reference Group on Welfare Reform, 2000). Furthermore, although Australia does not have a particularly high rate of jobless households compared with other OECD countries, it does have an unusually high percentage of children living in this situation (OECD, 1998; Dawkins, Gregg and Scutella, 2002a, 2002b; Scutella and Wooden, 2004). These children may be growing up in households in which welfare not work is the norm. There is clearly some risk that children growing up without role models in the world of work will themselves be less likely to find work; evidence bearing on the issue is given in the report.

There is some evidence that household joblessness may be a more intractable problem than unemployment. In the long boom of the 1990s and early 2000s unemployment came down much more rapidly than the rate of jobless households, which did not start to trend down until the late 1990s (Scutella and Wooden, 2004). The reasons for this divergence are unclear; household demographics, including an increase in single parent households, only played a small part (Dawkins, Gregg and Scutella, 2002b). A further important point is that the divide between 'job rich' and 'job poor' households appears to be the single biggest factor behind increasing market income inequality in the last two decades (Johnson and Wilkins, 2004).

Nearly all previous research on household joblessness has been cross-sectional; that is, it has told us how many individuals in how many households are jobless at one point in time. Annual figures on joblessness are fairly constant from year to year (except at the beginning of an economic recession or boom) and so give the impression that the same people probably remain jobless from year to year. As we shall see, the HILDA panel data for 2001-03 show that this impression is more wrong than right. Most household joblessness is short term; no more than a year. However, for several types of household – including lone parent and one person households – it is much more commonly medium term, lasting for two or more years. In this report much of the focus is on the determinants of medium versus short term joblessness.

The data and main measures used in the report will be described in more detail below. However, it is useful at the outset to provide a few definitions and say some more about the scope of the report. The main unit of analysis is the *household,* defined in HILDA, as by the Australian Bureau of Statistics (ABS) as a group of people who live together and share meals.[1] A *jobless household* is one in which no member had paid work for 26 weeks (half the year) or more in the previous year.[2] It should be noted that 'jobless' does not equate to the official ABS definition of 'unemployed'. To be classified as unemployed by ABS a person must be actively seeking work, and be currently available, as well as having worked for less than an hour in the last week. By contrast, a person is here classified as jobless whether he/she is unemployed, or just not in the labour force and not currently seeking work. Last, it should be noted that, after initial analyses dealing with the whole population, most of the work will be focused just on households headed by reference persons of working age.[3] By this we mean reference persons aged 15 to 64 (all working age) or reference persons aged 25-54 (prime working age). The reason for focusing on working age households is that they are the main policy concern. Obviously, there is less policy interest in joblessness in households headed by people of retirement age, or younger households of student age.

The plan is as follows. Section 2 outlines the brief; the five main sets of policy issues raised for consideration in this report by the Commonwealth Department of Workplace Relations (DEWR). Section 3 describes the HILDA data set and the main measures used here. Section 4 – the main body of the report – gives results based on the HILDA data relating to the five sets of issues in the brief. Section 5 summarises and discusses some possible policy implications of the results.

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[1] Appendix 3 shows that results only differ slightly if 'income units', as defined by the ABS, are the unit of analysis.
[2] As discussed in the Methods section, other definitions of a jobless household, including 'no-one in paid work at time of interview' were used for some analyses. Again, although cross-sectional results were affected slightly, the main conclusions from the longitudinal analysis were unchanged.
[3] In couple households the designated reference person is the male partner. In single parent households the reference person is the parent. In lone person households the reference person is that person. Group households and multi-family households have been omitted from analyses requiring designation of a reference person.

2. The Brief from The Department of Employment and Workplace Relations (DEWR)

The brief from DEWR covers five related sets of policy issues, each of which is now outlined.

Issue 1 – The magnitude of the problem:

How many *individuals* were living in jobless households each year in 2001-03, and how many *households* were jobless? Is joblessness rising, declining or more or less unchanged? Focussing on *persistence,* what percentages of individuals and households were never jobless in 2001-03, what percentage were jobless for one year, for two years and for all three years?

Issue 2 – The special problem of children in jobless households:

What percentage of children are growing up in jobless households, and especially in persistently jobless households? What evidence is there of contact between children in jobless households and other adults who are employed and so may serve as role models from the world of work? In particular, how much contact is there between children in single mother jobless households and their fathers?

Issue 3 – The determinants of living in a jobless household

Issue 3a: Human capital and joblessness:
The aim is to assess the relative importance of demographics, parental background (especially whether parents themselves were jobless), household characteristics, human capital (education, previous work experience, English communication skills) and health as variables which put households more or less at risk of joblessness.

Issue 3b: Incentives and disincentive arising from Government income support payments:
Is receipt of some types of Government income support payments associated with household joblessness and particularly persistent joblessness? If so, why – what are the incentives? This involves examining the levels of various payments and their relationship to the low skill wages that might otherwise be earned. Also directly relevant are the effective marginal tax rates (EMTRs) which would be likely to apply if jobs were taken.

Issue 3c: Involuntary and semi-involuntary retirement:

The HILDA retirement module in 2003 indicated that many people who retire between the ages of 55 and 64 do so involuntarily or semi-involuntarily. They may then live in households in which little or no paid work is undertaken. In this context the report focuses specifically on the 55-64 age group and issues they face in relation to work versus retirement or semi-retirement. Again, this requires comparison of the financial incentives offered by work compared with payments available in the form of pensions, benefits and superannuation.

Issue 4 – Joblessness transitions:

Analysis of the frequency and pathways by which households 'entered' and 'exited' joblessness in 2001-03. This involves reviewing transition matrices showing percentages of households who moved between from working to jobless, or vice-versa, in 2001-02 and in 2002-03. Also we identify who within the household (reference person, partner) gained or lost jobs in these transitions.

Issue 5 – Consequences of joblessness

Issue 5a:

The impact of joblessness on the chances of marriage/partnering and on marital/partnership break-up.[4]

Issue 5b:

The impact of joblessness on outcomes related to income poverty, stress and well-being. The outcomes considered are income poverty, welfare reliance, financial stress, physical and mental health and life satisfaction.

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[4] Analysis of this issue is severely limited due to the fact that only three years of HILDA data are available.

3. Methods: Data, Definitions and Measures

The HILDA Survey 2001-03

The HILDA Survey is a nation-wide household panel survey with a focus on issues relating to employment, income and the family. It is funded by The Department of Family and Community Services and managed by the Melbourne Institute of Applied Economic and Social Research at Melbourne University. Described in more detail in Watson and Wooden (2004), the HILDA Survey began in 2001 with a large national probability sample of Australian households occupying private dwellings.

All members of those responding households in wave 1 form the basis of the panel to be pursued in each subsequent wave, with each wave of interviewing being approximately one year apart.

Note that like almost all large sample surveys, the homeless are excluded from the scope of the HILDA Survey. Also excluded from the initial sample were persons living in institutions, though persons who move into institutions in subsequent years remain in the sample.

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 in wave 1 was 11,693. Interviews were completed with all eligible members at 6,872 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 7,682 households at which interviews were conducted, there were 19,917 people, 4,790 of whom were under 15 years of age on the preceding 30 June and hence ineligible for interview. This left 15,127 persons of whom 13,969 were successfully interviewed. Of this group, 11,993 were re-interviewed in wave 2 and 11,190 were re-interviewed in wave 3. The total number of respondents in each wave, however, is greater than this for at least three reasons. First, some non-respondents in wave 1 are successfully interviewed in later waves. Second, interviews are sought in later waves with all persons who turn 15 years of age. Third, additional persons are added to the sample as a result of 'split-offs' from original households. So, if for example, a young person leaves home to set up his/her own household, all members of the new household aged 15 and over become part of the target group. Following 'split-offs' is the main way in which sample representativeness is maintained in national household panels.

Definitions and Measures

Household joblessness – no member worked for 26 or more weeks in the last financial year

In most previous research households have been defined as jobless if no member was working at time of interview. This 'current employment status' definition has two advantages: it is simple and unambiguous and, secondly, it should provide an accurate point estimate of the joblessness rate for the time period covered by the survey interviews. But it also has a potentially significant drawback. 'Current employment status' is likely to be untypical for at least some households included in the survey. Some may be working a good more than has been typical for them in (say) the last year, and others may be working less. To the extent that this is the case, our capacity to assess the determinants of joblessness will be reduced, or, at minimum our findings might be weaker.[5]

In the HILDA survey respondents are of course asked about their current employment status. But they are also asked to fill in a *calendar* listing the jobs they have held and the hours they have worked during the previous financial year (second and third jobs are included). Clearly, this provides more accurate data for deciding which households have been mostly jobless in the recent past. However, it is probably not sensible to define a household as jobless only if all members have been completely without work for the entire previous year. This yields very low household joblessness rates. After testing several alternatives, our preferred definition treats a household as jobless if no member worked for a minimum of 26 weeks – that is, half the year – in the last financial year.[6] This definition yields household joblessness rates for financial years which are close to, although about one per cent lower than the rates obtained using current employment status (see Appendix 2). This is a desirable conjunction because, as noted above, current employment status should provide accurate point estimates at the aggregate (population-wide) level.

From the standpoint of this report, the main substantive issue is whether alternative definitions make a difference to results relating to the *persistence* and *determinants* of household joblessness. It is clear from a range of sensitivity analyses that, although point

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[5] For example, one would expect generally smaller and less statistically significant regression coefficients in analyses pointing to the main determinants of joblessness; i.e. smaller coefficients than would be found if one had measured the typical employment behaviour of the household.

[6] Note that the definition is in terms of *weeks* worked in the last FY and not hours. A household in which at least one person worked 26 weeks or more is classified as 'jobbed' rather than jobless, regardless of how many hours that person worked. (The same point applies to the 'current employment status' definition; it takes no account of number of hours worked).

estimates of rates of joblessness depend just slightly on which definition is used, results about which types of households are most and least likely to suffer from persistent joblessness are not affected, and results relating to the human capital determinants of entry into and exit from joblessness are also very much the same. Results of some of these sensitivity analyses are given in Appendix 2. It is worth noting here that the Spearman rank order correlation between the two alternative measures of the number of times (0-3) individuals were in jobless households in 2001-03 was 0.96 for the total population and 0.85 for the prime working age (25-54) population. Plainly, with such high correlations all empirical results are going to be very similar.

Persistence of household joblessness

Ideally, if many years of HILDA data were available, it would be valuable to classify households as 'never jobless', 'occasionally jobless' (e.g. 1-3 years out of ten), intermittently jobless ('churning' in an out of joblessness) and persistently or long term jobless (e.g. 7 or more years out of ten). But with only three years of available data, the best approach appears to be to classify households as 'never jobless' (zero years), 1 year jobless (jobless in any one of the three years), 2 year jobless (jobless in any two of three years) and three year jobless. In later sections we shall try to account for differences between households in terms of why they were zero, one, two or three year jobless.

4. Results – the 5 sets of issues raised by DEWR

Issue 1 – The magnitude of the problem:

How many individuals were living in jobless households each year in 2001-03, and how many households were jobless? Is joblessness rising, declining or more or less unchanged? Focussing on the issue of persistence, what percentages of individuals and households were never jobless in 2001-03, what percentage were jobless for one year, for two years and for all three years?

In this section results will be presented in two ways, using two different units of analysis. We will give evidence both about the percentage of *individuals* living in jobless households and also about the percentage of *households* which are jobless. We begin by looking at the entire population and then focus more closely on groups regarding whom there is some degree of societal expectation of paid work. Clearly, from a public policy standpoint, the latter groups

are of most interest. However, societal expectations about who should work are not entirely consensual. Plainly, individuals in the 25-54 age range – commonly designated as 'prime working age' – would generally be expected to live in self-supporting households, either working themselves or supported by other household members. Children under 15 are clearly not expected to work. People of 65 and over would generally not be expected to work, although this may change since current Government policy is to encourage postponement of retirement. Expectations about other groups – for example, single mothers and people with disabilities – are more ambiguous. In this report, in line with earlier research (e.g. Dawkins et al, 2002b and Scutella and Wooden, 2004), full-time students and households in which they are the reference person will not be treated as jobless. They are making an investment in their own future and can expect enhanced earning capacity at a later date.

Overview

It is probably valuable to begin with an overview of key results. The overview will immediately show that cross-sectional and longitudinal results have strikingly different implications. It will also give some understanding of which population groups are most and least at risk of joblessness.

Table 1 compares cross-sectional with longitudinal results for 2001-03 for two groups whom one would expect to have quite different joblessness rates. First, the entire population: it includes retired people and so is bound to show a high joblessness rate. Secondly, we focus on individuals who do not live in a household where the reference person is retired and who themselves are under 65. The expectation would be that most of these people would be in households which had work.

