

# The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 19



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The Household, Income and Labour Dynamics in Australia (HILDA) Survey  
is funded by the Australian Government Department of Social Services

# The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 19

The 16th Annual Statistical Report of the HILDA Survey

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This is the 16th Annual Statistical Report of the HILDA Survey. The first nine reports (2006 to 2014) were published as *Families, Incomes and Jobs: A Statistical Report of the HILDA Survey*.

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# Contents

1. Introduction .....	4
2. Households and family life .....	6
3. Household economic wellbeing.....	22
4. The labour market .....	53
5. Unpaid work .....	85
6. Housing mobility .....	98
7. Psychological distress.....	110
8. Retirement.....	118
9. Time stress .....	129
10. Self-control.....	136
11. Attitudes towards marriage, parenting and work.....	142
References.....	156
Technical Appendix.....	158
HILDA Survey Personnel .....	167

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# 1

## Introduction

*Roger Wilkins*

### The HILDA Project

Commenced in 2001, the Household, Income and Labour Dynamics in Australia (HILDA) Survey is a nationally representative longitudinal study of Australian households. As of December 2020, 19 waves (years) are available to researchers, while this year sees the collection of the 21st wave.

The study is funded by the Australian Government Department of Social Services (DSS) and is managed by the Melbourne Institute: Applied Economic & Social Research at the University of Melbourne. Roy Morgan Research has conducted the fieldwork since Wave 9 (2009), prior to which The Nielsen Company was the fieldwork provider.

The HILDA Survey seeks to provide longitudinal data on the lives of Australian residents. It collects information annually on a wide range of aspects of life in Australia, including household and family relationships, child care, employment, education, income, expenditure, health and wellbeing, attitudes and values on a variety of subjects, and various life events and experiences. Information is also collected at less frequent intervals on various topics, including household wealth, fertility-related behaviour and plans, relationships with non-resident family members and non-resident partners, health-care utilisation, eating habits, cognitive functioning and retirement.

The important distinguishing feature of the HILDA Survey is that the same households and individuals are interviewed every year, allowing us to see how their lives are changing over time. By design, the study can be infinitely lived, following not only the initial sample members for the remainder of their lives, but also their children and all subsequent descendants.

Household longitudinal data, known as panel data, provide a much more complete picture than cross-sectional data because they document the life-course each person takes. Panel data tell us about *dynamics*—family, health, income and labour dynamics—rather than *statics*. They tell us about *persistence* and *recurrence*, for example, of poverty, unemployment or welfare reliance.

Perhaps most importantly, panel data can tell us about the antecedents and consequences of life outcomes, such as poverty, unemployment, marital breakdown and poor health, because we can see the paths that individuals' lives took prior to those outcomes and the paths they take subsequently. Indeed, one of the valuable attributes of the HILDA panel is the wealth of information on a variety of life domains that it brings together in one dataset. This allows us to understand the many linkages between these life domains; to give but one example, we can examine how the risk of poor economic outcomes depends on an individual's health.

Panel data are furthermore valuable because, in many cases,



they allow causal inferences that are more credible than those permitted by other types of data. In particular, statistical methods known as ‘fixed-effects’ regression models can be employed to examine the effects of various factors on life outcomes such as earnings, unemployment, income and life satisfaction. These models can control for the effects of stable characteristics of individuals that are typically not observed, such as innate ability, motivation and optimism, that confound estimates of causal effects in cross-sectional settings.

With 19 waves of data now available, the HILDA Survey is also becoming a sufficiently long-running panel to enable very long-term analyses, including studies of intergenerational linkages. For example, it is possible to examine whether children who have poor parents when growing up are themselves more likely to be poor as adults, and to investigate the drivers of any such linkages.

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## This report

This report presents brief statistical analyses of the first 19 waves of the study, which were conducted between 2001 and 2020. The report should, of course, be viewed as containing only ‘selected findings’, providing only a cursory indication of the rich potential of the HILDA Survey data. Indeed, a large number of studies on a diverse range of topics has been undertaken by researchers in Australia and internationally over the years since data from the first wave of the HILDA Survey was released in January 2003. Further details on the publications resulting from these studies are available on the HILDA Survey website at <http://melbourneinstitute.unimelb.edu.au/hilda/publications/> and at <http://flosse.dss.gov.au/>.

Most of the analysis presented in this report consists of graphs and tables of descriptive statistics that are reasonably easy to interpret. However, several tables in this report contain estimates from regression models. These are less easily interpreted than tables of descriptive statistics but are included because they are valuable for better understanding the various topics examined in the report. In particular, a regression model provides a clear description of the statistical relationship between two factors, *holding other factors* constant. For example, a regression model of the determinants of earnings can show the average difference in earnings between male and female employees, holding constant other factors such as age, education, hours of work and so on (that is, the average difference in earnings when men and women do not differ in other characteristics). Moreover, under certain conditions, this statistical association can be interpreted as a causal relationship, showing the effects of the ‘explanatory variable’ on the ‘dependent variable’. Various types of regression models have been estimated for this report and, while these models are not explained in depth, brief outlines of the intuition for these models and how to interpret the estimates are provided in the Technical Appendix.

The Technical Appendix also provides details on the HILDA Survey sample and the population weights supplied in the data to correct for non-response and attrition. These weights are used in all analysis presented in this report, so that all statistics represent estimates for the Australian population. Note also that the estimates based on the HILDA Survey, like all sample survey estimates, are subject to sampling error. As explained in more detail in the Technical Appendix, for tabulated results of descriptive statistics,

we have adopted an Australian Bureau of Statistics convention and marked with an asterisk (\*) estimates that have a relative standard error—the standard error relative to the size of the estimate itself—of more than 25%. Note that a relative standard error that is less than 25% implies there is a greater than 95% probability the true quantity lies within 50% of the estimated value. For regression model parameter estimates presented in this report, estimates that are not statistically significantly different from 0 at the 10% level are not reported and instead ‘ns’ (not significant) appears in place of the estimate. Estimates that are statistically significant at the 10% level have a probability of not being 0 that is greater than 90%.

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## A further word

While this year’s report includes data from the most recent wave of the HILDA Survey currently available, all of the data nonetheless pre-date the onset of the COVID-19 pandemic. Wave 19, the most recent wave, was collected between 30 July 2019 and 9 February 2020. Many of the findings from the HILDA Project presented in this report therefore relate to very different circumstances to those in which we now find ourselves. However, it is wrong to think they are not relevant today. First, the findings can tell us a lot about what is happening now—for example, when people are socially isolated, what this means for their health and wellbeing. Moreover, it is important that, in documenting the ‘story of Australia’, we have a good understanding of that story prior to the arrival of this unprecedented event. Only then will we be able to interpret properly the impact of the virus and make informed decisions about the best way forward in our post-pandemic future.

# 2

## Households and family life

*Esperanza Vera-Toscano*



Family life is a key focus of the HILDA Survey. Every year, a substantial amount of information is collected on various aspects of family life, including household structures, how parents cope with parenting responsibilities, and perceptions of and attitudes to the roles of household members.

The collection of this information from the same individuals each year allows us to investigate how and why family circumstances change over time—partnering and marriage, separation and divorce, childbirth, adult children leaving the family home, and indeed any other change to the composition or nature of family circumstances.

In this chapter analyses are presented for the 2001 to 2019 period on three different aspects of family life. First, we look at the changing living arrangements of Australians, as described by the household types in which they live. Second, we look at fertility and fertility intentions, and how well fertility intentions predict actual fertility. Lastly, we explore the prevalence and characteristics of non-co-resident partners and examine how such relationships correlate with subsequent co-resident partnerships.

### Household dynamics, 2001 to 2019

Table 2.1 considers the evolution of household types (as described in Box 2.3, page 9) over the 2001 to 2019 period, with every second year being displayed after 2001. It shows the proportion of individuals in each of 11 household types classified according to the nature of the family resident in the household and whether other related and unrelated people reside in the household (see Boxes 2.1 (page 7), 2.2 (page 7) and 2.3 (page 9)).

In broad terms, the distribution of household types has been relatively stable across the 19-year period. A household containing a couple with dependent children (and no-one else) has remained the most common household type, with approximately 41% of individuals living in this household type across the entire period.

Households containing a couple (and no children) have remained the second-most common household type, accounting for approximately 20% to 21% of individuals. Single-parent households have been the third most common household type, accounting for approximately 10% to 12% of individuals, while the fourth position in the ranking is for people living alone (that is, the single household type) with around 10% of individuals.

Some notable trends are nonetheless evident. The proportion of people living in multiple-family households has risen by 1.8 percentage points to 4.5% in 2019. Couple households with dependent children, with or without other household members, have collectively declined by 0.7 and 0.8 percentage points respectively. Single parents with dependent children (with or without others) have also declined, by 0.4 percentage points respectively, but single parents with non-



Table 2.1: Proportion of individuals in each household type, 2001 to 2019 (%)

	2001	2003	2005	2007	2009	2011	2013	2015	2017	2019	Change 2001 to 2019
<i>Couple with children</i>	52.4	52.0	52.9	53.6	52.8	51.6	50.6	50.4	51.3	50.4	-2.0
Couple with dependent children	41.4	41.4	41.4	41.4	40.9	41.3	40.3	41.1	41.1	40.7	-0.7
Couple with dependent children and others <sup>a</sup>	2.4	1.8	1.9	2.0	2.7	2.6	2.3	1.7	2.0	1.6	-0.8
Couple with non-dependent children, with or without others <sup>a</sup>	8.5	8.9	9.6	10.2	9.2	7.8	8.0	7.5	8.2	8.1	-0.4
<i>Couple without children (with or without others<sup>a</sup>)</i>	20.4	20.7	20.8	20.2	20.6	21.0	21.5	21.2	20.9	20.4	0.0
<i>Single-parent household</i>	11.4	12.1	12.2	11.7	11.4	10.8	11.5	12.2	12.1	12.6	1.3
Single parent with dependent children	6.9	7.4	6.9	6.6	6.4	6.1	6.7	6.8	6.7	6.6	-0.4
Single parent with dependent children and others <sup>a</sup>	1.5	1.3	1.3	1.0	1.3	1.2	1.4	1.4	1.1	1.1	-0.4
Single parent with non-dependent children, with or without others <sup>a</sup>	2.9	3.4	4.0	4.1	3.6	3.5	3.4	4.0	4.3	4.9	2.0
<i>Single person</i>	9.5	9.4	9.3	9.3	9.3	9.4	9.5	9.7	9.8	9.9	0.4
<i>Other household type</i>	6.4	5.9	4.9	5.2	6.0	7.1	7.0	6.6	6.0	6.7	0.4
Other family household	1.1	1.4	1.1	0.9	1.2	1.5	1.4	1.5	1.2	1.2	0.1
Multiple-family household	2.7	3.2	2.6	3.1	3.2	3.8	4.3	4.2	3.7	4.5	1.8
Group household	2.5	1.4	1.3	1.2	1.6	1.8	1.3	0.9	1.2	1.0	-1.5
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	

Notes: <sup>a</sup> 'Others' comprises related people as well as unrelated people. If dependent children are present, the household could (and often will) include non-dependent children. Cells may not add up to column totals due to rounding.

dependent children (and no dependent children) have increased by 2.0 percentage points. In contrast, the proportion of people living in group households has shrunk by 1.5 percentage points.

## Changes in household type

Stability of household type is examined in Table 2.2, which presents the proportion of individuals changing household type from one year to the next, disaggregated by initial

### Box 2.1: Dependent children

The definition of a dependent child used in this report is based on the Australian Bureau of Statistics' (ABS) approach (see ABS, 1995). According to this definition, a dependent child is: (1) any child under 15 years of age; or (2) a child aged 15 to 24 who is engaged in full-time study, living with one or both parents, not living with a partner, and who does not have a resident child of their own. Note that the definition of a child is based on social rather than biological parenthood, and that, in couple families, it is sufficient to be a child of only one member of the couple.

### Box 2.2: Single parents

The definition of a single parent used in this report follows the Australian Bureau of Statistics' (ABS) concept of a single parent (see ABS, 1995). Based on this definition, a single parent is a person who has no spouse or partner usually resident in the household but who forms a parent-child relationship with at least one (dependent or non-dependent) child usually resident in the household. This does not preclude a single parent having a partner living in another household. However, a person who reports being legally or de facto married will not be classified as a single parent even if the partner is not usually resident in the household.





**Table 2.2: Proportion of individuals for whom the household type changes from one year to the next, by initial household type, 2001 to 2019 (%)**

	2001–2004	2005–2008	2009–2012	2013–2016	2017–2018
Couple with dependent children	7.9	8.0	9.0	8.3	8.5
Couple with dependent children and others <sup>a</sup>	37.0	39.0	38.4	36.6	40.4
Couple with non-dependent children, with or without others <sup>a</sup>	27.3	28.6	29.5	25.4	26.2
Single parent with dependent children	17.4	19.5	18.9	19.7	20.4
Single parent with dependent children and others <sup>a</sup>	44.3	39.3	43.5	43.9	40.1
Single parent with non-dependent children, with or without others <sup>a</sup>	23.4	23.3	24.0	19.5	19.4
Couple without children (with or without others <sup>a</sup> )	8.7	9.0	9.4	9.1	8.5
Single person	10.3	11.3	11.7	11.2	9.9
Other family household	27.8	30.3	31.0	26.1	22.6
Multiple-family household	42.1	38.4	41.5	36.7	33.8
Group household	48.1	34.2	45.4	38.2	30.6
Total	12.4	12.6	13.8	12.8	12.4

*Notes:* Years in column headings refer to the initial year. For example, the column headed ‘2001–2004’ examines all household-type changes between 2001 and 2002, 2002 and 2003, 2003 and 2004, and 2004 and 2005. <sup>a</sup> ‘Others’ comprise related persons as well as unrelated persons. If dependent children are present, the household could (and often will) include non-dependent children.

household type. Estimates are presented separately for five periods—2001 to 2004, 2005 to 2008, 2009 to 2012, 2013 to 2016 and 2017 to 2018—to allow examination of whether mobility between household types has increased over the 2001 to 2019 period.

In interpreting the table, note that the members of a household can change without causing a change in household type. For example, a non-dependent child may move out, but if another non-dependent child remains in the household (and no other change occurs), the household type will not change for the household members remaining in the household. It is also possible for the household type to change without any change in membership. For example, a dependent child may become a non-dependent child.

On average, the household type changes from one year to the next for approximately 13% of individuals. This fraction appears to have remained stable over the HILDA Survey period. However, the likelihood of one’s household type changing does



vary considerably across household types.

The most stable household types are couples with dependent children without others, and couples without children. Single-person households are also relatively stable. The least stable household types contain members who are not a partner, parent or child of

one of the other members. Most notably, people in single-parent households with dependent children that also contain 'others', and individuals in group households, are the most likely to change household type from one year to the next.

Figure 2.1 considers trends in the propensity for adult children to remain living with their parents.

It shows a clear trend rise in the proportion of adults aged 18 to 29 living with their parents between 2001 and 2019. The rise is most pronounced among women aged 18 to 25: in 2001, 62.7% of women aged 18 to 21 and 32.3% of women aged 22 to 25 lived with their parents, while in 2019 the corresponding proportions were 79% and 50%.

### Box 2.3: Classification of household types

The comprehensive information in the HILDA Survey data on the composition of each household and the relationships between all household members allows for complete flexibility in defining household types. In this chapter, the following 11 household types are distinguished:

- (1) Couple with dependent children
- (2) Couple with dependent children and others
- (3) Couple with non-dependent children, with or without others
- (4) Single parent with dependent children
- (5) Single parent with dependent children and others
- (6) Single parent with non-dependent children, with or without others
- (7) Couple, with or without others
- (8) Single person
- (9) Other-family household
- (10) Multiple-family household
- (11) Group household

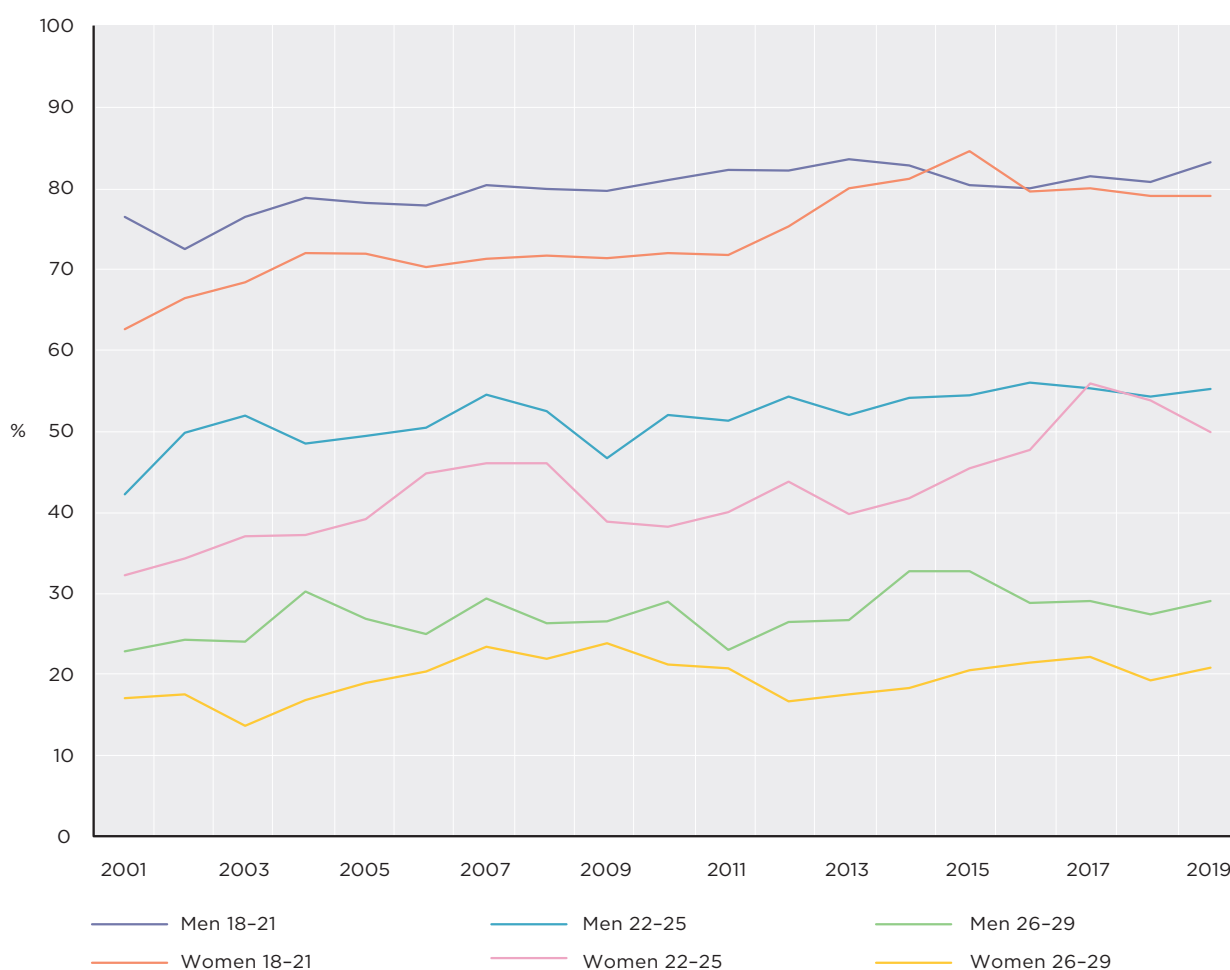
In interpreting these categories, note the following:

- The classification system is hierarchical, giving primacy to dependent children: a couple or single parent with non-dependent children (categories 3 and 6) will not have any dependent children, whereas a couple or single parent with dependent children and others—categories 2 and 5—may have non-dependent children. Consequently, the definition of 'others' (in categories 2, 3, 5, 6 and 7) depends on the household type. For couples with dependent children and single parents with dependent children, 'others' can include non-dependent children, other related people of the couple or single-parent (including siblings and parents) and unrelated people. For couples with non-dependent children and single parents with non-dependent children, 'others' can include other related people and unrelated people (but not dependent children). In a couple household, 'others' comprises related people other than children as well as unrelated people.
- A couple comprises a married or de facto married couple, whether opposite sex or same sex.
- A dependent child is as defined in Box 2.1 (page 7), while a non-dependent child is any other child who is living with one or both parents. Note, however, that a person will never be classified as a non-dependent child if they are living with a partner or a child of their own. (While a non-dependent child can in principle be of any age from 15 years upwards, 90% are aged under 40.)
- An 'other-family' household is any other family not captured by categories 1 to 7, such as households with siblings living together (and not living with parents or any of their own children).
- A multiple-family household is one in which there are two or more of the family types itemised (categories 1 to 7 and 9).
- A group household consists of two or more unrelated people (none of whom is residing with a related person).
- For an individual to be classified as a member of the household, in most cases the individual must reside in the household at least 50% of the time. Consequently, dependent children in a 'shared care' arrangement who reside in the household less than 50% of the time are not treated as members of the household.

In some of the analysis presented in this report, individuals are classified according to family type (see Box 3.4, page 25) rather than household type. Family type and household type are in many cases the same but diverge when households contain people who are not all part of the same nuclear family or when non-dependent children live with their parents.



Figure 2.1: Percentage of young adults living with their parents, by sex and age group



## Fertility and fertility intentions

The HILDA Survey keeps track of the number of children ever had by survey respondents and the year of birth of each child, allowing us to examine not only total fertility of respondents, but also their total fertility at each age—that is, for each individual, it is possible to derive the total number of children they ever had at each age. For example, for an individual aged 50 in 2019, we can ascertain their fertility at ages 20, 25, 30, 35, 40, 45 and 50. Moreover, information is collected every year on fertility intentions—that is, the intended number of additional children—of individuals who could be expected to potentially have





more children (see Box 2.4, page 11). Combined with information on actual fertility, data on intended fertility can be used to examine total intended fertility (that is, the total of actual and intended fertility) and also to examine the extent to which intended fertility is realised over subsequent years.

## Fertility across the lifecycle

Table 2.3 presents mean fertility—that is, the mean of the total number of biological children ever had—for men and women born after 1956, at ages 20, 25, 30, 35, 40, 44, 50 and 54. Means are presented separately for birth cohorts. For each birth cohort, mean fertility is only observed at four or fewer of the eight age

### Box 2.4: Measuring fertility intentions in the HILDA Survey

Fertility intentions are measured every wave in the HILDA Survey with the question

*How many (more) children do you intend to have?*

In most waves, this question has been asked of men aged 18 to 54 and women aged 18 to 44 who, in an immediately preceding question, indicated they were likely to have children in future (defined as a self-rating of 6 or more on a scale from 0 (very unlikely) to 10 (very likely)). However, in Wave 15, the age range for women was extended to 49 years.

Moreover, in Waves 5, 8, 11, 15 and 19, when a sequence of additional questions were included in the personal interview on fertility-related topics, different criteria were used to determine who was asked the question. First, the prerequisite that the respondent believes it likely they will have (more) children is not imposed in any of these 'fertility' waves. Second, in all fertility waves, if the respondent or the respondent's partner had been sterilised, the respondent was not asked the question, the implicit assumption being that they did not intend to have any more children. Third, in Waves 5 and 8, respondents who reported having a physical or health reason that would make it difficult to have children were not asked the question. Finally, in the fertility waves, males with a female partner were asked the question if their partner was aged under 45 (Waves 5, 8 and 11) or under 50 (Waves 15 and 19), irrespective of their own age.

In order to examine a relatively consistent measure of fertility intentions across all waves, in this report, intended fertility is examined only among persons aged 18 to 44. In all waves, intended fertility is set equal to 0 if the self-assessed likelihood of having (more) children is 5 or lower on the 0 to 10 scale. In addition, in Waves 5, 8, 11, 15 and 19, intended fertility is set equal to 0 if the question was not asked because the respondent or the respondent's partner was sterilised or would have difficulty getting pregnant for medical reasons.