Table 1.   Individuals in jobless households: comparing cross-sectional and longitudinal results*

Cross-sectional results	All persons %	Aged under 65 & not in retired hh %	Persistence: years in jobless hh	All persons %	Aged under 65 & not in retired hh %
2001	22.9	13.0	Never	71.0	84.7
2002	22.7	11.3	1 year	6.2	5.7
2003	22.7	10.6	2 years	5.9	4.9
			3 years	16.9	4.7
				(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

If the focus is the entire population, then the joblessness rate looks alarmingly high and stable. Between 22% and 23% were in jobless households each year and 16.9% were jobless in all three years. But focusing on people below retirement age of course puts the issue in a more sensible perspective. Viewed cross-sectionally, the numbers in jobless households have declined from 13.0% in 2001 to 10.6% in 2003. Even so, it might seem 'natural' or even obvious to infer that many of the same people remain in jobless households year after year. The longitudinal results show that this is not so. While 15.3% were in a jobless household for one or more years (i.e. 100% minus 84.7%), 'only' 4.7% were in this situation for all three years. A further 4.9% were jobless for two years, with 5.7% being jobless for one year out of the three.

Throughout the report, we shall keep finding this pattern of persistent or multi-year joblessness rates being a lot lower than annual rates. However, in drawing a contrast between the two rates, we do not intend to imply that, if only a few per cent within a particular age group or type of household, are persistently jobless, then the 'problem' is somehow trivial. As we shall see in Section 5, people who are in jobless households suffer a wide range of negative consequences. So even a few per cent persistently jobless could be regarded as unacceptable. Further, as we about to report, there are several groups in the community which have high multi-year joblessness rates.

Table 2 focusses on the two groups who are *most* and *least* at risk of household joblessness: lone parent households and couple households. Analysis is restricted to households with prime age reference persons (25-54) who were not full-time students.

Table 2.   Groups at high and low risk of joblessness: comparing cross-sectional and longitudinal results*

Cross-sectional results	Lone parent households: parent (25-54) %	Couple hhs: ref. person prime age (25-54) %	Persistence: years in jobless hh	Lone parent households parent: (25-54) [a] %	Couple hhs: ref. person prime age (25-54) [a] %
2001	34.2	4.5	Never	55.6	94.8
2002	34.2	4.2	1 year	7.3	2.3
2003	34.9	3.9	2 years	13.2	1.4
			3 years	23.8	1.6
				(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households with reference persons who are full-time students are excluded.
a. The reference person remained in this type of household for all three years.

Clearly societal expectations about whether lone parents should work are ambivalent. In the event, however, over a third of lone parent households were jobless each year in 2001-03. Furthermore 23.8% were jobless in all three years; that is, over half of those who were ever jobless in this period remained jobless throughout. Another 13.2% were jobless for two of these three years. In complete contrast, the cross-sectional results show that about 4% of prime age couple households were jobless each year, and the longitudinal results indicate that just 1.6% were jobless in all three years.

Our third and final overview table is about the number of children under 15 growing up in jobless households. Table 3 shows the jobless household rates for all children in Australia, and then more specifically for children in single parent households.[7]

Table 3. Children under 15 in jobless households – total population and single parent households: cross-sectional and longitudinal results*

Cross-sectional results	Children in all hhs %	Children in single parent hhs %	Persistence: years in jobless hh	Children in all hhs %	Children in single parent hhs %
2001	17.8	46.5	Never	75.9	39.5
2002	17.6	46.5	1 year	7.4	15.4
2003	16.9	45.3	2 years	7.9	16.1
			3 years	8.7	29.0
				(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

The cross-sectional evidence indicates that the total number of children in jobless households declined slightly from 17.8% in 2001 to 16.9% in 2003. The longitudinal data indicate a considerable degree of persistence: 8.7% were in jobless households for all three years and a further 7.9% for two years. Further analysis shows a high concentration in single parent households.[8] Each year close to half the children in single parent households were in a jobless setting, and 29.0% were in this situation for all three years, with another 16.1% for two years. As we shall see in Section 2, far fewer children in other types of household were in a jobless setting, viewing the data either cross-sectionally or longitudinally.

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[7] In this table no age restrictions are imposed for household reference persons, and there is no exclusion of children in households where the reference person is a full-time student.

[8] Cross-sectionally, the single father household joblessness rates, while far above average, are not as high as for single mother households (see the next section of this report). However, the three year joblessness rates of households which remained single father and single mother households for all three years were about the same. About 90% of single parent households were single mother households in this period.

A final overview point: it is often stated that more women than men live in jobless households. This is true, but it is almost entirely due to the fact that single mother households are much more common than single father households. In non-single parent households – that is, in all other types of household – men and women have about the same joblessness rates. [9]

For example, in households headed by prime working age reference persons who are not single mothers about 8% of both men and women were in a jobless setting each year in 2001-03, and both genders had three-year household joblessness rates of about 4% (men 4.0%, women 3.8%).

More detailed analyses

The purpose of this section is to provide more detailed individual and household level analyses of joblessness. Tables 4-6 show results for the entire population and for working age populations, with information about gender differences.

Table 4. Individuals in Jobless Households 2001-03*

	Cross-sectional				**Longitudinal**		
	All %	Male %	Female %		All %	Male %	Female %
2001	22.9	20.6	25.1	Never jobless	71.0	73.7	68.5
2002	22.7	20.7	24.5	1 year	6.2	5.8	6.5
2003	22.7	20.2	25.6	2 years	5.9	5.3	6.3
				3 years	16.9	15.0	18.6
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table 5. All Working Age Individuals (15-64) in Jobless Households 2001-03*

	Cross-sectional				**Longitudinal**		
	All %	Male %	Female %		All %	Male %	Female %
2001	14.2	11.5	16.7	Never jobless	80.7	83.6	77.9
2002	14.3	12.1	16.3	1 year	6.0	5.3	6.6
2003	14.0	11.5	16.6	2 years	5.2	4.4	5.9
				3 years	8.2	6.6	9.6
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

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[9] There are some small exceptions to this generalization. In particular, females with a disability are less likely to find work than males with a disability; see Table 10. Also, women still tend to retire younger than men.

Table 6.   Prime Working Age Individuals (25-54) in Jobless Households 2001-03*

	Cross-sectional				Longitudinal		
	All	Male	Female		All	Male	Female
	%	%	%		%	%	%
2001	10.5	8.1	12.8	Never jobless	85.5	88.4	82.8
2002	10.3	8.2	12.3	1 year	4.9	4.1	5.6
2003	10.0	7.6	12.3	2 years	4.3	3.2	5.2
				3 years	5.4	4.3	6.4
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

The main interest lies is Tables 5 and 6 dealing with all working age and prime working age people. The evidence confirms that for both sexes the jobless household rate fell slightly from 2001 to 2003. The rates appear higher for women than men, but, as noted above, this is primarily due to the fact that women are much more likely to find themselves in single parent households. The three-year longitudinal jobless rates are less than half the cross-sectional rates for both sexes. Of course joblessness rates are lower for prime age people than the group designated as 'all working age'. However, cross-sectional rates for the prime age group of around 10% a year and a three-year longitudinal rate of 5.4% may be regarded as disturbingly high.

The next set of analyses deal with *prime age households.* As a yardstick for subsequent comparisons, we first give results for all prime age households; that is, households with prime age reference persons. The main aim, however, is to focus on types of household at high risk of joblessness. Results have already been given for the two outlying types: couple households who are least at risk and lone parent households who are most at risk (see Table 2). Three other types of household were hypothesized to be at serious risk: lone person households, those in which the reference person has a disability,[10] and those with reference persons from a non-English speaking background. Analysis is confined to households with reference persons of prime working age. (Joblessness rates are in all cases substantially higher if the age range is extended to include all prime age reference persons – see Tables 5 and 6).[11]

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[10] Defined as having a health condition, impairment or disability which has lasted, or is likely to last, for six months or more.

[11] However, it should be noted that, due to small numbers results for these types of households headed by people aged 15-24 and 55-64 (the 2 sub-groups needed to expand the range to 15-64) are unreliable.

First, to provide a basis for comparison, Tables 7 and 8 gives results both for all working age and for all prime age households.

Table 7.   All Working Age Households (ref. person 15-64) 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male ref. person %	Female ref. person %		All %	Male ref. person %	Female ref. person %
2001	15.7	11.4	32.7	Never jobless	81.4	85.8	60.0
2002	15.2	11.2	31.6	1 year	4.3	3.8	6.4
2003	15.5	11.0	32.9	2 years	4.5	3.6	8.9
				3 years	9.8	6.8	24.8
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households with reference persons who are full-time students are excluded.

Table 8.   All Prime Age Households (ref. person 25-54) 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male ref. person %	Female ref. person %		All %	Male ref. person %	Female ref. person %
2001	11.6	7.2	29.1	Never jobless	87.1	91.1	65.8
2002	10.6	6.6	27.8	1 year	3.5	3.0	6.5
2003	11.2	6.4	29.9	2 years	3.4	2.4	8.5
				3 years	6.0	3.5	19.2
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households with reference persons who are full-time students are excluded.

The annual cross-sectional rates of joblessness for all working age households in 2001-03 averaged around 15-16% and for prime age households averaged around 11%. The rates were much higher for female headed than male headed households. Again, the female figure is higher primarily because of the inclusion of single mother households. The three year ('persistent') joblessness rate for all working age households was 9.8% and for prime age households it was 6.0%; figures to remember as we now review evidence for 'at risk' households.

Tables 9-11 give results for the three types of 'at risk' household not previously considered. A point to remember is that these types of household are not mutually exclusive. Take a lone

person household. He/she may or may not also be disabled, or from a non-English speaking background.

Table 9.   Lone Person Households, Prime Working Age (ref. person 25-54) 2001-03*

	Cross-sectional				**Longitudinal**		
	All	Male ref. person	Female ref. person		All	Male ref. person	Female ref. person
	%	%	%		%	%	%
2001	19.3	19.5	19.1	Never jobless	76.7	75.7	78.3
2002	17.5	16.5	19.1	1 year	5.7	6.4	4.5
2003	16.3	14.5	19.3	2 years	4.1	4.6	3.1
				3 years	13.5	13.2	14.0
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households with reference persons who are full-time students are excluded.

Table 10. Households With Disabled Reference Person, Prime Working Age (ref. person 25-54) 2001-03*

	Cross-sectional				**Longitudinal**		
	All	Male ref. person	Female ref. person		All	Male ref. person	Female ref. person
	%	%	%		%	%	%
2001	30.5	24.4	52.3	Never Jobless	52.4	57.4	33.7
2002	32.9	27.4	51.7	1 year	7.3	7.3	7.2
2003	27.2	21.2	46.7	2 years	11.9	11.0	15.3
				3 years	28.3	24.3	43.7
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households with reference persons who are full-time students are excluded.

Table 11. Households With NESB Reference Person, Prime Working Age (ref. person 25-54) 2001-03*

	Cross-sectional				**Longitudinal**		
	All	Male ref. person	Female ref. person		All	Male ref. person	Female ref. person
	%	%	%		%	%	%
2001	14.2	9.9	15.2	Never jobless	81.3	87.5	51.1
2002	13.4	8.7	37.0	1 year	4.2	3.7	6.6
2003	14.8	10.1	32.4	2 years	7.9	4.5	24.0
				3 years	6.7	4.2	18.3
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households with reference persons who are full-time students are excluded.

All three types of household had annual and longitudinal joblessness rates above the national average. However, NESB households were not greatly above the average, particularly in regard to persistent joblessness. They had annual rates around 14%, compared with a national average of 11%, and their three-year longitudinal rate was 6.7%, compare with the national average of 6.0%. Household with a disabled reference person had very high joblessness rates, although still little lower than single mothers whether viewed cross-sectionally or longitudinally. It is of interest that households headed by male with a disability had much lower rates of joblessness than female headed households. This suggests that male heads have made a substantial effort to find work, whereas it is possible that female heads may perhaps feel less 'marginalised' if they do not join the labour force. However, it should also be noted that just over half of female heads had children under 16, so caring responsibilities were presumably a significant barrier to workforce participation for many of them.

Lone men and women had annual joblessness rates far above the national average. But their rate of three-year persistent joblessness is most alarming; at 13.5% for men and 13.2% for women it was over twice the national average for this period. Many of these people also report a health disability. Close to two-thirds of those who were jobless each year reported a disability, and among those who were three year jobless, about 78% had a disability.

Issue 2 - The special problem of children in jobless households:

What percentage of children are growing up in jobless households, and especially in persistently jobless households? What evidence is there of contact between children in jobless households and other adults who are employed and so may serve as role models from the world of work? In particular, how much contact is there between children in single mother jobless households and their fathers?

We have already seen that large numbers of children – especially children living in single parent families – are growing up in a jobless setting. This is an important public policy concern, which is now explored in more detail. Table 12 gives more detailed information comparing the percentages of children in jobless households in the total population, in single mother households, single father households and all other (non-single parent) households combined.