Table 2.3: Mean fertility (number of children ever had) at different ages, by birth cohort

	Age 20	Age 25	Age 30	Age 35	Age 40	Age 44	Age 50	Age 54
<i>Women</i>								
1957–1960						2.22	2.28	2.25
1961–1965					2.16	2.21	2.30	2.30
1966–1970				1.69	2.13	2.19	2.22	
1971–1975			1.03	1.65	2.12	2.17		
1976–1980		0.38	0.92	1.56	1.84			
1981–1985	0.07	0.36	0.88	1.55				
1986–1990	0.11	0.34	0.92					
1991–1995	0.06	0.32						
<i>Men</i>								
1957–1960						2.09	2.25	2.13
1961–1965					1.74	1.86	2.02	2.09
1966–1970				1.24	1.62	1.90	2.03	
1971–1975			0.68	1.24	1.61	1.88		
1976–1980		0.15	0.57	1.19	1.66			
1981–1985	*0.02	0.16	0.54	1.12				
1986–1990	0.02	0.16	0.52					
1991–1995	*0.01	0.11						

Note: \* Estimate not reliable.



levels. For example, for the cohort born 1961 to 1965, we observe fertility at age 40 (in Waves 1 to 5), at age 44 (in Waves 5 to 9), at age 50 (in Waves 11 to 15) and at age 54 (in Waves 16 to 19). For the cohort born 1991 to 1995, we observe fertility at age 20 (in Waves 11 to 15) and at age 25 (Waves 16 to 19).

The table facilitates comparisons of fertility across birth cohorts when at the same age and shows how the mean number of children of members of a birth cohort increases as they age.<sup>1</sup> For example, the table shows that the mean number of children born to the 1976 to 1980 female birth cohort was 0.38 when they were aged 25, 0.92 when they were aged 30, 1.56 when they were aged 35 and 1.84 when they were 40. The corresponding estimates for men in this birth cohort are somewhat lower, at 0.15, 0.57, 1.19 and 1.66. Unsurprisingly, mean fertility rises most rapidly between the ages of 20 and 40. The rise is less rapid for men up to the age of 40, but continues to rise up to the age of 50, in contrast to the plateauing evident for women from the age of 40. The gender difference in fertility at each age has been found in other developed countries (Dudel and Klüsener, 2021) and reflects several factors, including—as found here—that lifetime fertility continues to rise after age 40 to a greater degree for men than women.

Comparisons across birth cohorts at the same age show some evidence of a decline in fertility at each age as we move from older to more recent birth cohorts, although the pattern is quite muted and does not always hold, particularly for men. Moreover, the declines that are evident



mostly reflect a trend towards having children later in life rather than a decline in total fertility.

### Intended fertility across the lifecycle

Table 2.4 examines mean intended fertility of the same birth cohorts as examined in Table 2.3, where intended fertility is defined to be the sum of the number of children the individual has already had, plus (additional) children the individual intends to have. As expected, there is much more consistency across ages in intended fertility than in realised fertility—although of course the

composition of intended fertility shifts from planned future children towards children already had as we move from younger to older ages.

Few clear and consistent patterns in fertility intentions by age and by birth cohort are evident, the main exception being that men consistently have lower fertility intentions than women. For example, mean intended fertility at age 20 was approximately 2.0 to 2.1 for the female cohorts born between 1981 and 1995, but only approximately 1.7 to 1.8 for the male cohorts born in the same period.

<sup>1</sup> Using the information on the birth years of all children ever had (collected in the respondent's first ever personal interview), it is possible to calculate fertility at each age for birth cohorts prior to 1950, and at the missing younger ages for cohorts born from 1950 to 1979 (for example, at age 20 for the 1975 to 1979 cohort). However, for the purposes of this analysis, which compares actual and intended fertility, we restrict to the cohorts for which intended fertility is observed (that is, for those aged between 20 and 44 at some stage of the HILDA Survey period).

Table 2.4: Mean intended fertility (number of children had plus number of additional children intend to have) at different ages, by birth cohort

	Age 20	Age 25	Age 30	Age 35	Age 40	Age 44
<i>Women</i>						
1957–1960						2.24
1961–1965					2.24	2.25
1966–1970				2.06	2.24	2.26
1971–1975			2.05	2.11	2.21	2.20
1976–1980		2.04	2.17	2.05	2.01	
1981–1985	2.00	1.95	2.07	1.96		
1986–1990	2.09	1.86	1.92			
1991–1995	2.00	1.80				
<i>Men</i>						
1957–1960						2.19
1961–1965					1.96	1.96
1966–1970				1.78	2.03	2.03
1971–1975			1.90	1.93	1.93	1.97
1976–1980		2.00	2.01	1.96	2.07	
1981–1985	1.70	1.83	1.76	1.90		
1986–1990	1.87	1.75	1.72			
1991–1995	1.71	1.80				

## Fertility intentions and subsequent fertility

Having collected information on actual and intended fertility each year since 2001, the HILDA Survey is well placed to examine the extent to which intentions translate into actual fertility behaviour. This is considered in Table 2.5, which compares intentions with outcomes 14 years later. Thus, intentions are measured over the 2001 to 2005 period, and outcomes are measured over the 2015 to 2019 period.

The expressed intention to have (more) children is declining in age, although the estimates presented in Table 2.4 indicate this decline is attributable to people realising their fertility intentions, since total intended fertility (inclusive of children already had) does not systematically decline with age. Slightly fewer men than women intend to have children at age 20, but at all the older ages examined in Table 2.5, men are more likely



to intend to have (more) children than women. The gap between men and women is largest at age 30, when 62.2% of men compared with only 49.3% of women report that they intend to have more children.

The panels headed ‘Intentions versus outcomes—all’ show the proportions in each combination for intended/did not intend more children and had/did not have more children over the subsequent 14 years. Note that an individual who intended to have children but did not have any children over the subsequent 14 years may nonetheless subsequently have children, so we cannot infer that the individual failed to realise intentions, although for older

women in particular (initially aged 35 or older), it is quite unlikely that intentions to have a child will be realised if they have not had a child within 14 years.

It is evident that fertility intentions are not realised within 14 years for substantial proportions of women and men. In general, intentions are less likely to be realised at younger ages, but this primarily derives from failure to have any children within 14 years, and it is likely that many of these individuals will subsequently have children. However, for the 11.5% of women aged 35 who intended to have more children, but had not done so 14 years later, these intentions are unlikely to be realised.

Table 2.5: Intended fertility compared with actual fertility 14 years later, by age in the initial year

	Age in initial year					
	20	25	30	35	40	44
<b>Women</b>						
Intended to have (more) children (%)	79.5	72.9	49.3	25.9	5.8	1.3
<i>Intentions versus outcomes—all (%)</i>						
Did not intend to have (more) children and did not	10.6	8.2	35.6	62.0	89.5	96.0
Did not intend to have (more) children but did have more children	10.1	19.2	15.1	11.5	3.6	1.0
Intended to have (more) children but did not (yet) have more children	22.0	13.8	7.6	11.5	3.9	0.9
Intended to have more children and did have more children	57.4	58.8	41.7	14.6	1.9	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
<i>Those who intended to have more children</i>						
Mean number of additional children intended	2.5	2.3	1.9	1.6	1.5	1.8
Mean number of additional children had over next 14 years	1.5	1.8	1.5	0.8	0.4	0.6
<i>Intentions versus outcomes of those who intended to have children (%)</i>						
Had intended number of children	21.2	34.8	43.4	35.4	18.0	31.5
Had more children than intended	14.6	21.3	20.4	12.7	0.8	0.0
Had not (yet) had as many children as intended	64.1	43.9	36.2	51.9	81.1	68.5
Total						
<b>Men</b>						
Intended to have (more) children (%)	69.2	72.4	62.2	30.9	12.5	5.5
<i>Intentions versus outcomes—all (%)</i>						
Did not intend to have (more) children and did not	15.4	13.0	24.0	54.1	78.4	83.7
Did not intend to have (more) children but did have more children	12.5	14.4	13.4	13.8	9.1	8.8
Intended to have (more) children but did not (yet) have more children	27.3	16.0	16.4	9.4	4.3	4.2
Intended to have more children and did have more children	44.8	56.7	45.7	21.1	8.2	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
<i>Those who intended to have more children</i>						
Mean number of additional children intended	2.5	2.4	2.1	2.0	1.6	1.8
Mean number of additional children had over next 14 years	1.2	1.8	1.5	1.2	1.0	0.4
<i>Intentions versus outcomes of those who intended to have children (%)</i>						
Had intended number of children	19.4	22.3	38.4	38.5	38.4	17.5
Had more children than intended	8.2	27.5	13.8	14.6	11.8	3.7
Had not (yet) had as many children as intended	72.4	50.2	47.8	46.9	49.8	78.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Notes: Initial years comprise 2001 to 2005. Cells may not add up to column totals due to rounding.



Mismatches between intentions and outcomes are also quite common for men and women aged 20, 25, 30 and 35 who did not intend to have children. Between 10.1% and 19.2% of individuals at these ages did not intend to have children but did in fact do so at some stage over the following 14 years. For both women and men, the peak age (of those examined) for such mismatches is 25 (19.2% and 14.4% respectively).

The panels headed *Those who intended to have more children* examine outcomes for the number of children had by those intending to have children. On average, people have fewer children than intended, although for those at younger ages, many will have children more than 14 years after the intention was stated. That said, for women, the gap between the intended and actual number of children is lowest among those aged 30 in the initial year, and is particularly high for those initially aged 40 and 45, who respectively had a mean intended fertility of 1.5 and 1.8 and an actual fertility over the subsequent 14 years of 0.4 and 0.6. For men, there is a similar pattern, with the notable exception that the gap between intended and actual fertility for those initially aged 40, at 0.6, was the same as the gap for those initially aged 25 or 30.

Examining the mismatch between the intended and actual number of children, we see that a reasonable majority of those intending to have children have the intended number of children within 14 years. For women, intentions are most likely to be realised among those initially aged 30. For this group, 43.4% had the intended number of children within



14 years, with 36.2% not (yet) having as many children as intended, and 20.4% having more children than intended. Notably, at the age of 25, women are more likely than men to have more children than intended, while at older ages (from 35 years old onwards), men are more likely than women to have more children than intended.

## Non-co-resident partners

The HILDA Survey data show that 63% of Australians aged 18 and over were legally married or living in a de facto relationship in 2019, but not all of the remaining 37% of the adult population are without a 'significant other'—that is, many people who are not living with a partner are nonetheless in an 'intimate, ongoing' relationship with another person. These relationships, while not the within household relationships on which the HILDA Survey primarily

focuses, are nonetheless potentially important to understanding the economic and social lives of Australians, including household formation decisions, employment activity and geographic mobility.

In Waves 5, 8, 11, 15 and 19 information has been collected by the HILDA Survey on 'non-co-resident partners' of respondents aged 18 and over who are not living with a partner. In addition to ascertaining the existence of a non-co-resident partner, this information has included the proximity, frequency of contact, employment status and educational attainment of the non-co-resident partner as well as the respondent's intentions to live with that non-co-resident partner within the next three years.<sup>2</sup> In this section, we present cross-sectional descriptive information on non-co-resident partners, and also take a longitudinal perspective to examine how such relationships correlate with subsequent co-resident partnerships.

<sup>2</sup> The question sequence on non-co-resident partners implicitly assumes the respondent has only one partner. Respondents indicating they had multiple partners were instructed to answer in respect of the most significant relationship or, if they could not identify the most significant relationship, the longest-running relationship.



## Prevalence of non-co-resident relationships

Table 2.6 presents the proportion of men and women who are single (not living with a partner) and the proportion of these individuals who have a non-co-resident partner, disaggregated by age group. Estimates are presented for each of the waves the information has been collected by the HILDA Survey.

For men, the proportion who are single is highest among the youngest (18 to 24) age group and is progressively lower as we move into older age groups. For example, in 2019, 90.7% of men aged 18 to 24 were single, compared with 45.7% of men aged 25 to 34, 22.6% of men aged 35 to 44 and 24.8% of men aged 45 and over. Women in the younger age groups are less likely to be single than men, and women in the oldest age group (45 and over) are more likely to be single than women aged 35 to 44, which reflects the tendency for women to outlive their partners.

The trend decline in the proportion of women who are single is, however, maintained in moving from the 18 to 24 age group to the 25 to 34 age group, and then moving to the 35 to

44 age group. For example, in 2019, 83.6% of women aged 18 to 24 were single, compared with 35.9% of women aged 25 to 34, 26.6% of women aged 35 to 44 and 35.3% of women aged 45 and over.

The lower panel of Table 2.6 shows that significant proportions of single people have non-co-resident partners. It is also evident that, conditional on being single, the likelihood of having a non-co-resident partner tends to decrease with age. For example, in 2019, the proportion with a non-co-resident partner was 33.9% for single women aged 18 to 24, 28.7% for single women aged 25 to 34, 21.7% for single women aged 35 to 44, and 8.1% for single women aged 45 and over. For men, a similar pattern is evident although the differences by age are not as large. For example, in 2019, the proportion with a non-co-resident partner was 26.4% for single men aged 18 to 24, 29.6% for single men aged 25 to 34, 22.0% for single men aged 35 to 44, and 13.4% for single men aged 45 and over.

## Characteristics of non-co-resident relationships

Descriptive information on the proximity of non-co-resident partners and the frequency of contact with them is presented



**Table 2.6: Proportion of individuals who are single, and proportion of single individuals in non-co-resident relationships, by sex and age group (%)**

	2005		2008		2011		2015		2019	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
<i>Single</i>										
18-24	90.7	81.9	89.7	78.3	91.3	80.7	90.8	79.8	90.7	83.6
25-34	45.2	37.2	45.9	35.4	45.9	39.8	43.7	37.4	45.7	35.9
35-44	29.5	22.7	27.3	25.2	25.2	22.7	24.2	23.2	22.6	26.6
45 and over	19.2	33.6	20.3	33.6	22.3	33.8	23.9	35.2	24.8	35.3
<i>Single people: Proportion with a non-co-resident partner</i>										
18-24	30.4	38.8	32.2	39.3	25.3	36.7	31	31	26.4	33.9
25-34	33.9	29.2	30	32.7	23.5	30.1	28.7	27.3	29.6	28.7
35-44	22.2	20	24.2	21.1	20.6	18.5	12.3	22.1	22	21.7
45 and over	14.6	7.1	13.6	5.7	12.6	6.5	13.9	7.5	13.4	8.1

in Table 2.7 for 2019, disaggregated by the same age groups as in Table 2.6, but for men and women collectively.

Three-quarters of non-co-resident partners live in the same city or town as each other, while slightly over 7% live in different states or countries. The proportion living in the same city or town declines slightly with age, from 82.2% for the 18 to 24 age group down to 61.4% for the 45 and over age group, while the proportion living in the same state, but in a different city or town, rises slightly with age, from 14.5% for the 18 to 24 age group up to 21.6% of the 35 to 44 age group and 29.8% of the 45 and over age group. The proportion with a partner

interstate or overseas does not appear to differ systematically by age, except for the youngest age group with only 3.4% reporting having a partner interstate or overseas.

Travel time between residences is of course closely related to geographic proximity, but the information available essentially allows finer distinctions in proximity to be drawn among the three-quarters of non-co-resident partners who live in the same city or town. It is notable that 77.9% of non-co-resident partners live within an hour's travel of each other. It follows that at least some of those who do not live in the same city or town, and possibly some of those who live in

different states, nonetheless live quite close to each other.

The bottom panel of Table 2.7 summarises the distribution of frequency of in-person contact between non-co-resident partners. Approximately 89% of non-co-resident partners have in-person contact at least once per week, with over 22% seeing each other daily or almost daily (6 days per week). Frequency of contact tends to be highest for younger people and decreases with age. For example, the proportion seeing their non-co-resident partner six to seven times per week is 27.5% for those aged 18 to 24, 22.2% for those aged 25 to 34, 20.5% for those aged 35 to 44 and 13.5% for those aged 45 and over.

**Table 2.7: Proximity and frequency of contact of non-co-resident partners, by age group, 2019 (%)**

	18-24	25-34	35-44	45 and over	All aged 18 and over
<i>Location</i>					
Same city or town	82.2	78.1	66.4	61.4	75.0
Same state but different city or town	14.5	12.5	21.6	29.8	17.8
Other state or overseas	3.4	9.4	*12.0	8.8	7.2
<i>Travel time between residences</i>					
Less than 15 minutes	36.3	29.0	25.9	28.1	31.3
15-30 minutes	28.6	27.3	24.7	20.3	26.1
30-60 minutes	20.6	23.6	14.0	19.8	20.5
1-2 hours	5.3	7.4	*5.0	12.6	7.3
More than 2 hours	9.2	12.7	30.3	19.1	14.7
<i>Frequency of in-person contact</i>					
6-7 times per week	27.5	22.2	20.5	13.5	22.3
3-5 times per week	49.5	52.5	37.9	35.6	46.3
1-2 times per week	16.6	13.3	30.6	33.7	20.7
At least once per month	*3.6	5.9	*4.2	11.0	5.8
Less than once per month	2.7	*6.1	*6.7	*6.2	4.9

Note: \* Estimate not reliable.



**Table 2.8: Persons in non-co-resident relationships—Proportion intending to live with current non-co-resident partner within the next three years, by sex and age group (%)**

	<i>Men</i>	<i>Women</i>	<i>Total</i>
18–24	70.8	79.3	75.3
25–34	83.1	89.5	86.1
35–44	64.1	65.4	64.7
45 and over	37.7	35.3	36.6

*Note:* Estimates are based on all waves of the HILDA Survey in which information has been collected on non-co-resident relationships (Waves 5, 8, 11, 15 and 19).



## Partnering intentions of people with non-co-resident partners

The intentions of individuals who have a non-co-resident partner to live with that partner within the next three years are summarised in Table 2.8. Most people under 45 years of age with a non-co-resident partner intend living with their partner within the next three years. Those aged 25 to 34 with non-co-resident partners are the most likely to intend moving in with their partner. Women aged under 35 are more likely to intend moving in with their partner than similarly aged men, but men aged 35 and over are equally likely to intend moving in with their partner as women in this age range.

## Partnering outcomes of people with non-co-resident partners

The HILDA Survey data do not allow us to precisely identify whether an individual with a non-co-resident partner subsequently starts living with that partner, but it is possible to examine whether the individual subsequently has a co-resident partner (who may or may not be the earlier-identified non-co-resident partner).

**Table 2.9: Persons in non-co-resident relationships—Proportion living with a partner in subsequent years, by sex and age group (%)**

	<i>1 year later</i>		<i>3 years later</i>		<i>4 years later</i>		<i>8 years later</i>	
	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>	<i>Men</i>	<i>Women</i>
<i>2011</i>								
18–24	12.5	11.9	26.6	39.1	39.0	46.7	65.3	72.2
25–34	21.0	34.2	42.3	63.6	53.0	65.3	73.5	76.6
35–44	*11.6	*11.7	32.1	*20.9	34.6	*30.8	*32.3	38.4
45 and over	*4.8	*10.6	*15.8	*16.6	*18.6	20.3	26.5	*25.5
Total	13.4	17.9	29.4	40.8	38.0	46.5	54.6	63.2
<i>2015</i>								
18–24	12.0	15.4	39.9	37.6	47.1	51.1	–	–
25–34	27.6	28.2	44.5	50.5	44.8	55.0	–	–
35–44	*11.8	*15.3	*24.5	38.0	*23.5	38.5	–	–
45 and over	*15.3	*5.1	21.8	16.5	20.7	21.4	–	–
Total	17.4	16.9	36.6	36.8	39.4	44.4	–	–

*Note:* \* Estimate not reliable.

Table 2.9 examines the subsequent partner status of persons who had a non-co-resident partner in 2011, and persons who had a non-co-resident partner in 2015. It presents, by sex and age group, the proportions living with a partner one year later, three years later, four years later and, for those with a non-co-resident partner in 2011, eight years later.

Quite high proportions of people with non-co-resident partners are subsequently found to have a co-resident partner, especially in the medium to long term (four to eight years). Results in Table 2.9 indicate, for example, that among men with a non-co-resident partner in 2011, 13.4% were living with a partner one year later, 29.4% were living with a partner three years later, 38.0% were living with a partner four years later and 54.6% were living with a partner eight years later.

The rates for women who had a non-co-resident partner in 2011 and are found to have a partner a number of years later are substantially larger. Thus, 17.9% were living with a partner one year later, while 40.8% were living with a partner three years later, and 63.2% were living with a partner eight years later.

In the short to medium term (one to three years), those aged 25 to 34 have the highest rates of co-resident partnering. For example, of those aged 25 to 34 and with a non-co-resident partner in 2011, 42.3% of men and 63.6% of women were living with a partner three years later. This is consistent with the evidence in Table 2.8 that people in this age group are the most likely to intend living with their partner within the next three years.

However, over a longer time-frame (eight years), the rate of co-resident partnering is similarly

high for the 18 to 24 and 25 to 34 age groups. For example, among those with a non-co-resident partner in 2011, the proportion found to be living with a partner eight years later was 65.3% for men aged 18 to 24, 73.5% for men aged 25 to 34, 72.2% for women in the 18 to 24 age group, and 76.6% for women aged 25 to 34.

In Table 2.10, we examine changes in the partner situation of individuals in non-co-resident relationships over four-year and eight-year time-frames. Specifically, the table presents for those individuals initially (in 2011 to 2015) in a non-co-resident relationship, the proportions subsequently (four and eight years later) in each of four partner situations: still in the same non-co-resident relationship; in another non-co-resident relationship; single and not in a non-co-resident relationship; and living with a partner (married or de facto).

Table 2.10: Subsequent partner situation of persons initially in non-co-resident relationships, by age group (%)

	Age group				
	18-24	25-34	35-44	45 and over	Total
<i>Situation in 2015 of those with a non-co-residential partner in 2011</i>					
Still with partner, but living apart	*7.2	*1.8	*6.2	15.1	7.1
Has other non-resident partner	15.4	*8.3	17.3	27.9	16.4
Single, no partner	25.7	29.3	47.6	34.1	33.6
Lives with a partner	51.8	60.6	28.9	22.9	42.9
Total	100.0	100.0	100.0	100.0	100.0
<i>Situation in 2019 of those with a non-co-residential partner in 2015</i>					
Still with partner, but living apart	*7.2	*6.1	*4.6	7.9	6.8
Has other non-resident partner	*13.6	14.4	*33.2	20.2	18.7
Single, no partner	18.0	26.9	*26.8	51.1	33.5
Lives with a partner	61.2	52.6	35.5	20.9	41.0
Total	100.0	100.0	100.0	100.0	100.0
<i>Situation in 2019 of those with a non-co-residential partner in 2011</i>					
Still with partner, but living apart	*0.9	*1.3	*1.5	*3.7	*1.8
Has other non-resident partner	*8.8	*12.9	21.3	22.6	15.9
Single, no partner	17.2	10.1	36.9	46.1	25.3
Lives with a partner	73.1	75.8	40.4	27.7	57.1
Total	100.0	100.0	100.0	100.0	100.0

Notes: \* Estimate not reliable. Cells may not add up to column totals due to rounding.



It is readily apparent that non-co-resident relationships are not highly persistent over four or more years. Four years after being observed in a non-co-resident relationship, only around 7% of individuals were still in a non-co-resident relationship with the same person. Eight years after being observed in a non-co-resident relationship, only around 2% are found to be in the same non-co-resident relationship (an estimate that is not statistically reliably different from zero).