Table 12. Children Under 15 in Jobless Households - Total Population, Single Mother Households, Single Father Households and in all Non-Single Parent Households Combined*

Cross-sectional results	Children in all hhs %	Children in single mother hhs %	Children in single father hhs %	Children in non-single parent hhs %	Years in jobless hh	Children in all hhs %	Children in single mother hhs %	Children in single father hhs %	Children in non-single parent hhs %
2001	17.8	49.8	28.0	8.5	Never	75.9	38.6	38.0	89.5
2002	17.6	47.6	41.1	8.2	1 year	7.4	14.4	22.3	4.2
2003	16.9	47.1	31.5	7.3	2 years	7.9	17.2	5.3	3.9
					3 years	8.7	29.8	34.4	2.3
						(100.0)	(100.0)	(100.0	(100.0)

*Source HILDA 2001-03. Population weighted results.

It is plain that the household joblessness rates among children in both single mother and father households are far higher than in non-lone parent households. The annual rates for children in single mother households were not much under 50% each year in 2001-03. Single father household rates were lower and fluctuated sharply but were far above the national average every year. By contrast, 'only' about 8% of children in non-lone parent households were in a jobless setting in this period. Viewing the matter longitudinally, it can be seen that the three-year persistent joblessness rates among children in single parent households was around 30%; about twelve times higher than the rate in all other households combined (2.3%).[12]

In fact, it appears to be the case that 86.0% of three-year jobless households in which children were living in 2001-03 were lone parent households. However, lone parent households had fewer children on average than other households. Taking this into account, it is estimated that 73.3% – close to three-quarters – of children in three-year jobless households were with lone parents.

The main policy concern is that these children may be growing up without *role models* in the world of work, and so may perhaps be more likely to be jobless themselves when they enter the labour market. There are, however, a number of possible ways in which the role model

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[12] Note that the three-year rate in single father households of 34.4% appears to be contradictory to finding that lower percentages of children than this were in a jobless setting in both 2001 and 2003. This apparent contradiction is due to the fact that the cross-sectional rates are for households that were single father households in the year in question, whereas the three year rate is for households which remained as single father households for all three years. Some single fathers, and rather fewer single mothers, repartnered in 2001-03. Issues relating to repartnering are considered later in the report.

problem may be avoided. In some cases the lone parent will want to find a job when the youngest child is considered old enough (e.g. when starting school at age 6) and may succeed in doing so. In HILDA in 2003 64.2% of single mother households in which the youngest child was under six were jobless, but the figure dropped to 35.3% in households where the youngest was between six and fifteen. Another second possibility is that lone parents may repartner with somebody in the paid workforce. The evidence from recent research (Gregory, 1999; Gregory and Klug, 2002) is not promising in this regard, nor is the three-year evidence from HILDA (see Issue 4 below).

A third possibility, which is difficult to assess, is whether children who live in jobless households are exposed to alternative role models in other households who are engaged in paid work. The only directly relevant information in HILDA relates to contact which the youngest children in lone parent households have with their non-resident parents. It transpires that there was a considerable difference between the number of times a year youngest children in single mother households saw their fathers, compared with the number of times youngest children in single father households saw their mothers. In 2003 the typical (median) child in a single mother household saw his/her father for 13 day visits and 20 overnight stays; perhaps about once a fortnight.[13] The typical child in a single father household saw his/her mother for 26 day visits and 52 overnight stays; rather more than once a week. There do not appear to be any consistent differences in 'visiting' between children in lone parent households which were never or rarely jobless, compared with children living in persistently jobless households.

The final issue here is whether the children, via visits to their non-resident parent, would be likely to benefit from a role model in the world of work. Unfortunately, HILDA provides no information about whether the non-resident parents of these particular children were in paid work – the parents are not part of the sample. However, there are other non-resident parents in the sample, and it may be reasonable to treat them as similar in terms of work history to the non-resident parents of the children we are interested in. Over three-quarters of the non-resident parents in the sample, who were mostly in the 25-54 prime age bracket, were personally employed each year in 2001-03.

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[13] This assumes some linkage between day visits and overnight stays; in other words, it would not be appropriate to add the two figures to get the total number of visits per year.

However, the employment rates for the fathers (around 85% each year) were a lot higher than for the mothers (about 45%). The fathers had a three-year household joblessness rate of 6.0%, while the mothers had a three-year rate of 10.2%. 85.0% of the fathers and 56.6% of the mothers were never in a jobless household in these three years. Overall, comparing with population averages for the entire prime age population (see Table 6), these rates of joblessness are a little on the high side for the fathers and very high for the mothers. It remains an open question whether visits by children to their non-resident parents would have substantial benefits in terms of role modeling.

Issue 3 – The determinants of household joblessness: multivariate analysis

Issue 3a: Human capital and joblessness:

The aim is to assess the relative importance of demographics, parental background (especially parental joblessness), household characteristics, human capital (education, previous work experience, English communication skills) and health as variables which put households more or less at risk of joblessness.

We now seek a fuller understanding of the determinants of household joblessness. To this point descriptive information has been given, showing rates of joblessness for different household types. But, clearly, joblessness is likely to depend not only on the type of household in which one currently lives but also on a range of demographic variables including age and country of birth. It is also likely to depend on human capital variables including educational attainment, competence in the English language and previous work experience. It may also be related to the area in which one lives – how disadvantaged the area is – and to current circumstances, including one's state of health.

Table 13 presents a logistic regression analysis of the determinants of household joblessness in 2001-03. Joblessness is a binary variable (1=jobless, 0=jobbed), so logistic regression is an appropriate technique. Results are given as odds ratios; an odds ratio more than one means that the explanatory variable in question is positively associated with being in a jobless household, while an odds ratio less than one means that the variable is negatively associated with joblessness. The units of analysis here are households represented by their reference person for each year in 2001-03. Technically, what is involved is 'unbalanced panel analysis' in which survey respondents are included in years when they are household reference persons, but not if they cease to be reference persons (e.g. by changing household).

Table 13. Determinants of Joblessness 2001-03 (logistic regression)

Dependent variable: Jobless household (1-0)	
Variables	**Odds ratio**
Household ref. person characteristics	
Age	0.918
	(-1.19)
Age^2	1.013
	(1.34)
Overseas born: non-English speaking background (ref: Australian born)	2.001
	(4.15)***
Overseas born: English speaking	0.897
	(-0.54)
Does not speak English well	2.167
	(2.57)***
Parents' both jobless at age 14	1.802
	(2.83)***
Early school leaver (before Year 12) (ref: Year 12 education)	1.685
	(4.20)***
Trade qualification	0.755
	(-2.29)**
Tertiary degree	0.474
	(-3.83)***
Health disability	6.231
	(17.71)***
Household characteristics	
Lives alone (ref: couple household)	7.698
	(13.15)***
Single mother household	11.665
	(18.34)***
Single father household	3.956
	(5.41)***
Number of children under 15	1.256
	(3.92)***
Youngest child under 6	1.902
	(4.17)***
Disadvantaged area (deciles 1-10; 10=disadvantaged)	1.137
	(7.47)***
Wald Chi2 (15)	835.26***
Pseudo R2	0.293
No. of Observations	9576

Source: HILDA 2001-2003. Robust z statistics clustered on the ref. person's id are
in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

The evidence in Table 13 confirms that being in a single mother household is the factor most strongly associated with joblessness. The odds of these households being jobless is 11.7 times greater than for non-single mother households. Single father households also have a joblessness far above average. Further, both single mother and single father households are at greater risk of joblessness if they have a child under six and are somewhat less at risk (although still far above average) if their children are older. It is also the case, however, that the more children single parents have, the less likely they are to work. Clearly, the reasons

for these differences are that parents with more and younger children have heavier caring responsibilities.

The evidence shows that being in a single parent household makes one more likely to be jobless, controlling for the effects of other variables, including education. However, it is worth pointing out that single parents have lower than average educational levels and this adds to their difficulties in finding work. Many more single fathers than other prime age men have a Year 12 education or less.[14] Single mothers have only a slightly lower average level of education than other prime age women, although far fewer have tertiary degrees.

Living alone – being a solo household – is the second factor most strongly linked to joblessness. People who live alone are 7.7 times more likely to be jobless than multi-person households. Many lone persons also have a health disability, and a health disability is of course a major impediment to undertaking work. Households headed by a reference person who has a disability are 6.2 times more likely than others to be jobless.

It was mentioned earlier that a serious concern about children growing up in jobless households is that they may become jobless themselves. To some extent this hypothesis can be tested with the HILDA data. Respondents were asked whether their father, and also their mother, were unemployed when they were about 14 years old. It transpires that reference persons whose parents were both without work when they were about 14 *are* more likely to be jobless themselves; 1.8 times more likely than people whose parents were not both jobless. This result holds net of the effects of other variables in the equation.

Reference persons who were born in non-English speaking countries were twice as likely as their Australian born equivalents to be in jobless households, and this remained true even if they spoke English well. Not speaking English well made people 2.2 times more likely to be jobless.

Education relates in expected ways to household joblessness. Reference persons who were early school leavers (before Year 12) were significantly more likely than others to head a jobless household, while those with a university degree or a trade qualification were less at risk.

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[14] 72.6% compared with 61.2%.

In male headed households (but not in female headed households) the age of the reference person was positively related to joblessness; that is, men who were in their forties and early fifties were more likely to head up a jobless household than younger prime age men.

Finally, the more disadvantaged the geographical area a household lives in, the more likely it is to be jobless. The Australian Bureau of Statistics groups geographical areas into deciles of socio-economic disadvantage. Living in a low SES area turned out to be related to joblessness, even net of all other variables in the equation.

Results of multivariate analyses of this kind sometimes depend to a considerable extent on judgments about which explanatory variables to include and which to omit. There were in fact a number of variables which were omitted and so are not shown in Table 13, but which would have been statistically significant if included. One such variable was 'percentage of time in paid work since completing full-time education'. This variable was such a powerful determinant of current joblessness (odds ratio=16.7) that it wiped out (rendered statistically insignificant) the effects of being an early school leaver and also of having jobless parents. It also much reduced the apparent effect of being in a single parent household. Clearly this was because less educated people, people with jobless parents and single parents all had a history of joblessness. But to include the 'time in paid work' variable would in some respects be misleading. What it tells us is that people who have previously been without work tend to continue that way. This is well known and has important policy implications relating to interventions to prevent medium and long term joblessness. But the inclusion of the variable in this particular equation would (arguably) distort the rest of our findings.

Other omitted variables were the gender and the marital status of the household reference person. These were left out because they were essentially captured in the equation by the variables for household structure: solo household, single mother household, single father household and couple household.[15] Again, their inclusion would have wiped out the effects of these latter variables, which are of greater policy interest.[16]

We next undertake a similar analysis of the *persistence* of household joblessness. Again, the household reference person stands as proxy for his/her entire household. The dependent

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[15] Couple household was the 'reference' for the other three types. See Table 13.
[16] Other omitted variables included 'parents divorced when age 14' and measures of physical and mental health. The first of these variables was not statistically significant even at the 10% level, and the latter two had the wrong sign due to multicollinearity, if included alongside the measure of health disability.

(outcome) variable is the number of times in the three years (0-3) that the household was jobless. The appropriate approach is to use an ordered logit model. This assumes that the outcomes are ranked; for example, that a household which was three years jobless had a greater propensity to joblessness than one which was two years jobless.[17]

Table 14. Determinants of the Persistence of Joblessness 2001-03 (ordered logit model)

Dependent variable: persistence (0-3)	
Variables	**Odds ratio**
Household ref. person characteristics	
Age	0.924
	(-1.08)
Age^2	1.011
	(1.18)
Overseas born: non-English speaking background	2.133
(ref: Australian born)	(4.65)***
Overseas born: English speaking	0.940
	(-0.32)
Does not speak English well	1.903
	(2.07)**
Parents' both jobless at age 14	1.736
	(2.59)***
Early school leaver (before Year 12)	1.665
(ref: Year 12 education)	(4.09)***
Trade qualification	0.762
	(-2.21)**
Tertiary degree	0.486
	(-3.81)***
Health disability	5.726
	(17.85)***
Household characteristics	
Lives alone	6.449
(ref: couple household)	(12.75)***
Single mother household	10.019
	(17.96)***
Single father household	3.722
	(5.37)***
Number of children under 15	1.211
	(3.37)***
Youngest child under 6	1.654
	(3.37)***
Disadvantaged area (deciles 1-10; 10=disadvantaged)	1.130
	(7.59)***
Wald Chi2 (15)	877.60***
Pseudo R2	0.207
No. of Observations	9485

Source: HILDA 2001-2003. Robust z statistics clustered on the ref. person's id are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

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[17] The Small-Hsiao test formally confirmed that the 4 outcomes were not statistically independent.

The evidence in Table 14 about the determinants of persistence in household joblessness turns out simply to confirm the results in the previous table about why households are jobless or not on an annual basis. The chief determinants, indicated by the odds ratios, are living in a single mother or father household (especially if the youngest child is pre-school age), being a one person household, living in a household where the head has a health disability, coming from a non-English speaking background and not speaking English adequately. The evidence about persistence also confirms the detrimental effects of leaving school early (before Year 12), and it underlines that having parents who were jobless is associated with being jobless oneself.