Thus, it seems that, in most cases, the relationship either becomes co-resident, or it dissolves. There is clear evidence of considerable rates of dissolution, in that approximately 16% to 18% of those initially in a non-co-resident relationship are in a different non-co-resident relationship four years later, while around 33% do not have a partner at all four years later.

We do not have direct evidence that a high proportion of non-co-resident relationships end by becoming co-resident relationships. However, approximately 41% to 43% of people in non-co-resident relationships have co-resident partners four years later, and approximately 57% have co-resident partners eight years later; presumably, in many cases, the co-resident partner will have been the non-co-resident partner observed four (or eight) years earlier.

Differences in subsequent partner situations across age groups are perhaps not as large as might have been expected. Non-co-resident relationships would perhaps be expected to be more short-lived among young people, and more long-lived among older people. There is, however, little evidence to suggest this is the case, with the exception that the 45 and over age group appears to have slightly more persistence



in non-co-resident relationships than the other age groups. However, this age group also has the lowest proportion becoming co-resident partnered. There is therefore no evidence that the non-co-resident relationships themselves are more persistent overall for the 45 and over age group—that is, it appears that more of the non-co-resident relationships in the younger age groups become co-resident relationships.

**Partnering intentions compared with outcomes**

Table 2.11 examines how the partnering intentions of individuals with non-co-resident partners correlate with their subsequent social marital status. Specifically, the table presents the proportion partnered (married or de facto) four years and eight years after 2011 for those in non-co-resident relationships in 2011, and four

years after 2015 for those in non-co-resident relationships in 2015.

The upper panel compares individuals who intended to start living with their partner in the next four years with those who did not. The lower panel compares across individuals classified according to the stated likelihood of marrying their non-co-resident partner within the next four years.

While individuals observed to be subsequently living with a partner may or may not be living with the previously observed non-co-resident partner, Table 2.11 nonetheless shows that co-resident partnering rates are considerably higher for those who stated an intent to live with

their non-co-resident partner. The proportion married is also higher the greater the stated likelihood of marrying their current non-co-resident partner.

On the other hand, the proportion living with a partner is well short of 100% for those who intended living with their partner within the next four years, as is the proportion married for those who indicated it was highly likely they would marry their partner within the next three years. For example, 55.3% of those who in 2011 intended living with their non-co-resident partner within the next four years were actually living with a partner. While this is over 3.7 times the percentage for those who indicated they did not intend living with their partner

(14.7%), in at least 44.7% of cases, they were not living with their non-co-resident partner four years later.

It is likely that some people did move in with their partners but had moved apart again by the time four years had passed, so the proportion 'getting it wrong' may be less than 44.7%. However, it is also likely that some of the people observed to be living with partners four years later will be living with a different person, implying the proportion getting it wrong could be more than 44.7%. All in all, it appears that people are on average overly optimistic about the prospects of their intimate non-co-resident relationships.

Table 2.11: Partnering and marriage intentions and outcomes of people with non-co-resident partners (%)

	2011		2015
	Partnered 4 years later	Partnered 8 years later	Partnered 4 years later
<i>Intend to live with partner in next 4 years</i>			
Yes	55.3	72.5	57.4
No	14.7	32.8	13.8
<i>Likelihood of marrying in next 4 years</i>			
Very likely	33.6	55.0	30.8
Likely	16.3	42.7	9.3
Not sure	*7.1	17.0	*5.4
Unlikely	*0.6	*5.3	*1.9
Very unlikely	*4.8	*8.3	*8.1

Note: \* Estimate not reliable.



# 3

## Household economic wellbeing

Roger Wilkins



Study of the distribution of income, and how an individual's income changes over time, is integral to understanding the economic fortunes of the Australian population. The HILDA Survey is the only nationally representative data source in Australia that has the capacity to provide information on both the distribution of household income at a point in time and how incomes of households change over time.

The HILDA Survey also regularly collects other information relevant to the assessment of economic wellbeing, most notably on household expenditure and wealth. Moreover, in addition to objective financial data, information is regularly collected on the experience of financial stress, the ability to raise funds at short notice, perceived adequacy of household income, saving habits, saving horizon, attitudes to financial risk and satisfaction with one's financial situation.

This chapter contains six sections related to household economic wellbeing, respectively examining: the distribution of household income; the mobility of individuals in the income distribution; the incidence and persistence of income poverty; the extent of welfare reliance in the Australian community; superannuation balances of retirees at the time of retirement; and the prevalence and predictors of financial stress among Australians and how they respond to episodes of financial stress.

### Income levels and income inequality

#### Annual income

Cross-sectional estimates of mean and median household annual disposable income (as

defined in Box 3.1, below) are presented in Table 3.1. For this table, the household is the unit of observation, meaning that each household contributes one 'observation' to the calculation of the mean and the median.

#### Box 3.1: Measurement of household income in the HILDA Survey

The main household income measure examined in this report is 'real household annual disposable income'. Household annual disposable income is the combined income of all household members after receipt of government pensions and benefits and deduction of income taxes in the financial year ended 30 June of the year of the wave (for example, 2001 in Wave 1). This is then adjusted for inflation—the rise in the general price level in the economy—using the Australian Bureau of Statistics (ABS) Consumer Price Index, so that income in all waves is expressed at December 2018 prices, to give *real* income. Since prices tend to rise over time, *real* incomes are higher than the nominal incomes reported by sample members.

HILDA Survey respondents do not actually report their disposable income; rather, each respondent is asked how much income they received from each of a number of sources, including employment, government benefits, superannuation, investments and any businesses they own. Total gross income of each individual is equal to the sum of these income components. The disposable income of each respondent is then calculated by estimating the income tax payable by the individual and subtracting this from the individual's total gross income. Disposable incomes of all household members are added together to obtain *household* disposable income. See Wilkins (2014) for details on the construction of gross income and the methods used to calculate disposable income. Note that, consistent with the Canberra Group's recommendations (see United Nations, 2011), large irregular payments received by individuals are excluded from income for the analysis presented in this report—that is, it is *regular* disposable income that is examined.



Table 3.1: Household annual disposable incomes, 2001 to 2019

	Mean (\$, December 2019 prices)	Median (\$, December 2019 prices)	Number of households	Number of people
2001	73,486	63,520	7,281,363	18,824,376
2002	74,638	64,429	7,357,079	19,039,091
2003	74,955	65,351	7,433,836	19,258,412
2004	77,507	67,011	7,505,562	19,468,325
2005	81,194	70,773	7,589,921	19,714,426
2006	85,008	73,667	7,686,360	20,013,521
2007	88,474	76,370	7,836,760	20,382,461
2008	91,353	78,566	8,009,920	20,809,743
2009	94,050	83,370	8,175,735	21,216,949
2010	94,082	81,145	8,298,875	21,521,079
2011	94,250	79,687	8,413,537	21,834,344
2012	95,888	82,285	8,578,027	22,221,455
2013	96,762	82,543	8,737,151	22,594,836
2014	96,184	81,566	8,882,149	22,929,926
2015	95,736	81,315	9,028,432	23,266,630
2016	95,764	82,843	9,192,118	23,656,264
2017	96,372	82,127	9,355,903	24,047,180
2018	97,047	83,003	9,519,934	24,426,215
2019	99,764	84,243	9,677,882	24,790,170

Mean and median household disposable incomes grew very strongly over the eight-year period from 2001 to 2009. Expressed at December 2019 prices, the mean increased by \$20,564, or \$2,571 per year; the median increased by \$19,850 over the same period. Most of this growth in fact occurred between 2003 and 2009, when both the mean and median grew by over \$3,000 per year. However, between 2009 and 2017, growth in both the mean and median was much weaker. Over the eight years from 2009 to 2017, the mean household income grew by only \$2,322, or 2.5%, while the median in 2017 was \$1,243 lower than in 2009 (having fallen between 2009 and 2011, risen in 2012, and remained broadly unchanged thereafter). Since 2017, there has been somewhat stronger growth in mean and median incomes, with the mean



### Box 3.2: Equivalised income

Equivalised income is a measure of material living standards, obtained by adjusting household disposable income for the household's 'needs'. Most obviously, a household of four people will require a higher household income than a single-person household to achieve the same living standard. There are, however, many factors other than household size that could be taken into account in determining need. These include the age and sex of household members, health and disability of household members (since poor health and/or disability increase the costs of achieving a given standard of living), region of residence (since living costs differ across regions) and home-ownership status (since the income measure does not usually include imputed rent for owner-occupiers).

In practice, it is common for adjustment of income to be based only on the number of adult and child household members, achieved by an equivalence scale. In this report, we have used the 'modified OECD' scale (Hagenaars et al., 1994), which divides household income by 1 for the first household member plus 0.5 for each other household member aged 15 or over, plus 0.3 for each child under 15. A family comprising two adults and two children under 15 years of age would therefore have an equivalence scale of 2.1 (1 + 0.5 + 0.3 + 0.3), meaning that the family would need to have an income 2.1 times that of a single-person household in order to achieve the same standard of living. This scale recognises that larger households require more income, but it also recognises that there are economies of scale in consumption (for example, the rent on a two-bedroom flat is typically less than twice the rent on an otherwise comparable one-bedroom flat) and that children require less than adults. The equivalised income calculated for a household is then assigned to each member of the household, the implicit assumption being that all household members experience the same standard of living (which will, of course, not always be the case—particularly in households containing unrelated people).

### Box 3.3: Income distribution statistics

A variety of inequality measures are used in income distribution studies. In this report, estimates are presented for several commonly used measures. Average and middle income levels are described by the mean and median, respectively, while inequality in the income distribution is described by the ratio of the 90th percentile to the median, the ratio of the median to the 10th percentile and the Gini coefficient. The 90th percentile is the income of the individual who has 10% of individuals with higher incomes and 90% with lower incomes. The 10th percentile is the income of the individual who has 90% of individuals with higher incomes and 10% with lower incomes. The Gini coefficient is an overall measure of inequality that ranges from 0, where everyone has the same income, to 1, where one individual has all the income. See the Technical Appendix for further explanation of these measures.



rising by \$3,392 and the median rising by \$2,116.

Table 3.2 considers the distribution of household income, taking into account potential changes to household composition by examining 'equivalised' income per person (see Box 3.2, page 23, for an explanation of how equivalised income is calculated and Box 3.3, page 24, for an explanation of the statistics presented in the table). The individual is the unit of observation, meaning the statistics presented are for the distribution of equivalised incomes across all individuals in the population, including children.

Patterns in average level of incomes between 2001 and 2019 evident for incomes of households are also evident for equivalised incomes of individuals. This is unsurprising given that changes in household composition of the population between 2001 and 2019 have been relatively modest (see

Table 3.2: Distribution of individuals' household equivalised income, 2001 to 2019

	Mean (\$, December 2019 prices)	Median (\$, December 2019 prices)	Ratio of 90th percentile to the median	Ratio of median to the 10th percentile	Gini coefficient
2001	43,474	38,302	1.93	2.10	0.304
2002	44,101	38,569	1.93	2.10	0.305
2003	44,469	39,771	1.87	2.11	0.298
2004	45,769	41,008	1.85	2.10	0.293
2005	47,904	42,856	1.84	2.09	0.295
2006	50,064	43,920	1.93	2.07	0.299
2007	52,624	46,320	1.91	2.16	0.308
2008	53,784	46,786	1.92	2.13	0.305
2009	55,557	50,029	1.84	2.14	0.293
2010	55,352	48,453	1.92	2.08	0.301
2011	55,642	48,288	1.98	2.10	0.309
2012	56,603	49,373	1.92	2.07	0.303
2013	57,077	49,688	1.92	2.06	0.303
2014	56,809	49,636	1.90	2.00	0.300
2015	56,796	49,778	1.91	2.00	0.294
2016	56,801	49,645	1.89	1.99	0.296
2017	57,294	49,742	1.91	2.02	0.301
2018	57,727	50,263	1.91	2.02	0.300
2019	59,538	52,900	1.85	2.08	0.301

Figure 3.1: Median equivalised income, by family type

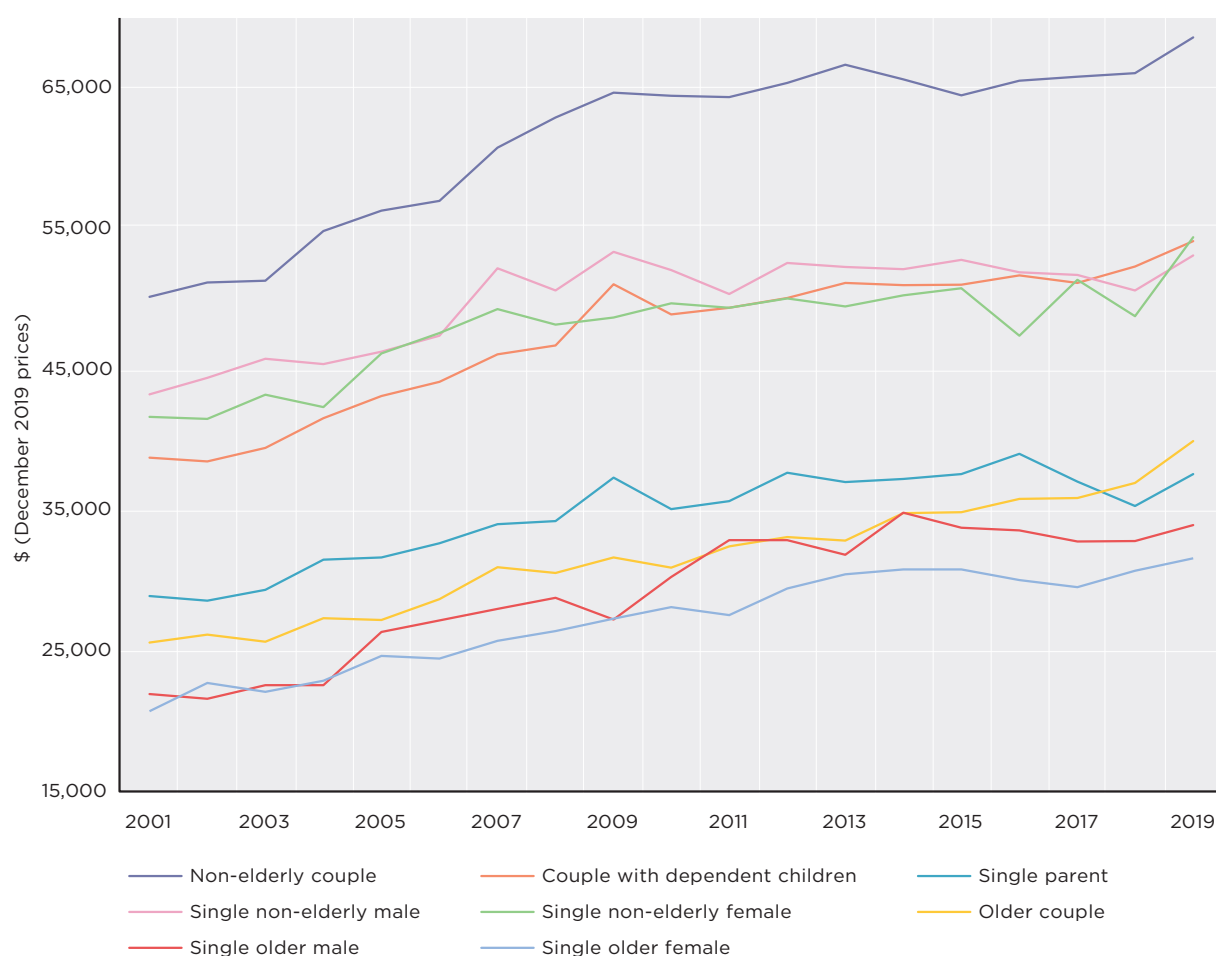


Table 2.1, page 7, in Chapter 2). The HILDA Survey indicates that there has been little net change in income inequality between 2001 and 2019. For example, the Gini coefficient, a common measure of overall inequality, has remained between 0.29 and 0.31 over the entire 19 years of the HILDA Survey.

### Income differences by family type

Figure 3.1 compares median equivalised incomes across family types (defined in Box 3.4, page 25). A reasonably consistent ordering by type of family is evident across the 19 waves of the survey, ranging from older people at the bottom to non-elderly couples without dependent children at the top.

#### Box 3.4: Family types

The following eight family types are distinguished in this chapter: (1) non-elderly couples, defined to be couples (married or de facto) without dependent children with at least one member of the couple under 65 years of age; (2) couples with at least one dependent child living with them (regardless of the ages of the members of the couple); (3) single parents living with at least one dependent child (again, regardless of the age of the single parent); (4) non-elderly single males (under 65 years of age); (5) non-elderly single females; (6) older couples, where both people are over 65 years of age; (7) older single males (aged 65 and over); and (8) older single females.

Note that some households will contain multiple 'families'. For example, a household containing a non-elderly couple living with a non-dependent son will contain a non-elderly couple family and a non-elderly single male. Both of these families will, of course, have the same household equivalised income. Also note that, to be classified as having dependent children, the children must live with the parent or guardian at least 50% of the time. Consequently, individuals with dependent children who reside with them less than 50% of the time will not be classified as having resident dependent children. See Wilkins (2016) for an analysis of parents in this situation.

It also appears that there are three broad 'clusters' of family type: non-elderly couples without dependent children, who have the highest incomes; couples with dependent children and non-elderly single people, who have middle-level incomes; and single-

parent families and older people, who have low incomes. All family types have exhibited growth in median incomes between 2001 and 2019, with non-elderly couples without children faring slightly better than other family types.



## Income differences by region

There is much public discussion about how economic fortunes differ across regions, with particular interest in how regional areas are faring compared with the major cities. Figure 3.2 compares mean equivalised incomes over the 2001 to 2019 period across 13 regions of Australia (see Box 3.5, page 26).

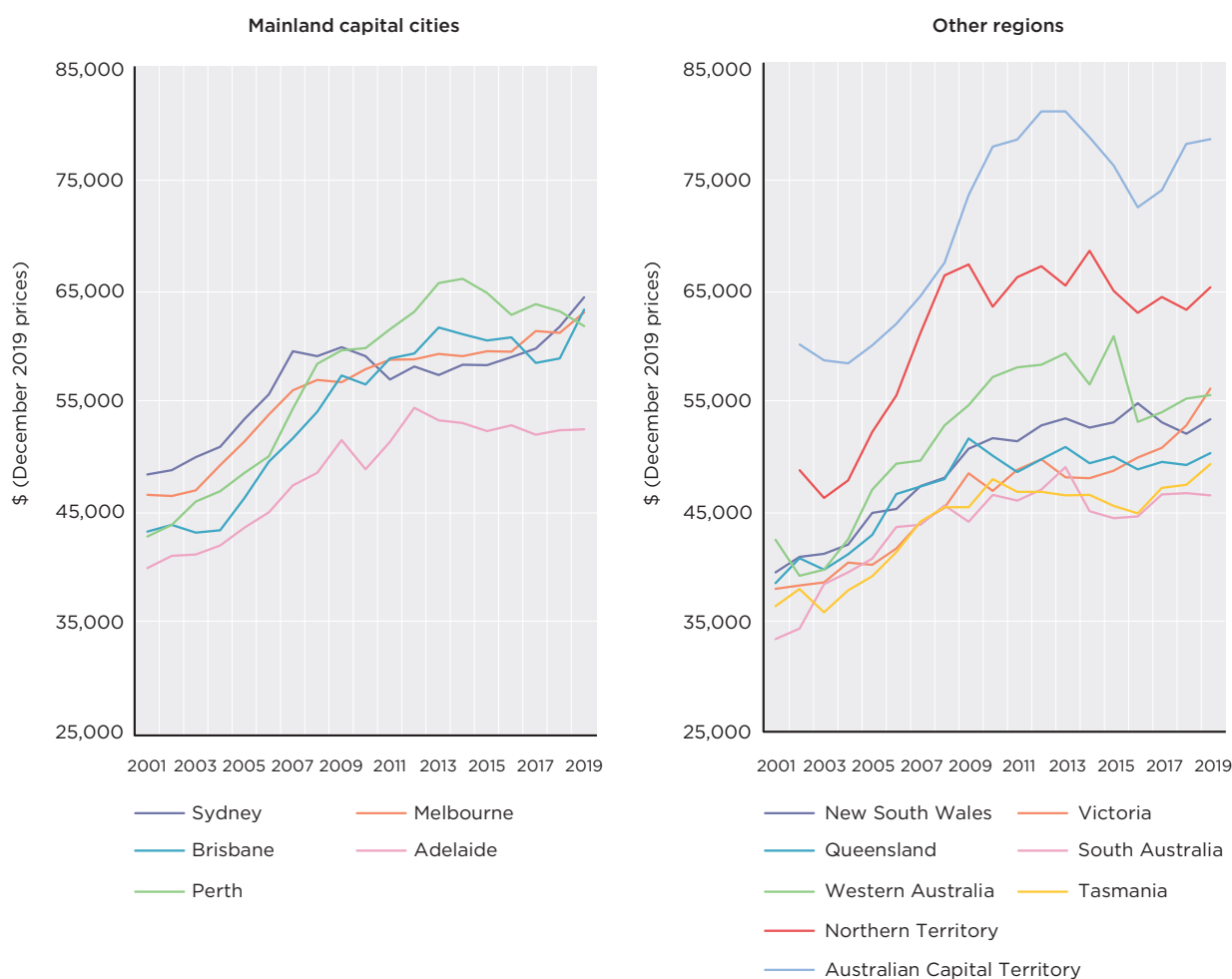
Mean incomes are considerably higher in the mainland capital cities than in the other regions of each state. Tasmania also has a relatively low mean income. The mean income in the Australian Capital Territory is the highest of all the regions examined in

### Box 3.5: Classification of region of residence

There are various ways of characterising the region of residence of sample members. In this report, we primarily characterise regions by state or territory of residence or by the region's population density. Based on the Australian Bureau of Statistics (ABS) Australian Standard Geographical Classification 2011 'Section of State' (ABS, 2011), three levels of population density are distinguished: **major urban** (cities with populations of 100,000 or more); **non-major urban** (towns and cities with populations of 1,000 to 99,999); and **non-urban regions** (towns with populations of less than 1,000, and rural and remote areas). The HILDA Survey data show that, in 2016, approximately 65% of the population resided in major urban areas, 20% resided in other urban areas and 15% resided in non-urban areas.

In more detailed analysis by region undertaken in this report, information on state or territory of residence and whether resident of the state's capital city is combined to create 13 distinct regions, each of which has a sufficient sample size to support the statistical analyses presented. The regions comprise: (1) Sydney; (2) Rest of New South Wales; (3) Melbourne; (4) Rest of Victoria; (5) Brisbane; (6) Rest of Queensland; (7) Adelaide; (8) Rest of South Australia; (9) Perth; (10) Rest of Western Australia; (11) Tasmania; (12) Australian Capital Territory; and (13) Northern Territory. Additionally, in some analysis, non-urban regions of Australia are distinguished (as a single category) and urban Northern Territory is combined with Australian Capital Territory, to give the following categories: (1) Sydney; (2) Other urban New South Wales; (3) Melbourne; (4) Other urban Victoria; (5) Brisbane; (6) Other urban Queensland; (7) Adelaide; (8) Other urban South Australia; (9) Perth; (10) Other urban Western Australia; (11) Urban Tasmania; (12) Urban Northern Territory and Australian Capital Territory; and (13) Non-urban Australia.

Figure 3.2: Mean household equivalised income, by region



Notes: Mainland capital cities are 'greater capital cities'. States are 'rest of state' (that is, excluding greater capital city). For the Northern Territory and Australian Capital Territory, estimates are two-year rolling averages (2001 and 2002, 2002 and 2003, and so on) to reduce variability due to small sample sizes.