A final point to make about the evidence in both Tables 13 and 14 is that we have assumed that variables like being in a certain type of household, or having a certain level of education, or living in a certain types of geographical area are determinants or causes of joblessness. This seems reasonable for some variables (e.g. education), but it needs to be recognized that causation could partly run the other way round in the case of other variables. For example, being in a jobless household could well contribute to the break-up of one's marriage (in fact, this possibility is investigated in Section 5), and so have the consequence of putting one in a lone parent household. Follow a similar line of thinking, it could well be that households which have become jobless choose to move to a disadvantaged area in order to get cheaper housing. In such cases it would clearly not be reasonable to think of living in a disadvantaged area as a cause of joblessness.

Issue 3b: Incentives and disincentives arising from Government income support payments:

Is receipt of some types of Government income support payments associated with household joblessness and particularly persistent joblessness? If so, why – what are the incentives? This involves examining the levels of various payments and their relationship to the low skill wages that might otherwise be earned. Also directly relevant are the effective marginal tax rates (EMTRs) which would be likely to apply if jobs were taken.

It is clearly possible, and widely recognized, that Government payments – their level and ease of access to them – could themselves create incentives for household joblessness. Plainly this is an important issue to raise in the context of this report. But unfortunately the HILDA data can only make a limited contribution. HILDA is a very large survey, but even so the sample sizes of individuals in prime age households receiving each of the main IS

payments are only in the 135-175 range. This means that numbers are too small to get separate and reliable results for men and women in different types of household. Yet this is what is needed, because the EMTRs which would apply, if a person made the decision to take a job rather than stay on IS, depend critically not just on which IS payment(s) the person is receiving but on household type and composition, the presence or absence of children, the children's age, whether the male or female in a couple takes a job, whether non-IS payments (especially Family Tax Benefit) are affected, and many other factors. The best current method of tackling these issues is by computer microsimulation which involves constructing huge 'simulated' samples, estimating EMTRs and plugging in estimates of the extra labour supply – or reductions in supply – which might result from changes in disposable income consequent upon proposed (and simulated) changes in Government payments and taxes (Beer, 1998, 2002; Kalb, Kew and Scutella, forthcoming).

As background to the HILDA results given below, it is important to be aware of the main findings of microsimulation research on the EMTRs which now apply in Australia, following the major tax changes which took effect in July 2000. These changes included introduction of Family Tax Benefits (Parts A and B) which have had major effects on EMTRs. Gillian Beer of NATSEM (2002) following up her earlier work (Beer, 1998) has worked out the new EMTRs for a range of family types and equivalent income deciles. She finds that the highest EMTRs apply to families with children, both couples and single parents, who move from lower income levels upwards into income deciles four to six. This impact on low and moderate income families is especially due to tapered withdrawal of FTB-A and, more generally, to 'income test stacking'; that is, to means testing which leads to simultaneous withdrawal or partial withdrawal of several payment (e.g. FTB-A, rent allowance and Parenting Payment).

The HILDA results given here relate to the propensity of individuals in prime age households (reference person 25-54) to remain on IS payments, and for the household to remain jobless in 2001-03. It seems sensible to confine analysis to prime age households, since it is already well known that people over 50, and certainly over 55, rarely move off benefits (Keating, 2005). The three IS payments considered are Newstart, Parenting Payment and Disability Support Pension (DSP). These are the three most common IS payments received by working age people and they are the three for which sample numbers are large enough to permit some analysis. In each table (Tables 15-17 below) the sample is split into those who were in

jobless households in the first HILDA year (2001) and those not in jobless households that year. The purpose of this comparison is to gain some insight into whether the IS payment in question appears to be associated with continuing joblessness. The tables also show whether households were 'welfare reliant'. Welfare reliance is defined as receiving more than half of gross household income (i.e. income from all sources) from the State.[18]

Table 15 relates to individuals in prime age households who were on Newstart in 2001, and it shows the extent to which they remained on IS and were welfare reliant up to 2003.

Table 15. Remaining on Income Support? Newstart and other IS Receipt in 2002-03 among Individuals in Prime Age Households Who Were Already Receiving Newstart in 2001*

2002	Jobless household in 2001	Household not jobless in 2001
	%	%
Still receiving Newstart	75.6	43.4
Receiving other IS	18.4	12.3
Off IS	6.0	44.4
	(100.0)	(100.0)
HH jobless	68.5	13.2
Welfare reliant	81.6[a]	20.5[b]
2003		
Still receiving Newstart	60.3	33.3
Receiving other IS	23.7	13.7
Off IS	16.0	53.0
	(100.0)	(100.0)
HH jobless	56.9	16.3
Welfare reliant	65.9	17.7

*Source HILDA 2001-03. Population weighted results. Unweighted N=174.
a. 87.6% had been in welfare reliant households in 2001.
b. 17.8% had been in welfare reliant households in 2001.

Among individuals who were in jobless households in 2001 and who were also receiving Newstart, 75.6% continued to receive Newstart in 2002 and 60.3% in 2003. In addition, some people moved off Newstart but shifted to other IS payments. So in addition to the 75.6% in jobless households who remained on Newstart in 2002, another 18.4% received other payments. This means that altogether 94.0% remained on IS payments and only 6.0% moved off. By 2003 84.0% continued to receive some form of IS payment and 16.0% had moved off. Further, by 2003 56.9% were still in a jobless household and 65.9% were welfare reliant. In 2001 87.6% had been welfare reliant.

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[18] Not just IS payments are included. FTB and Child Care Benefit are also included as Government sources of income.

Now compare with individuals who received Newstart in 2001 but who were *not* living in a jobless household that year. Far fewer of them continued to receive Newstart or other forms of IS in 2002 and 2003. By 2003 only 33.3% were still on Newstart and another 13.7% were received other IS. 53.0% were no longer on any form of IS.

It must be stressed that this evidence – this comparison – is no more than suggestive of the possibility that individuals who are on Newstart and also live in jobless households are less likely to get off IS than individuals in non-jobless households *because of EMTRs or anything to do with financial incentives/disincentives.* As explained, pursuit of this issue would require a much larger sample and a different method of analysis.

Table 16 gives similar results for those who were already in receipt of Parenting Payments in 2001. Here analysis is restricted to those in lone parent households, because the numbers in couple households which were also jobless in 2001 were too low to permit reliable analysis.

Table 16. Remaining on Income Support? Parenting Payment and other IS Receipt in 2002-03 among Individuals in Prime Age Lone Parent Households Who Were Already Receiving Parenting Payment in 2001*

2002	Jobless household in 2001	Household not jobless in 2001
	%	%
Still receiving Parenting Payment	91.3	89.8
Receiving other IS	6.0	3.8
Off IS	2.7	6.4
	(100.0)	(100.0)
HH jobless	81.0	11.2
Welfare reliant	89.2[a]	32.9[b]
2003		
Still receiving Parenting Payment	85.5	77.8
Receiving other IS	11.1	5.9
Off IS	3.7	16.3
	(100.0)	(100.0)
HH jobless	72.3	8.7
Welfare reliant	87.0	28.6

*Source HILDA 2001-03. Population weighted results. Unweighted N=139.
a. 87.7% had been in welfare reliant households in 2001.
b. 29.6% had been in welfare reliant households in 2001.

Within jobless households, 91.3% of lone parents who had been receiving Parenting Payment in 2001 remained on this payment in 2002 and 85.2% did so in 2003. Altogether 97.3% were

still on some form of IS in 2002, and 96.3% remained on support in 2003. The large majority of these households were welfare reliant throughout the period. In households which were not jobless in 2001 the numbers who moved off IS were also low, although somewhat higher than in jobless households. 93.4% remained on IS in 2002 and 83.7% in 2003. However, nearly all these households remained 'jobbed' in 2001-03 and around 70% were not welfare reliant, in the sense that most of their income came from private sources (including child support from non-custodial parents, as well as earned income) and not from the State.

Again, it could be said that the comparison between individuals in jobless and non-jobless households appears to indicate some possibility that the former have a disincentive to take paid work. The evidence is compatible with Beer's (2002) finding, referred to earlier, that some single parent families (as well as couples) face disincentives due to high EMTRs if they take work.

However, the strongest financial disincentives are faced by families that move into equivalent income deciles four to six, and it seems likely that most lone parents who took jobs would earn less than that.

A third and increasing group of IS recipients get DSP; that is, they have been assessed as unable to undertake full-time work. Table 17 gives results for individuals in prime age households, again distinguishing between households which were jobless in 2001 and those which were 'jobbed'.

Table 17. Remaining on Income Support? Disability Support Pension and other IS Receipt in 2002-03 among Individuals in Prime Age Households Who Were Already Receiving DSP in 2001*

2002	Jobless household in 2001	Household not jobless in 2001
	%	%
Still receiving DSP	93.5	73.7
Receiving other IS	5.7	20.0
Off IS	0.8	6.3
	(100.0)	(100.0)
HH jobless	90.3	17.1
Welfare reliant	93.5[a]	38.8[b]
2003		
Still receiving DSP	91.5	69.9
Receiving other IS	6.7	19.6
Off IS	1.8	10.5
	(100.0)	(100.0)
HH jobless	86.0	23.0
Welfare reliant	93.3	36.0

*Source HILDA 2001-03. Population weighted results. Unweighted N=139.
a. 90.3% had been in welfare reliant households in 2001.
b. 25.9% had been in welfare reliant households in 2001.

In households which were jobless in 2001, 93.7% were still receiving DSP in 2002 and 5.7% were on another type of IS, leaving only 0.8% who had exited IS. In 2003 the parallel figures were 91.5% still on DSP, 6.7% receiving other forms of IS, and 1.8% no longer on IS. In households which were not jobless in 2001, exit rates from DSP and IS were clearly higher. In 2002 6.3% had exited IS, and by 2003 10.5% had done so. Whereas the very large majority of initially jobless households were welfare reliant in these three years, those which were not jobless in 2001 mostly remained non-welfare reliant throughout the period.

Again, it would be unreasonable to make any causal inference about possible linkage between initial joblessness and remaining on DSP. Keating (2005) reports that DSP is a high percentage of the low skill wages which DSP recipients could expect to earn if they took a job; he cites a figure of 88% for a couple on DSP. But this begs the question of how many DSP recipients have good enough health to be capable of some paid work, and how many would be reasonably competitive in the current labour market.

A further difficulty should be mentioned in making causal inferences about the incentive effects of IS payments on propensity to take work. IS payment are all 'categorical'; that is, only specific population groups are eligible for them depending on gender, age, family composition, income, assets, disability status and so forth. This means that it is not possible

to do standard statistical analyses in which one compares the work/non-work behaviour of similar individuals and households receiving different kinds of benefits, with a view to estimating incentive effects. Extensive further research, using simulation methods, is required.

In summary, results in this section indicate that recipients of Newstart are much more likely to exit the program than recipients of Parenting Payments or DSP. There is, of course, nothing surprising in this comparison. Newstart imposes job search requirements, whereas until now the other two programs have not imposed mandatory search activities. Plainly, too, lone parent recipients of Parenting Payments have substantial caring responsibilities, while DSP recipients have been assessed as having health problems which prevent full-time work.

Issue 3c: Involuntary and semi-involuntary retirement: effects on household joblessness.

Plainly retirement, including early retirement, is a major factor driving household joblessness. Taxation and other rules governing access to public and private pensions/superannuation have considerable impact on decisions about when to retire. In Australia women can currently access a public old age pension at the age of 62, men at 65. Private superannuation is available with generous tax concessions for both sexes at 55. For many of those with superannuation, the ability to take the money as a lump sum, rather than as an income stream, is almost certainly a further incentive to retire before the public pension age (Keating, 2005).

In Australia, as in other Western countries, the age of retirement has been falling. HILDA ran a special module of questions on retirement in 2003. Among people in their late fifties, 31% were already completely retired, with a further 12% describing themselves as partly retired. By their early sixties 58% of the total population were completely retired and 16% partly retired. By no means all retirements are entirely voluntary. Among HILDA respondents who were already fully or partly retired, 54% said the decision was entirely voluntary, 36% said they were pressured or forced out, and 10% said it was a bit of both. In the case of those who were pressured, 41% said the pressure came from their employer, while 42% said they received medical advice or had health reasons for retiring. 17% had received some or a lot of pressure from their partner.

Reflecting on the evidence about forced and semi-forced retirement, it seems reasonable to suppose that if people lose their jobs in their mid-fifties or later, they realize that the prospects of finding a new job are poor. So they gradually come to think of themselves as retired, rather than unemployed, and some who were not seriously impaired may perhaps come to believe that declining health was a factor.[19]

HILDA data on retirement and joblessness in households approaching retirement age should be interpreted in the light of both applicable financial incentives (discussed more fully below) and the possibility that some people rationalize forced or semi-forced redundancy as retirement. Table 18 gives the joblessness rates of households with reference persons in the 55-64 age bracket, split according to whether the reference person classified him/herself as completely retired in the year in question. Note that about 35% of these reference persons were retired and 65% were not.

Table 18. Joblessness of Households with Reference Persons aged 55-64, according to Whether the Reference Person Was 'Retired', 2001-03*

	All cases			Ref. person retired			Ref. person not retired		
	All ref. persons %	Male ref p. %	Female ref. p. %	All ref. persons %	Male ref p. %	Female ref. p. %	All ref. persons %	Male ref p. %	Female ref. p. %
2001	27.3	23.6	41.8	67.7	62.0	80.8	17.7	15.9	26.2
2002	32.7	29.8	44.9	72.5	69.9	80.7	10.3	8.9	16.8
2003	29.6	26.7	42.5	71.0	67.9	81.7	8.0	7.1	12.5

*Source HILDA 2001-03. Population weighted results. Unweighted sample = 976 households.

Recall that these are all households in which the reference person (who in most cases is the oldest person) is under the public pension retirement age for men. Around 30% of the households were jobless each year in 2001-03. Among households where the reference person self-classified as retired, about 70% were jobless. In households where the reference person said he/she was not retired, the joblessness rate appeared to decline from 17.7% in 2001 to 8.0% in 2003. As noted above, this last result may be due to people who initially saw themselves as not retired subsequently reclassifying themselves as retired if they are unable to get a job. Female-headed households in this age group have higher joblessness rates than male-headed households, because women still tend to retire at a younger age than men. Many married women retire at the same time as their (generally) older husbands.

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[19] It is difficult to accept that bad health at time of retirement could have been a major factor in as many cases as it is retrospectively claimed to be.

Overall, the results in Table 18 may be regarded as showing high joblessness rates in households with reference persons below what used to be regarded as normal retirement age. Furthermore, in the large majority of households in which the reference person self-classifies as retired, no-one else works.

It may be useful to offer some additional if speculative comments on incentives for retirement. In a previous MI report to the Department of Family and Community Services, based on a special set of HILDA questions on wealth asked in 2002, it was found that there were high early retirement rates, not just among household which could apparently afford to retire, but also among low and moderate income households with low levels of savings, including little superannuation (Headey, Warren and Wooden, 2004). These households virtually all owned their own homes outright; the mortgage was paid off. It appeared that some may have decided that they had no chance of accumulating sufficient superannuation to make much of a contribution towards retirement living, so they might as well retire early and try to cope on limited savings until they were old enough for the pension. (It is probable that some did part-time work, whether declared for tax purposes or not, and that some may have obtained IS payments, whether entitled or not).

Issue 4 – *Joblessness transitions: entries and exits to and from joblessness.*

Analysis of the frequency and pathways by which households 'entered' and 'exited' joblessness in 2001-03. This involves reviewing transition matrices showing percentages of households who moved from working to jobless, or vice-versa, in 2001-02 and in 2002-03. We also identify who within the household (reference person, partner) gained or lost jobs in these transitions

Transitions over two periods

As a first step we ask what percentages of prime age households entered and exited joblessness each year. In Table 14 entries and exits occurring in 2002 and 2003 are combined.

Table 19. Two Year Transitions: Households with Prime Age Reference Persons (25-54)

	Jobless Household$_{t+1}$	
Jobless household$_t$	NO	YES
NO	97.5%	2.5%
YES	26.2%	73.8%

Source: HILDA 2001-2003 – unweighted

It can be seen that only 2.5% of households with someone in employment for half the year or more became jobless in the following year, while 26.2% of jobless households exited this state in the next period. Of course the absolute numbers of households entering and exiting were approximately the same; the annual joblessness rates were fairly constant in these years. It is just that the jobbed households at time t are a much larger pool than the jobless households.

Transitions over three periods

Analysis of transitions over all three waves provide more information about the dynamics and persistence of joblessness. Table 20 lists the possible combinations of being jobless over the three years.

Table 20. Three Year Sequences: Households with Prime Age Reference Persons (25-54)

Sequence	Percentage
jjj	6.3
jjn	*1.9*
jnn	*2.1*
jnj	0.7
njj	1.5
njn	1.0
nnj	1.2
nnn	82.1
	(100.0)

Source: balanced sub-sample of HILDA 2001-2003.
Unweighted

The households who exited joblessness during 2001-2003 are denoted by *jjn* and *jnn* and account for 1.9% and 2.1% of observations. A household may also only temporarily take up employment before returning to joblessness (*jnj*), though these households only accounted for 0.7% of the sample.

Another way to look at the transitions is to decompose the conditional rates of joblessness as pictured below in Figure 1.

Figure 1. Joblessness Transitions 2001-2003:Households with Prime Age Reference Persons (25-54)

J – Jobless household
NJ – Non-jobless household
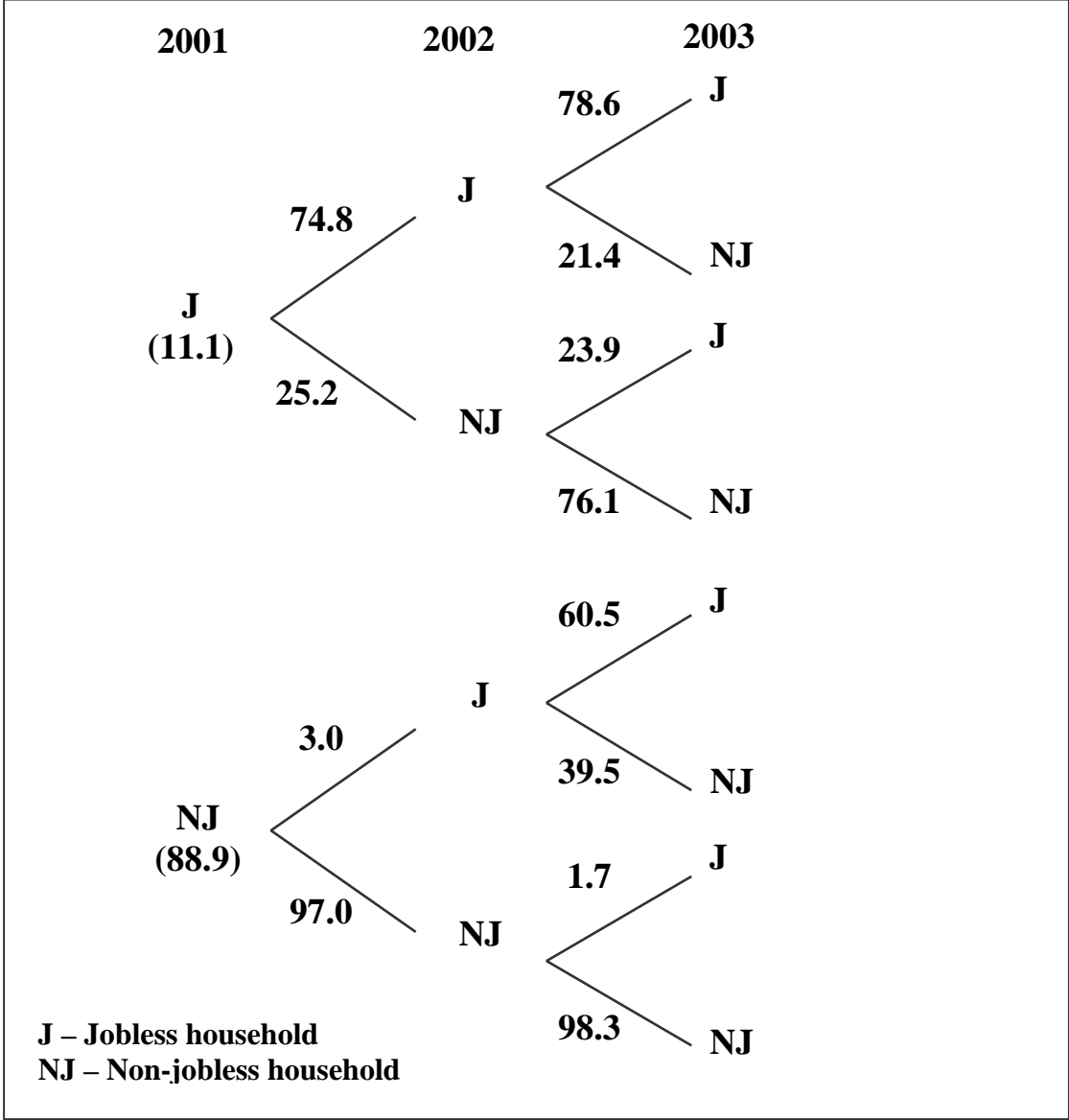
The transition rates illustrated in Figure 1 reveal the following:

– Once a household is jobless, the more likely it is to remain in that state. This is indicated by the fact that those who were jobless in 2001 had a better chance of 'exit' in 2002 than in 2003. It is likely that, as HILDA continues to follow these households, their exit rate will decline further.

–   The longer a household has someone in employment, the less likely it is to become jobless. This is indicated by finding that, among households in work in 2001, 97.0% were still 'jobbed' in 2002. Then 98.3% of this latter group remained in work in 2003.

–   Finally, those households which have exited joblessness are more likely to become jobless in the next period (multiple spells). So, in 2002, 25.2% of households who had been jobless in 2001 exited this state. But, within this sub-set, 23.9% became jobless again in 2003.

Entry and exit pathways

There are two types of pathways via which households may become jobless and also exit this state. The main pathway consists of changes in the employment status of the household reference person, his/her partner and any other working age household members. Secondly, whether a household is jobless will be affected by changes in its composition as a result of such life events as marriage, separation/divorce and death. For example, a couple with children, where only the male reference person was in employment, may separate or divorce leaving a single unemployed mother in a household now classified as jobless. This single mother may later repartner with a man who is employed and so exit the state of being in a jobless household.

Table 21 lists percentages of households which exited joblessness in 2001-02 and 2002-03 (combined) as result of changes in the employment status and partner status of the reference person and/or partner (if present).

Table 21. Exits from Joblessness in 2001-03 due to Changes in Employment & Partner Status: Households with Prime Age Reference Persons (25-54)

Reason for transition from year t to t+1	Male ref. person %	Female ref. person %	Total %
Ref. person worked at least 50% of time in year t+1	36.0	34.6	70.6
Ref. person's partner worked at least 50% of time in year t+1 (& ref. person did not)	4.0	-	4.0
Both ref. person and partner worked at least 50% of time in year t+1	4.0	-	4.0
Others in HH worked at least 50% of time in year t+1	4.5	10.9	15.4
Ref. person (re-)partnered with person who worked at least 50% of time in year t+1	1.5	4.5	6.0
	50.0	50.0	100.0

Source: HILDA 2001-2003, unweighted results. Number of observations = 202 (101 men, 101 women).

It can be seen that a majority of exits for both male and female headed households were due to the reference person himself/herself finding more work in year t+1, having worked for less than half the time in year t. In only a few cases was exit due to the female partner of a male reference person obtaining work (or to both partners getting work).

Marriage/repartnering also accounted for only a few exits – eight women and three men who were not in work themselves found a partner who was.

How do those who find a job actually go about it? Saunders (2005) reports on a recent survey specifically about the methods of successful job search used by former income support recipients. The most common method was help from family or friends, followed by finding a job on the Internet or via advertisements. Formal help from employment agencies was the third most common method.

A further important point is that many of the households which exited joblessness appear to have done so in a rather borderline way. At time of interview in the year in which they had exited, only 50 (35 out of 73 men and 15 of 70 women) of the 143 household reference persons who had found enough work for the household to no longer be classified as jobless had in fact obtained full-time jobs. Virtually all of these men (but only a minority of the women) stated that they would have preferred full-time work. To all appearances the men in particular were still rather marginally employed. In some years time it is possible that their

situation will be substantially improved and that part-time work will have served as a stepping stone to full-time. In the short run, however, their continuing job prospects appear somewhat precarious.[20]

We now analyse pathways from work to joblessness. Table 22 gives results for these transitions.

Table 22.   Entries to Joblessness in 2001-03 due to Changes in Employment & Partner Status: Households with Prime Age Reference Persons (25-54)

Reason for transition from year t to t+1	Male ref. person	Female ref. person	Total
	%	%	%
Ref. person worked less than 50% of time in year t+1	34.4	30.7	65.1
Ref. person's partner worked less than 50% of time in year t+1	4.9	-	4.9
Both ref. person and partner worked less than 50% of time in year t+1	5.5	-	5.5
Others in HH worked less than 50% of time in year t+1	4.4	9.8	14.2
Partner who was working in year t no longer in HH in year t+1 (separation/divorce/widowhood)	0.5	9.8	10.3
	49.7	50.3	100.0

Source: HILDA 2001-2003, unweighted results. Number of observations = 183 (91men, 92 women).

In the case of male reference persons the reasons for their household becoming jobless are simply the reverse of the reasons for ceasing to be jobless. They personally no longer have enough work; they have worked less than 50% of the time in the last year. In a few cases their partner has lost working time – but they are a small minority. But for women the reasons are somewhat different. About 31% have reduced work, but 10% have become jobless in the last year because their marriage/partnership has split up, and another 10% are no longer in a jobless household because someone else – most often a teenager – who was not previously working at least half-time is now doing so. Of the women whose marriages/partnerships split up, most became single mothers.