Figure 3.2, a situation which has persisted across the entire 2001 to 2019 period, despite a substantial decline in mean income in the territory between 2013 and 2016.

Figure 3.2 also indicates that, among the mainland capital cities, Adelaide consistently has the lowest mean income. The mean income in Perth surged between 2010 and 2013, giving the city the highest mean income of the mainland capital cities, but its mean income fell in 2016 and in 2019 was similar to that of Sydney, Melbourne and Brisbane.

### Income mobility

Table 3.3 takes advantage of the longitudinal information from the HILDA Survey to examine income mobility over the short to medium term. For each quintile (20%) of the equivalised income distribution, it shows the proportions of people moving to a lower quintile, staying in the same quintile and moving to a higher quintile. The more people who move up or down, the greater is income mobility. The table examines mobility over three time-frames: one year, five years and 10 years. The analysis is

also presented separately for three sub-periods of the 2001 to 2019 period based on the initial year in which the income quintile is measured: 2001 to 2006, 2007 to 2012 and 2013 to 2018.

As an example to aid interpretation, the upper right cell of the table shows that, of those in the bottom quintile in any given year between 2013 and 2018, on average 30.9% were in a higher quintile in the next year. The remaining 69.1% stayed in the bottom quintile. (Note that it is not possible to move down from the bottom quintile or move up from the top quintile, so the corresponding cells are always zero.)

The table shows that ‘stickiness’ is greatest for the bottom and top quintiles. The proportion remaining in the same quintile is always highest for these two quintiles, regardless of the time-frame over which mobility is measured. For example, over a one-year time-frame, the proportion of the bottom quintile remaining in the bottom quintile is always just under 70%, while the proportion of the top quintile remaining in the top quintile is always just over 70%. For other quintiles, the proportion remaining in the same quintile

from one year to the next is approximately 50%. For example, over the period from 2013 to 2018, the proportion remaining in the same quintile from one year to the next was 51.8% for the second quintile (that is, the second-lowest quintile), 49.2% for the middle quintile and 52.5% for the fourth quintile (that is, the second-highest quintile).

The greater stickiness of the top and bottom quintiles is unsurprising, since it is only possible for people in these quintiles to move in one direction—down for the top quintile, and up for the bottom quintile. Perhaps also reflecting the greater scope for upward movements for those initially in the lower quintiles, and the greater scope for downward movements for those initially in the higher quintiles, is that the likelihood of moving to a higher quintile tends to be higher the lower the initial quintile, while the likelihood of moving to a lower quintile tends to be higher the higher the initial quintile. For example, in the 2013 to 2018 period, the proportion moving up from one year to the next was 30.9% for the bottom quintile, 27.3% for the second quintile, 25.4% for the middle quintile and 19.3% for the fourth quintile.



The table also shows that, the longer the time-frame, the greater is income mobility. Over a 10-year time-frame, the proportion of those in the top quintile remaining in that quintile is approximately 47% (compared with over 70% over a one-year time-frame), and the proportion of those in the bottom quintile remaining in that quintile is 53.0% (compared with approximately 68% over a one-year time-frame). For other quintiles, the

proportion in the same quintile 10 years later is always under 30% (compared with approximately 50% over a one-year time-frame).

The estimates for the three time-periods show that short-to-medium-term income mobility has reduced slightly this century. For all quintiles, the proportion remaining in the same quintile one year later was higher in the 2013 to 2018 period than in the 2001 to 2006 period. Most notable is that the proportion of

the top quintile remaining in that quintile rose from 70.3% in the 2001 to 2006 period to 74.0% in the 2013 to 2018 period.

The pattern is also evident for all but the bottom quintile when examining mobility over five years. For example, the proportion remaining in the top quintile five years later rose from 55.3% in the 2001 to 2006 period to 57.7% in the 2013 to 2018 period.



**Table 3.3: Movements of individuals in the income distribution, by initial income quintile (%)**

Initial years:	2001 to 2006			2007 to 2012 <sup>a</sup>			2013 to 2018 <sup>b</sup>		
	Moved down	No change	Moved up	Moved down	No change	Moved up	Moved down	No change	Moved up
<i>One-year changes</i>									
Bottom quintile	0.0	67.8	32.2	0.0	68.4	31.6	0.0	69.1	30.9
Second quintile	21.9	48.6	29.5	20.5	49.6	29.9	20.9	51.8	27.3
Middle quintile	26.9	46.5	26.6	27.1	45.8	27.1	25.4	49.2	25.4
Fourth quintile	30.6	49.8	19.6	28.8	51.0	20.2	28.3	52.5	19.3
Top quintile	29.7	70.3	0.0	27.7	72.3	0.0	26.0	74.0	0.0
<i>Five-year changes</i>									
Bottom quintile	0.0	59.6	40.4	0.0	58.3	41.7	0.0	55.2	44.8
Second quintile	26.0	34.7	39.2	24.4	35.5	40.1	23.5	36.1	40.5
Middle quintile	33.2	31.1	35.7	31.9	32.7	35.3	34.5	31.2	34.3
Fourth quintile	41.3	34.8	23.9	38.2	34.4	27.4	37.8	36.4	25.9
Top quintile	44.7	55.3	0.0	44.4	55.6	0.0	42.3	57.7	0.0
<i>10-year changes</i>									
Bottom quintile	0.0	53.0	47.0	0.0	53.7	46.3	–	–	–
Second quintile	26.6	28.6	44.8	27.0	28.4	44.6	–	–	–
Middle quintile	33.7	26.8	39.5	34.5	26.4	39.1	–	–	–
Fourth quintile	46.4	27.7	25.9	47.3	26.6	26.1	–	–	–
Top quintile	52.9	47.1	0.0	52.6	47.4	0.0	–	–	–

Notes: <sup>a</sup> Ten-year changes are for initial years 2007, 2008 and 2009 only. <sup>b</sup> Five-year changes are for initial years 2013 and 2014 only.



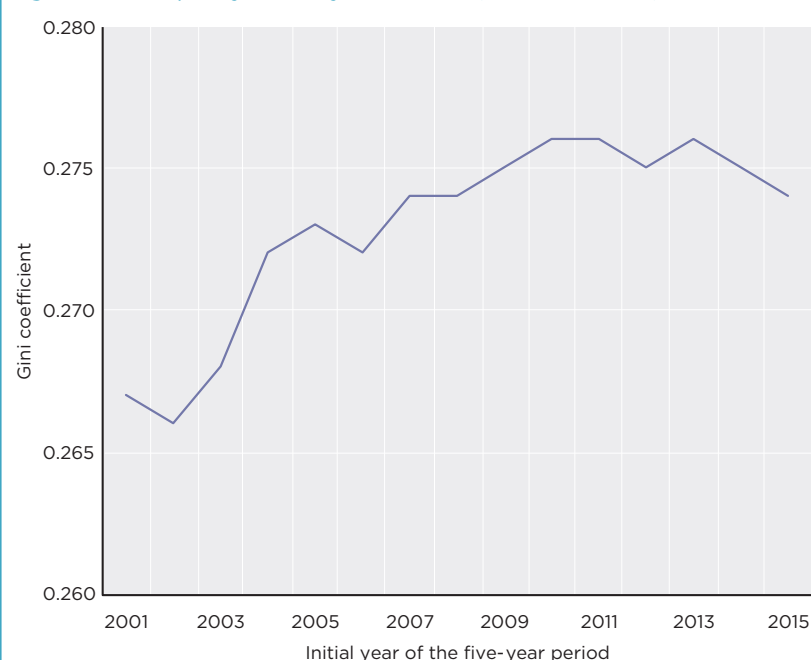
## Inequality of longer-term incomes

Figure 3.3 examines inequality of income measured over five years. Five-year income is calculated for each individual as the sum of inflation-adjusted annual equivalised income over the five years—that is, equivalised income is obtained for each of the years and these values are then added together. To the extent that income fluctuates from year to year, distributional statistics for five-year income can provide a clearer sense of longer-term inequality.

The figure shows that inequality in five-year income, as measured by the Gini coefficient, is lower than inequality in one-year income (Table 3.2). The differences are not large, however, implying there is a high degree of persistence in household incomes. Moreover, the Gini coefficient for five-year income increased by approximately 3.8% between 2002 and 2010, and has fallen only slightly since 2010 (with all of the decline occurring after 2013).

The rise in inequality in five-year income up to the 2011 to 2015 period is seemingly at odds with

Figure 3.3: Inequality of five-year income (Gini coefficient)



the finding of little change in inequality of one-year income. However, it is consistent with the evidence in Table 3.3 that income mobility has declined over the HILDA Survey period. This is because lower income mobility over the short to medium term means a greater tendency for poor people to remain poor from one year to the next, and for rich people to remain rich from one year to the next, so that the decrease in inequality in moving from one-year income to five-year income will be smaller in more recent years. In the extreme,

if everyone has the same income every year, then inequality of five-year income will be the same as inequality of one-year income.

While the increase in income stability from year to year up to the 2011 to 2015 period is a positive development for people with good incomes, this is not a good development for people with low incomes, since they are more likely to have *persistently* low incomes. Thus, from this perspective, the recent decline in inequality of five-year income is a welcome development.



## Income poverty

A wide variety of definitions or measures of poverty, or material deprivation, have been employed by economic and social researchers. As in previous volumes of this report, we examine the most commonly employed definition applied to the study of poverty in developed countries, which conceives of poverty as *relative* deprivation or socio-economic disadvantage, and which measures deprivation in terms of inadequacy of *income*. Consistent with the approach of the Organisation for Economic Co-operation and Development (OECD) and other international bodies, we define relative income poverty as having a household income below 50% of median income. While based on a degree of public and researcher consensus, it should nonetheless be acknowledged that there is an element of arbitrariness to this—or any other—definition of relative poverty.

### Cross-sectional poverty rates

Figure 3.4 presents relative income poverty rates in each year covered by the HILDA Survey. It also presents poverty rates holding the purchasing power of the poverty line constant at the 2001 relative poverty line. This is referred to in the figure as the

### Box 3.6: Relative and anchored income poverty

A person is in **relative income poverty** if they are unable to afford the goods and services needed to enjoy a normal or mainstream lifestyle in the country in which they live (OECD, 2019). In this report, we define a person to be in relative income poverty if household equivalised income is less than 50% of the median household equivalised income.

An **anchored poverty line** is an income poverty threshold that has its real value held constant over time rather than adjusted for changes in average living standards. It is 'anchored' in the sense that the *purchasing power* of the poverty line—the basket of goods and services that it can purchase—remains fixed over time. The level at which an anchored poverty line is set may be based on the level of a relative poverty line obtained at a particular point in time, for example (as is the case in this report), the beginning of the time period under study.

'anchored' poverty line (see Box 3.6, page 30). Our income measure is equivalised income; thus, the relative poverty lines presented at the bottom of Figure 3.4 can be interpreted as the minimum annual income after taxes and government benefits that a single-person household would require to avoid relative income poverty. Poverty rates refer to the proportion of people (not households) living in poverty.