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[20] The evidence in Figure 1, showing quite high re-entry into joblessness, confirms this point.

As was the case with the households which ceased to be jobless, those who become jobless are mostly on the fringes of the labour market. In the year prior to joblessness only 27 (19 men and 8 women) of the 119 household reference persons whose loss of work would soon make their households jobless were, in fact, in full-time employment.

Issue 5 – The consequences of joblessness

Issue 5a: The impact of joblessness on marital prospects and marital/partnership separation.

Up to this point joblessness has been treated as a dependent variable; a result or outcome of such characteristics as living in a single parent household and leaving school early. But joblessness also has consequences – mainly negative consequences – and so can also be treated as an independent or explanatory variable. In this section of the report we examine the consequences of living in a jobless household for a person's prospects of getting (re)married/(re)partnered. We also assess the effects of joblessness on the risk of a marital/partnership split for those who are currently partnered.

Table 23 gives the results of a logistic regression equation which shows the odds of getting (re)married/(re)partnered in year t for prime age unattached people living in jobless households in year t-1, compared with similar people in 'jobbed' households. Also included in the equation are a range of other variables which could affect one's marital prospects, including age, measures of educational attainment and so forth. (It should perhaps be noted that, since HILDA was not primarily designed to assess marital prospects, variables relating to looks and personality, which would doubtless be relevant, were not included).

Table 23. Does Living in a Jobless Household Reduce Marital/Partnering Prospects? Prime age individuals 2001-03 (logistic regression)

Dependent variable: Got married/partnered (year t)	
Explanatory variables (year t-1)	**Odds ratio**
Lived in jobless household	**.564**
	(-3.04)**
Age	0.888
	(-1.39)
Age^2	1.005
	(0.42)
Overseas born: non-English speaking background	0.788
(ref: Australian born)	(-1.11)
Overseas born: English speaking	1.418
	(1.77)*
Does not speak English well	0.760
	(-0.39)
Early school leaver (before Year 12)	0.890
(ref: Year 12 education)	(-0.76)
Trade qualification	0.836
	(-1.16)
Tertiary degree	1.010
	(0.50)
Health disability	0.894
	(-0.67
Previously married woman, not single mother	0.874
(ref: previously married man & not single father)[a]	(-0.54)
Never married/partnered woman[a]	0.595
	(-2.54)**
Never married/partnered man[a]	0.411
	(-4.45)***
Single mother[a]	0.436
	(-3.50)***
Single father[a]	1.015
	(0.05)
Number of children under 15 in household	1.298
	(2.97)**
Youngest child under 6 in household (1-0)	0.703
	(-1.29)
Disadvantaged area (deciles 1-10; 10=disadvantaged)	0.990
	(-0.46)
Wald Chi^2 (18)	133.76***
Pseudo R^2	0.652
No. of Observations	4327

Source: HILDA 2001-2003. Robust z statistics clustered on respondent id are in parentheses.
  * significant at 10%; ** significant at 5%; *** significant at 1%.
  a. Previously partnered men who were not single fathers are the reference group
     in this equation for 5 other mutually exclusive groups: previously partnered women
     who were not single mothers, never married women, never married men,
     single mothers and single fathers.

It is clear that living in a jobless household (which of course implies that one is jobless oneself) reduces marital/partnering prospects, even net of a range of other variables including age, being a single parent and education. The odds of marrying/partnering are 56% of the odds facing individuals in jobbed households. Being a single mother has negative effects on

one's partnering prospects over and above the effects of being jobless. The other variables which are statistically significant in this equation are perhaps not of much substantive interest. So compared to a reference group of previously married/partnered men, both single (never married) men and single (never married) women are less likely to partner, but this may only be because many are not immediately keen to do so.

The next issue is whether living in jobless households imposes marital and financial stress sufficient to cause many marriages/partnerships to split up. We already know that marital separation quite frequently results in the formation of jobless households, particularly single mother households. The issue is whether causation also runs the other way round – does joblessness cause separation? Table 24 shows the odds of one's marriage/partnership splitting up in year t if one lived in a jobless household the previous year.

Table 24. Does Living in a Jobless Household Increase the Risk of a Marital/Partnership Split? Prime age individuals 2001-03 (logistic regression)

Dependent variable: Partnership split up (year t)	
Explanatory variables (year t-1)	**Odds ratio**
Lived in jobless household	**1.738**
	(1.99)**
Age	1.002
	(0.02)
Age^2	0.997
	(-0.26)
Overseas born: non-English speaking background (ref: Australian born)	0.696
	(-1.43)
Overseas born: English speaking	0.935
	(-0.29)
Does not speak English well	0.865
	(-0.19)
Early school leaver (before Year 12) (ref: Year 12 education)	0.818
	(-1.17)
Trade qualification	0.987
	(-0.08)
Tertiary degree	0.623
	(-2.08)**
Health disability	0.624
	(-2.14)
Number of children under 15 in household	0.811
	(-2.76)**
Youngest child under 6 in household (1-0)	1.388
	(1.73)*
Disadvantaged area (deciles 1-10; 10=disadvantaged)	0.999
	(-0.04)
Wald Chi^2 (13)	30.34**
Pseudo R^2	0.016
No. of Observations	12985

Source: HILDA 2001-2003. Robust z statistics clustered on respondent id
are in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Living in a jobless household increases the odds of a marital/partnership break-up by 1.7 times compared with a jobbed household. Other variables which have significant effects are the number of children a couple have and whether the youngest is under six. It appears that partnerships are less likely to split up the more children there are, but are somewhat more likely to split if there is a child still under six.

Issue 5b: The impact of joblessness on outcomes related to income poverty, stress and well-being. The outcomes considered are income poverty, welfare reliance, financial stress, physical and mental health and life satisfaction.

We now assess the consequences of household joblessness for three related financial or economic outcomes: income poverty, welfare reliance and financial stress. The definition of *income poverty* here is that a household is considered poor if its equivalised disposable income is less than 50% of median equivalised income in Australia in the year in question. This is the most commonly used definition of income poverty in Australian academic studies, although no definition of poverty has ever been officially adopted by an Australian Government. It was also until recently the definition of poverty used by OECD. However, OECD and particularly the European Union, have raised the bar and now define poverty as below 60% of median disposable income.

Disposable income is income after receipt of Government payments and payment of taxes. Equivalisation is a standard method of adjusting income to take account of households' differing needs. Plainly a large household with a disposable income of, say, $50,000 a year would not be as well of as a sole person household with the same income. But adjusting for household size by constructing a measure of household per capita income is also questionable, because of economies of scale in larger households and because children are generally cheaper to keep at a certain living standard than adults. The most commonly used *equivalence scale* – adopted by OECD and used here – counts the first adult in a household as 1.0, other adults as 0.5, and children under 15 as 0.3. So, to give an example, a household of two adults and two children would have an equivalence scale score of 2.1 and, if its disposable income was $50,000, its equivalised income would be $23, 810 ($50,000/2.1). It should be noted that it has been shown that a fairly wide range of equivalence scales used in Western countries, including those implied by Government income support payments to families of different sizes and compositions, result in approximately the same numbers of households people being designated as poor, and also appear to have little implication for

rankings of countries in terms of percentages who are poor (Buhmann et al, 1988; Coulter, Jowell and Jenkins, 1992).[21]

The definition of *welfare reliance* used here is that a household is considered reliant if more than half its gross income (cash income from all sources) comes from the State. Government payments taken into account include not just IS payments but also Family Tax Benefit and Child Care Benefit. As with income poverty, we treat welfare reliance as a dichotomous variable: a household is either welfare reliant or not.

Financial stress is measured by eight questions. Seven ask about recent inability to meet standard household expenses 'because of a shortage of money'. The questions cover bills for utilities, mortgage or rent, going without meals, being unable to heat the home, and asking for financial help from family, friends or welfare organizations. An eighth question asks respondents whether, within a week, they could raise $2000 to deal with an emergency. The financial stress scale used here is dichotomous: respondents are rated as stressed if they report two or more of the financial difficulties about which they were asked. It should be noted that financial stress measures of this kind are quite widely used in Western countries and a similar measure was used by ABS in the 1998-99 Household Expenditure Survey.[22]

Table 25 assesses the effects of joblessness on these three 'economic' outcomes. Logistic regression was employed for all three equations, and odds ratios are reported. The units of analysis are individuals living in households headed by prime age persons.

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[21] However, results for specific types of households within countries are affected by choice of scale. In particular, if children are given a weighting larger than 0.3, more 'child-rich' households are designated as poor and fewer households without children.

[22] It is nevertheless clear that the measure has some deficiencies or at least puzzles associated with it. Non-trivial numbers of people in the top half of the income distribution report feeling financially stressed; presumably they are not good at budgeting. Also, in quite a lot of households husbands and wives gave contradictory report about whether they had recently been unable to meet the expenses they were questioned about.

Table 25. Effects of Living in a Jobless Household on Income Poverty, Welfare reliance & Financial Stress: Individuals in Prime Age Households 2001-03 (logistic regression)

Dependent variables: all dichotomous (1-0)	Income poor	Welfare dependent	Financially stressed
Explanatory variables	Odds ratio	Odds ratio	Odds ratio
Person characteristics			
Lives in jobless household	**10.645**	**66.388**	**2.961**
	(28.51)***	(39.39)***	(12.86)***
Age	0.950	0.928	1.151
	(-3.49)***	(-4.13)***	(6.96)***
Age^2	1.007	1.009	0.976
	(3.66)***	(3.73)***	(-7.97)***
Overseas born: non-English speaking background	1.981	1.255	1.015
(ref: Australian born)	(7.01)***	(1.47)	(0.15)
Overseas born: English speaking	0.920	0.850	1.016
	(-0.63)	(-1.02)	(0.15)
Does not speak English well	1.636	2.060	1.528
	(2.08)**	(2.18)**	(1.58)
Parents both jobless	1.604	2.304	1.114
	(3.45)***	(4.51)***	(0.74)
Early school leaver (before Year 12)	1.020	1.464	1.236
(ref: Year 12 education)	(2.55)**	(3.41)***	(3.00)**
Trade qualification	1.020	0.903	1.025
	(0.23)	(-0.88)	(0.35)
Tertiary degree	0.576	0.494	0.610
	(-4.42)***	(-4.05)***	(-4.75)***
Health disability	1.224	2.370	2.104
	(2.54)**	(8.95)***	(11.44)***
Household characteristics[a]			
Lives alone	2.844	1.713	2.141
(ref: couple household)	(10.86)***	(3.78)***	(8.53)***
Lives in single mother household	1.329	5.595	3.350
	(2.33)**	(11.34)***	(11.50)***
Lives in single father household	1.123	1.787	2.818
	(0.53)	(2.14)**	(5.80)***
Number of children under 15	1.343	1.480	1.046
	(8.44)***	(9.86)***	(1.43)
Youngest child under 6	0.996	1.175	1.345
	(-0.04)	(1.41)	(3.69)***
Disadvantaged area (deciles 1-10; 10=disadvantaged)	1.081	1.156	1.071
	(6.44)***	(8.83)***	(7.14)***
Wald Chi^2 (17)	1674.49***	2122.67***	1053.72***
Pseudo R^2	0.221	0.498	0.125
No. of Observations	19076	18096	17681

Source: HILDA 2001-2003. Robust z statistics clustered on respondent id are in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%.
a. For computational purposes, these are attributed to each person within the household.

A first point to make about the results in Table 25 is that, net of other variables in these equations, household joblessness has a massive effect on all three economic outcomes. The odds of people in jobless households living in poverty are 28.5 times the odds for people in non-jobless households. The odds of being welfare dependent are 39.4 times higher and the

odds of being financially stressed are 12.9 times higher. The result for welfare reliance is particularly worth underlining.

Single mother household members are about 1.3 times more likely to be poor than people in couple households (the reference group). They are 5.6 times more likely to be welfare dependent and 3.4 times as likely to report financial stress. Again, recall that these results hold controlling for other variables in the equations, including joblessness. Single father households are not significantly more at risk of poverty than couple households, but they are more likely to be welfare reliant and much more likely to report financial stress. In all types of household having more children is associated with greater risk of poverty and welfare reliance.

Individuals in sole person households, as we have already seen, have high joblessness rates. The evidence in Table 25 shows that they also have very high odds of being income poor (2.8 times the odds of people in couple households), of being welfare reliant and of reporting financial stress. The same is true of the overlapping group of people with a health disability.

People born in non-English speaking countries are at significantly higher risk of poverty than Australian born people. However, they are not more likely to be welfare reliant, nor to report financial stress. The associated variable of 'not speaking English well' also predisposes to poverty and welfare reliance and financial stress, and is of course a problem which can be tackled.

It is perhaps worth noting the expected and strong contrast between early school leavers on the one hand, and people with degrees on the other. The former group are at high risk of poverty, welfare reliance and financial stress, compared with those who left school after Year 12 (the reference group), whereas those with degrees are at much lower risk.

Finally, it is interesting and perhaps alarming that people whose parents were both jobless when they were aged around 14 are themselves at greater risk of poverty and welfare reliance.

Next, we assess the consequences of joblessness for health, mental health and life satisfaction. It is recognized that both physical and mental ill-health could be causes as well as consequences of joblessness. However, the balance of evidence, especially for mental ill-

health, suggests that it is primarily a consequence of unemployment (and by extension) joblessness (Headey, 2002; Winkelmann and Winkelmann, 1998).

The health scale used in HILDA is the SF-36 General Health Scale; an instrument which has been widely used internationally in survey research (Ware and Sherbourne, 1992). Respondents are assessing their own health; these are not medical tests. In making their own assessments people almost certainly adjust their answers to take account of their age, so correlations between health and age are lower than they would be for physician-administered assessments. The SF-36 physical and mental health scales are both scored from 0 (poor health) to 100 (excellent health). The life satisfaction scale in HILDA is a single item based on asking respondents, "All things considered, how satisfied are you with your life?" The response scale ran from 0 ('totally dissatisfied') to 10 ('totally satisfied'). This single item, while not best available measure of subjective well-being, is very widely used in international research and is generally regard as acceptably reliable and valid (Diener et al, 1999).

In order to make the three dependent variables similar and results more easily interpretable, we rescaled 'life satisfaction' to run from 0 to 100 rather than 0 to 10. This means that the coefficients in Table 26 can be interpreted as quasi-percentiles. The equations in Table 26 are ordinary least squares (OLS) regressions with data for the three years of HILDA being pooled.[23]

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[23] Strictly speaking the dependent variables are ordinal rather than interval or ratio scale. However, it has become usual in the international literature to use regression analysis for 'long' ordinal scales. It is widely reported that results are very similar for ordinal and interval/ratio scale methods. For this report a check, comparing regression and ordered probit results, was made for life satisfaction, and result were indeed highly similar. In the case of the health and mental health variables a check is computationally difficult because of the sheer number of response categories involved, as well as the large HILDA sample.

Table 26. **Effects of Living in a Jobless Household on Health, Mental Health & Life Satisfaction: Individuals in Prime Age Households 2001-03 (OLS regression)**

Dependent variables: (0-100)	Health	Mental health	Life satisfaction
Explanatory variables	coefficients	coefficients	coefficients
Person characteristics			
Lives in jobless household	**-13.175**	**-9.407**	**-3.088**
	(-13.58)***	(-11.88)***	(-4.58)***
Age	0.114	-0.150	-0.561
	(1.02)	(-1.56)	(-7.75)***
Age^2	-0.045	0.030	0.078
	(-2.86)**	(2.21)**	(7.74)***
Overseas born: non-English speaking background	1.360	-1.185	-1.901
(ref: Australian born)	(2.00)**	(-2.06)**	(-3.62)***
Overseas born: English speaking	0.565	-0.126	-.564
	(0.77)	(-0.21)	(-1.12)
Does not speak English well	-11.016	-3.321	-2.971
	(-5.02)***	(-1.70)*	(-2.04)*
Parents both jobless	-0.345	-0.242	-0.329
	(-0.31)	(-0.25)	(-0.39)
Early school leaver (before Year 12)	-1.268	-1.096	1.242
(ref: Year 12 education)	(-2.40)**	(-2.55)**	(3.37)***
Trade qualification	-0.342	0.761	0.094
	(-0.63)	(1.71)*	(0.25)
Tertiary degree	1.137	0.335	-0.454
	(1.73)*	(0.68)	(-0.99)
Health disability	omitted	omitted	-4.968
			(11.64)***
Household characteristics[a]			
Lives alone	-1.519	-2.708	-5.494
(ref: couple household)	(-2.02)**	(-4.47)***	(-10.42)***
Lives in single mother household	1.930	-3.231	-6.324
	(2.04)**	(-3.91)***	(-9.02)***
Lives in single father household	-2.735	-5.552	-8.786
	(-1.51)	(-3.70)***	(-6.48)***
Number of children under 15	0.621	0.001	-0.038
	(2.96)***	(0.01)	(-0.25)
Youngest child under 6	-0.010	1.126	0.436
	(-0.02)	(2.51)**	(1.16)
Disadvantaged area (deciles 1-10; 10=disadvantaged)	-0.345	-0.099	-0.014
	(-5.10)***	(-1.74)*	(-0.29)
F test	27.28***	20.58***	38.35***
R^2	0.064	0.043	0.071
No. of Observations	17618	17768	19071

Source: HILDA 2001-2003. Robust t statistics clustered on respondent id are in parentheses.
* significant at 10%; ** significant at 5%; *** significant at 1%.
a. For computational purposes, these are attributed to each person within the household.

Joblessness appears to have large negative consequences for health, mental health and life satisfaction. Compared with people in non-jobless households, individuals in jobless households average 13.2 (quasi-) percentiles lower on health, 9.4 percentiles lower on mental health and 3.1 percentiles lower on life satisfaction.

Compared with the reference group of people living in couple households, those who live alone suffer considerably worse health, mental health and life satisfaction. Using the same yardstick, those in single mother and single father households suffer poor mental health and lower life satisfaction. (A more positive way to express the same points would be to say that people in couple households are clearly best off in terms of mental health and satisfaction with life).

People from non-English speaking backgrounds and especially those who do not speak English well also report worse mental health and life satisfaction, and the latter group report much worse health too. It appears that the strains of trying to adapt to Australian life, especially if one's English is inadequate, have a range of negative effects for health and well-being.

Overall, the main conclusion of this section has to be that household joblessness has quite massive and negative economic and health consequences, and substantially reduces life satisfaction.

5. Conclusions

Clearly medium and long term household joblessness must be regarded as a more serious policy concern than short term. The HILDA panel survey enables researchers and policy makers to gain an improved understanding of joblessness by making it possible to analyse how many households are persistently or multi-year jobless. Previous research was almost entirely based on cross-sectional snapshots of how many household were jobless at one point in time. Given that annual joblessness rates do not change much – or change only slowly – it seemed 'obvious' that many households remained persistently jobless. In this report we have repeatedly juxtaposed and compared cross-sectional and longitudinal joblessness rates and found that, for some types of household (e.g. lone parent and lone person households), joblessness is indeed persistent. However, for other types of household (e.g. prime age couple households), joblessness, when it occurs, is usually a transient or short term experience.

Plainly, joblessness is mainly a concern in relation to working age households rather than retirement age or student age households. In this concluding section we give summary results for the five sets of issues relating to working age households raised in the brief prepared by DEWR. Some policy implications are then discussed.

The magnitude of the problem

The HILDA data for 2001-03 can be analysed from the standpoint of reporting how many working age *individuals* lived in jobless households, and also from the standpoint of how many *households* headed by working age reference persons were jobless. Viewing the issue cross-sectionally, it was found that around 14% of working age individuals (15-64) were in jobless households each year in 2001-03. Longitudinally, it transpires that 80.7% were never in a jobless household in this period, which implies that 19.3% were jobless for at least one year. 8.2% were 'persistently' jobless; that is, jobless for all three years. The corresponding figures for prime working age individuals (25-54) indicate that about 10% were in jobless households each year, while 14.5% were jobless for at least one year, and 5.4% were jobless for all three years.

Viewing from a household (rather than an individual) standpoint, it was found that around 15-16% of households with working age reference persons were jobless each year, with

18.6% being jobless for at least one year and 9.8% every year. Among households headed by prime age reference persons, about 11% were jobless each year, 12.9% were jobless at least once, and 6.0% were jobless throughout this period.

According to the HILDA data, annual rates of household joblessness declined just slightly in 2001-03; by about half a percentage point among both prime age individuals and prime age households. This was a smaller decline than occurred in the rate of individual unemployment and tends to confirm earlier findings indicating that household joblessness is a more intractable problem than individual unemployment, and one which is only to a limited extent due to such demographic changes as the growth in one parent households (Dawkins, Gregg and Scutella, 2002b).

Different types of household vary enormously in their *risk* of being jobless. Nearly three-quarters of Australian residents living in prime age households are in couple households. If the couple stays together – and it is a big 'if' – they are at low risk of joblessness. Annual rates of joblessness among prime age couple households in 2001-03 were around 4%, and the three-year rate was 1.6%. At the other end of the spectrum, three types of prime age household – those headed by single mothers, single fathers and disabled persons – had three-year joblessness rates over 25%.

Prime age lone persons (i.e. one person households) are a group not often mentioned in policy discussions about joblessness. They also have a very high rate of persistent joblessness; a three-year rate of 13.5% in 2001-03 (men 13.2%, women 14.0%). About a quarter of lone persons, and two-thirds of those who are jobless, report a health disability.

Households headed by a person from a non-English speaking background were more at risk of one-year joblessness than average, but were only slightly above average in three-year joblessness.

Children in jobless households

Compared with most other Western countries, Australia has a high rate of children under 16 in jobless households (OECD, 1998). In 2001-03 close to 50% of children in single mother households were jobless each year, and 29.8% were jobless for three years running. It is less well known that children in single father households also have joblessness rates far above the

national average. Their three-year joblessness rate at 34.4% was actually higher than the rate in single mother households, although this comparison could be regarded as somewhat misleading in that it is restricted to households which remained lone parent households for all three years. In practice, single fathers who held jobs had a higher probability of repartnering than single mothers with jobs, whereas single fathers without jobs had a lower probability. So there is a 'selection effect' here which renders the group who remained as single fathers particularly likely to be jobless.

It appears that close to three-quarters (73.3%) of the children who lived in jobless households for three years running in 2001-03 were in lone parent households.

The report casts some light on the policy concern that children growing up in jobless households may be more likely to become jobless themselves. An interesting but not decisive result reported in Section 3 on 'determinants of joblessness' is that those prime age people who had parents who were both jobless when they were around fourteen years old, were more likely than average to be jobless themselves. This result held after controlling for other variables, including age, ethnicity, the composition of their own household and their own level of educational attainment. So far as we know, these are the first Australian results to directly address the issue of inter-generational joblessness.

Determinants of joblessness: multivariate analysis

As is usually the case, multivariate analysis mainly served to confirm the descriptive results already summarized, including those relating to lone parent households. It is worth emphasizing, however, that the logit and ordered probit analyses reported in Section 3 did lend particularly strong confirmation to the results for prime working age lone person households and households headed by a person with a disability. Controlling for many other variables, lone person households had a 7.7 times higher risk of being jobless than all other households combined. Households headed by people with disabilities were at 6.2 times the risk of other households.

Human capital variables had an expected strong impact on joblessness. Not speaking English well has long been to known to be serious drawback in the labour market. Controlling for other variables, including country of birth, it appeared that prime age households headed by a person with inadequate English had 2.2 times the odds of being jobless as other households.

Formal educational attainment was moderately related to joblessness with households headed by early school leavers being at about 1.7 times the risk as others, and household headed by people with degrees being less at risk. It seems certain, however, that the measures of formal education available in HILDA fail to fully capture the impact of literacy and numeracy on joblessness. A Treasury report (2004) has shown that almost all the substantial decline in workforce participation for men aged 25 to 54 in the last thirty years has been due to men who, in most cases, left school at Year 9 or even earlier. Further, around 20% of adults have very poor literacy skills (Keating, 2005).

It should be noted that analysis in this part of the report depends on unprovable and sometimes dubious assumptions about causal direction. Some variables which are treated as 'determinants' of joblessness could equally plausibly be treated as consequences. In particular, marriage break-up and lone parenthood are possible consequences of individual or household joblessness and, indeed, are viewed in that light in Section 4 of the report.

Incentives and disincentives arising from IS payments

The longitudinal HILDA data can make only a limited contribution towards understanding possible incentive effects linking IS payments to joblessness. Microsimulation based on multiple sources of longitudinal evidence would be a preferable method. Nevertheless, we were able to compare the propensity of three groups of IS recipients – those receiving Newstart, Parenting Payment and DSP – to remain on IS in 2001-03. Jobless households were much more likely to remain on all three types of payment than non-jobless households. However, many more exited Newstart, which imposes job search requirements, than exited Parenting Payment or DSP. It was stressed that it is not reasonable to make causal inferences based on these results. Beneficiaries of the three different programs doubtless differ in terms of human capital and on many other factors.

Joblessness and 'early' retirement

Due mainly to 'early' retirement about 30% of households with a reference person in the 55-64 age bracket are now jobless. So it would appear that early retirement is a significant cause of joblessness. However, the HILDA retirement module (2002) found that over 45% of early retirees report that their exit from the labour force was involuntary or semi-involuntary. Further, while some of the people who retire early are those who can well afford it, and have

an incentive to do so because of the favourable tax treatment of superannuation benefits once one turns 55, many others have low savings and superannuation levels and try to cope on low incomes. They own their own homes and so live mortgage-free, but they have little cash.

Pathways: entries and exits from joblessness

Even with only three years of data, it was clear that the longer a household remains jobless, the worse are its chances of 'exiting' that state. Further, household which have previously been jobless are at greater risk than average of returning to joblessness in a subsequent period. In all types of household the main proximate cause of entering and exiting joblessness was for the household reference person to gain or lose his/her job. Far fewer entries and exits were due to changes in a partner's labour force status, or to other household members (for example, working age children) getting or losing work. Also, rather few women and almost no men 'succeeded' in repartnering their way out of joblessness.

Consequences of joblessness

There has been relatively little previous research on the consequences of household joblessness; much more on its determinants. This report has found that joblessness is associated with a wide range of seriously negative consequences. Controlling for a range of other factors, married/partnered people in jobless households are at 1.7 times the risk of marital break-up than other people. Unpartnered people have far worse prospects – only about half the chance – of finding a partner if they live in a jobless household. Jobless households are also at far higher risk of income poverty, welfare reliance and financial stress. On a standardised 0-100 scale, their physical health is 13 points worse and their mental health 9 points worse. They have significantly lower life satisfaction. All these results hold net of the impact of other variables which also affect the outcomes.

Fundamental causes and policy implications

At the risk of stating the obvious, it needs to be affirmed that household joblessness is fundamentally driven by the causes of marital break-up and the causes of unemployment. The joblessness rate among couple households is relatively low, and the rate of persistent joblessness is lower still. The most serious problems lie with lone parent households and, to a

lesser extent, lone person households. Nearly three-quarters of children in persistently jobless households are with lone parents.

Nobody knows how to prevent marital break-up, or thinks that the rate is likely to decline much in the immediate future. So it is a question of identifying and reducing the negative consequences. It used to be the case that lone parents were generally expected to stay at home to look after their children. In recent years they have been encouraged but not required to seek work, via increased incentives in the form of a reduced tax taper on earned income. Then in the 2005-06 Budget the Australian Government announced plans to require lone parents whose youngest child has reached school age to seek at least part-time work. From July 2006 these parents will move on to Newstart rather than receive Parenting Payment. The advantages and disadvantages of these changes have been much debated, but it does appear likely that they will reduce the numbers of children growing up in jobless households. It is also probable that lone parents who are in work are more likely to repartner.

It is worth emphasizing again that, while most policy attention has been focused on single mothers, lone fathers also have annual joblessness rates far above average, and three year rates at least equal to single mothers. Lone fathers typically have levels of education below those of other prime age men, and this is a problem that could be addressed to improve their chances in the labour market.[24] Lone persons – one person households – are another group which attracts little policy attention but who are at high risk of persistent joblessness. Their formal educational standards are actually above average, but over three-quarters of those who are persistently jobless report a health disability.

This report is not the place for detailed analysis of the causes of unemployment. However, it would be unbalanced if it omitted to say that many individuals in jobless households lack work for the same reasons as other unemployed and under-employed people. That is, they lack the skills to compete effectively in the current labour market for wages at which they are willing to work, or, bearing in mind the degree of regulation, for wages at which they are allowed to work. Reducing household joblessness, like reducing unemployment, requires matching labour demand and supply more successfully. At present, unskilled labour – particularly male unskilled labour – is over-supplied. Adjusted for the increased proportion

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[24] As noted earlier in the report, the gap between the educational attainment of lone mothers and other prime age women is only at the tertiary degrees level. Otherwise, the formal educational attainments of lone mothers are similar to the population average.

of part-timers, the national employment rate has only risen a little in the last forty years, even though a much increased proportion of the population now wants to work. In aggregate, a big fall in male employment has been replaced by a big rise in female employment. Unemployment, as officially measured, is now only just over 5%, but according to a recent estimate cited by a former head of the Treasury, another 1.7 million people "want or could be reasonably induced to want more work" (Keating, 2005). Employing all of them for the hours they wanted would increase the employment rate by 12% and total hours worked by 11%. Arguably, to increase total labour demand by anything like this amount, would require major improvements in the generic as well as job specific skills of potential employees. It might also require changes to pay rates, the tax system and EMTRs. Clearly, the detailed canvassing of such reforms goes well beyond the intended scope of this report.

A similar comment applies to reforms which might increase medium and high skill labour supply. Increasing numbers of high skill (and also some low skill) people are now retiring early and forming jobless households. Clearly, moves by the Australian Government to raise the age at which superannuation becomes available on favourable tax terms are intended to reverse the trend. Further steps to encourage or force people to take superannuation income streams rather than lump sums would probably have the same effect, since early retirees would no longer be able to eat into their lump sums while waiting to be old enough for a part pension (Keating, 2005).

The underlying causes of household joblessness are not entirely intractable, but making substantial inroads into the problem appears to require major reforms rather than just incremental change.

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Appendix 1

Household Joblessness: Results for Each Cohort by Own Age and Age of Household Reference Person. Cross-Sectional and Longitudinal Results

(a) Household Joblessness of Individuals by Age/Cohort

Table A1.1
Household Joblessness of Individuals Aged 15-24 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	11.6	10.3	12.9	Never jobless	80.7	81.0	80.3
2002	11.6	11.4	11.8	1 year	9.3	9.4	9.2
2003	11.6	10.6	13.0	2 years	5.8	5.8	5.9
				3 years	4.3	3.9	4.7
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table A1.2
Household Joblessness of Individuals Aged 25-34 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	9.7	6.5	12.7	Never jobless	85.4	90.6	80.7
2002	10.2	6.8	13.4	1 year	5.8	5.4	6.1
2003	8.9	4.7	12.6	2 years	4.7	2.6	6.7
				3 years	4.1	1.5	6.5
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table A1.3
Household Joblessness of Individuals Aged 35-44 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	9.7	7.7	11.6	Never jobless	86.4	89.2	83.9
2002	9.5	8..4	10.6	1 year	4.2	2.3	5.9
2003	9.7	7.5	11.7	2 years	4.8	4.8	4.8
				3 years	4.5	3.6	5.3
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table A1.4

Household Joblessness of Individuals Aged 45-54 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	12.4	10.3	14.4	Never jobless	84.6	86.2	83.2
2002	11.3	9.6	12.9	1 year	4.9	4.3	5.4
2003	11.6	10.6	12.5	2 years	3.1	2.3	3.9
				3 years	7.4	7.2	7.6
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table A1.5

Household Joblessness of Individuals Aged 55-64 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	25.0	24.6	25.5	Never jobless	56.8	62.8	51.0
2002	27.4	27.2	27.6	1 year	6.9	6.4	7.4
2003	24.1	23.6	25.0	2 years	9.2	8.8	9.5
				3 years	27.1	22.0	32.1
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table A1.6

Household Joblessness of Individuals Aged 65 & over in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	79.9	76.4	81.8	Never jobless	11.6	12.3	11.1
2002	76.8	74.9	78.4	1 year	4.9	5.4	4.5
2003	77.2	75.0	79.2	2 years	5.9	6.8	5.1
				3 years	77.6	75.5	79.3
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

(b) *Household Joblessness by Age/Cohort of Household Reference Person*

Table A1.7
Joblessness of Households with Reference Persons Aged 15-24 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	16.8	12.2	20.7	Never jobless	69.7	68.4	70.9
2002	16.9	12.0	22.1	1 year	10.1	16.0	4.5
2003	17.9	13.8	23.1	2 years	12.8	12.1	13.4
				3 years	7.5	3.5	11.2
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households in which the reference person was a full-time student are excluded.

Table A1.8
Joblessness of Households with Reference Persons Aged 25-34 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	9.2	6.5	11.7	Never jobless	89.4	94.3	84.2
2002	8.5	5.1	12.0	1 year	3.8	3.0	4.7
2003	8.9	3.7	14.0	2 years	3.0	2.1	4.0
				3 years	3.0	0.7	7.1
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households in which the reference person was a full-time student are excluded.

Table A1.9
Joblessness of Households with Reference Persons Aged 35-44 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	7.8	6.5	9.1	Never jobless	89.8	91.8	87.6
2002	7.5	6.5	8.6	1 year	2.6	1.8	3.6
2003	8.4	5.8	10.6	2 years	4.1	3.8	4.4
				3 years	3.5	2.6	4.4
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households in which the reference person was a full-time student are excluded.

Table A1.10
Joblessness of Households with Reference Persons Aged 45-54 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	12.4	10.3	14.4	Never jobless	88.5	88.5	88.5
2002	11.3	9.6	12.9	1 year	3.9	4.0	3.7
2003	11.6	10.6	12.5	2 years	2.0	2.0	2.1
				3 years	5.6	5.5	5.7
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households in which the reference person was a full-time student are excluded.

Table A1.11
Joblessness of Households with Reference Persons Aged 55-64 in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	34.3	28.4	40.1	Never jobless	65.0	66.0	64.0
2002	35.5	30.0	40.8	1 year	6.2	6.0	6.3
2003	34.1	28.6	39.9	2 years	8.2	7.4	9.0
				3 years	20.6	20.6	20.6
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households in which the reference person was a full-time student are excluded.

Table A1.12
Joblessness of Households with Reference Persons Aged 65 & over in 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	81.9	80.7	82.9	Never jobless	13.5	14.4	12.8
2002	80.8	79.1	82.1	1 year	4.1	5.1	3.4
2003	81.9	80.0	83.9	2 years	5.2	6.0	4.6
				3 years	77.2	74.5	79.2
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results. Households in which the reference person was a full-time student are excluded.

Appendix 2

**Results Based on Defining a Household as Jobless if No Household Member was
Working At Time of Interview in 2001-03**

Most previous results have been based on defining a household as jobless if no member was working at time of interview. This should give an accurate point estimate of how many households are jobless, provided that the time period in which interviews were conducted is a representative 'time slice' for (say) the last year, or whatever the period of research interest is. However, the definition has the defect that some specific households may not be in a typical situation for them – with regard to joblessness – at time of interview. With this in mind, it was considered preferable for this report to define a household as jobless if no member worked for 26 weeks or more in the last financial year. This definition was selected after determining that it yielded approximately the same estimates of jobless households as the more conventional definition. The tables below which cover (a) all age groups (b) those aged 15 to 64 and (c) those aged 25 to 54 show that this is the case. Tables A2.1 to A2.3 should be compared with Tables 4-6 in the main text. Virtually all percentage estimates are within two percentage point of each other.

Table A2.1
Household Joblessness of All Individuals in 2001-03
Based on Employment Status at Time of Interview*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	23.9	21.7	26.0	Never jobless	69.5	72.2	66.9
2002	23.5	21.4	25.4	1 year	7.3	6.9	7.7
2003	23.6	20.8	26.4	2 years	5.6	5.4	5.8
				3 years	17.6	15.5	19.6
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table A2.2
Household Joblessness of Individuals Aged 15-64 in 2001-03
Based on Employment Status at Time of Interview*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	15.2	12.5	17.8	Never jobless	80.1	83.8	76.5
2002	14.8	12.2	17.2	1 year	6.3	5.4	7.2
2003	15.7	12.5	18.6	2 years	4.6	3.8	5.4
				3 years	9.0	7.0	10.8
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table A2.3
Household Joblessness of Individuals Aged 25-54 in 2001-03
Based on Employment Status at Time of Interview*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	11.2	8.9	13.3	Never jobless	85.2	88.4	82.2
2002	10.2	8.2	12.2	1 year	6.0	4.8	7.1
2003	11.0	7.8	13.4	2 years	3.5	2.4	4.5
				3 years	5.4	4.4	6.3
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Appendix 3

Joblessness in Income Units

Some previous research has analysed joblessness not by households but by income units. ABS defines an income unit as a group of people living under the same roof, who not only share meals (which defines a household in their terms) but also pool their budget. The following results show that both cross-sectional and longitudinal estimates of jobless are very similar whether the unit of analysis is the household or the income unit. To confirm the point, the tables in this appendix should be compared with Tables 4 to 6 in the main text.

Table A3.1
All Individuals in Jobless Income Units 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	24.6	22.1	27.1	Never jobless	70.1	72.7	67.5
2002	23.7	21.3	25.9	1 year	6.1	6.0	6.2
2003	23.5	21.2	26.4	2 years	5.4	5.0	5.8
				3 years	18.4	16.3	20.5
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table A3.2
All Working Age Individuals (15-64) in Jobless Income Units 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	15.6	12.5	18.4	Never jobless	80.0	83.0	77.1
2002	14.9	12.5	17.3	1 year	6.1	5.7	6.4
2003	14.7	12.3	16.9	2 years	4.9	4.0	5.7
				3 years	9.1	7.3	10.7
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.

Table A3.3
Prime Working Age Individuals (25-54) in Jobless Income Units 2001-03*

	Cross-sectional				Longitudinal		
	All %	Male %	Female %		All %	Male %	Female %
2001	10.9	8.0	13.6	Never jobless	86.2	89.9	82.9
2002	10.0	7.5	12.3	1 year	4.2	3.3	5.1
2003	9.8	7.1	12.0	2 years	3.6	2.3	4.9
				3 years	5.9	4.5	7.1
					(100.0)	(100.0)	(100.0)

*Source HILDA 2001-03. Population weighted results.