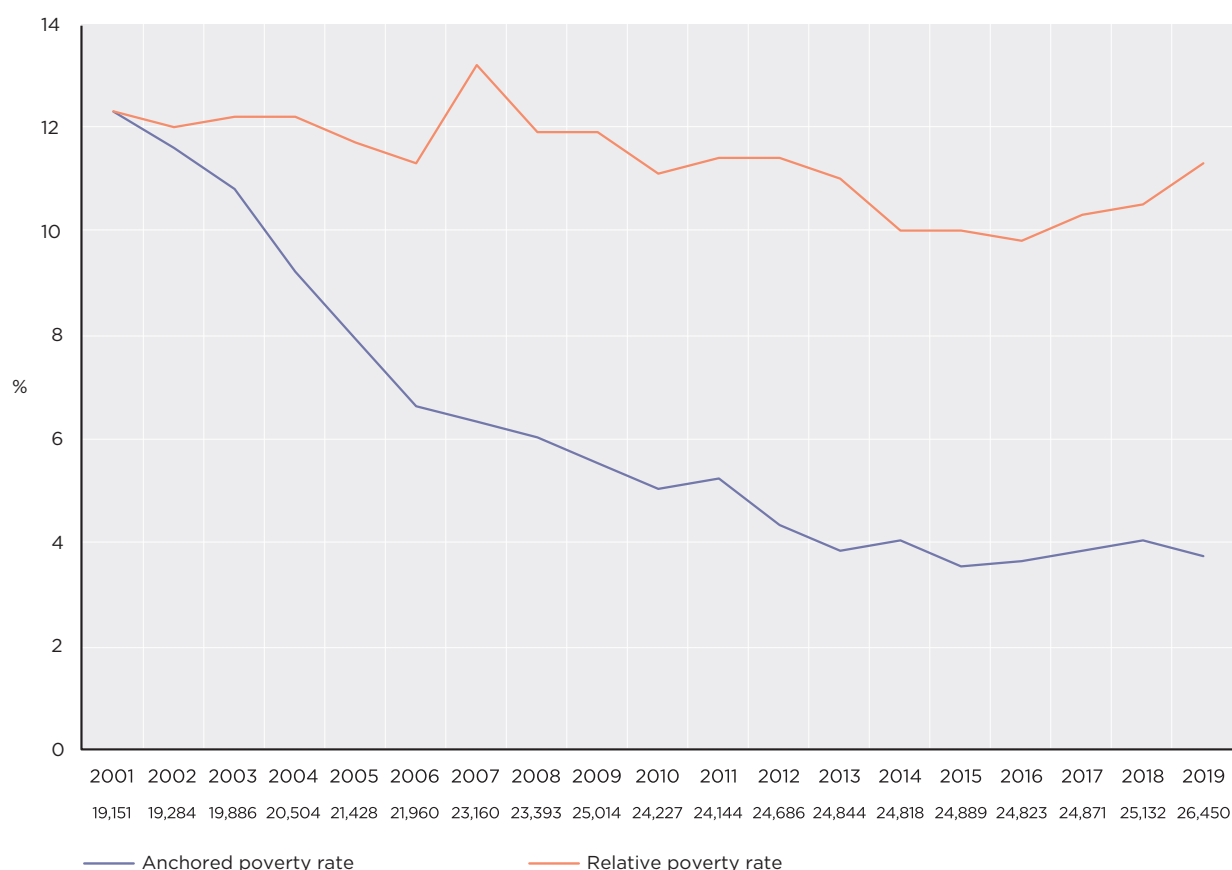
Reflecting the high rate of household income growth that occurred up to 2009, the relative poverty line increased substantially from \$19,151 in 2001 to \$25,014 in 2009 (expressed at December 2019 prices). Median income changed relatively little between 2009 and 2016, and as a result the relative poverty line was almost the same in 2017 as it was in 2009. Growth in the median income between 2017 and 2019 saw the poverty line rise to \$26,450 in 2019.

The proportion of the population below the relative poverty line has fluctuated over time. The broad trend was downwards between 2007 and 2016, when the poverty rate declined from 13.2% of the population to 9.8%. However, the relative poverty rate has increased since 2016, to be 11.3% in 2019.

The poverty rate obtained when the real value of the poverty line is maintained at its 2001 level of \$19,151 (at December 2019 prices) has fallen considerably more than the relative poverty rate. This anchored poverty rate was 12.3% in 2001 and only 3.7% in 2019. Thus, even among those in relative income poverty, average living standards (as measured by equivalised income) have increased over the full 19-year period. Moreover, it is clear that the rise in relative poverty in 2019 was due to the rise in median income, since the proportion in poverty based on the anchored poverty line actually fell in 2019.



Figure 3.4: Percentage of the population in income poverty



Note: Values at the base of the figure are the dollar values of the relative poverty lines in each of the financial years, expressed at December 2019 prices.

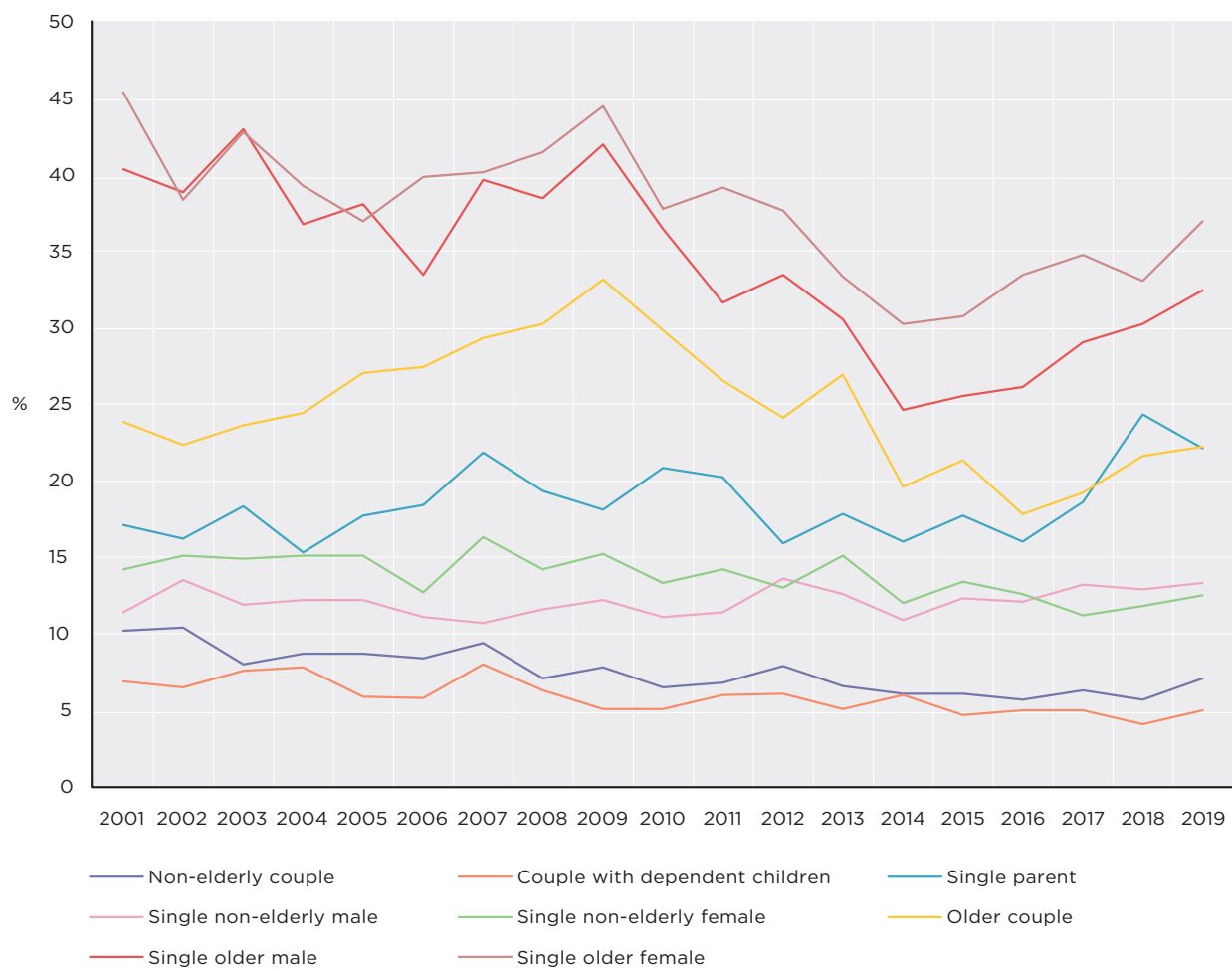
### Poverty by family type

Figure 3.5 shows that relative poverty rates vary substantially by family type (see Box 3.4, page 25). Rates are consistently high among older people, particularly older single people, although they declined substantially between 2009 and 2014 for all three groups of older people distinguished in the figure. Moreover, older people are more likely to own their home outright and hence have lower housing costs—an issue addressed by examination of an ‘after housing’ poverty measure later in this chapter—and indeed they also tend to have higher levels of other forms of wealth. Correspondingly, as shown later in this chapter, older people have relatively low rates of financial stress.





Figure 3.5: Poverty rates by family type



Poverty rates are also somewhat high for people living in single-parent families. By contrast, people in non-elderly couple families, whether with or without dependent children, have consistently low poverty rates, which in the most recent years have been in the vicinity of 5%.

### Child poverty

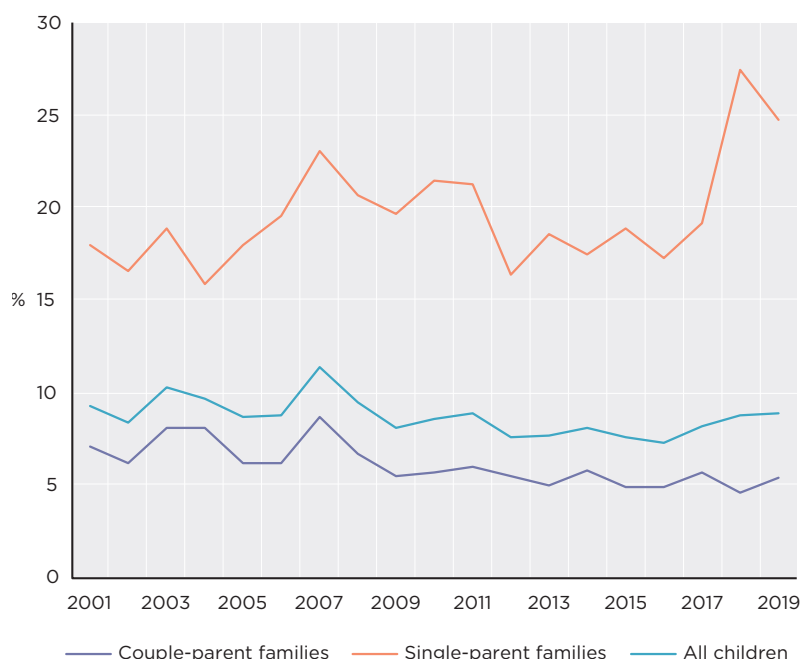
Child poverty is a particular concern for policy-makers because of the damage poverty

may cause to children's future productive capacity and life prospects more generally. Figure 3.6 presents child relative poverty rates for dependent children aged under 18, in total and separately for children in couple-parent families and children in single-parent families.

The child poverty rate is consistently below the community-wide poverty rate, in most years being below 10%, and in 2019 equal to 9%. However,

consistent with the evidence in Figure 3.5, poverty is considerably more prevalent among children in single-parent families than among children in couple-parent families. In all years, the poverty rate for children in single-parent families is over twice the poverty rate for children in couple-parent families. Moreover, between 2016 and 2018, the poverty rate for children in single-parent families rose from 17.4% to 27.6%, and was still at 24.9% in 2019.

Figure 3.6: Child poverty rates by family type—Dependent children aged under 18



### After-housing-costs measure of poverty

A criticism of the income poverty measure examined so far in this report is that it does not take into account the potentially large variation in housing costs across people, leading some people with low housing costs to be classified as poor, when they are not, and others with high housing costs to be classified as not poor, when in fact they have very little left over after paying for their housing. Most important in this regard is

that many home owners effectively receive substantial ‘in-kind’ income in the form of ‘implicit rent’ they receive from their home. An approach for addressing this criticism is to examine income net of housing costs—that is, income after deducting mortgage or rent payments on the home.<sup>1</sup> For example, this is the approach favoured by the Australian Council of Social Service in its two-yearly poverty report (Davidson et al., 2020).

Here we examine relative income poverty based on income after housing costs, whereby a person is defined to be in poverty if equivalised income net of housing costs is less than 50% of the median of this income measure. Note that, while this measure addresses the issue of variation in housing costs across people, it has its own problems. Housing costs are, like expenditures on all goods and services, the outcome of choices made by individuals. To the extent that some people choose to have high housing costs, we may classify people as poor who are not in fact poor—that is, some people may choose to spend a lot on housing, despite having available lower-cost (but still adequate) housing.

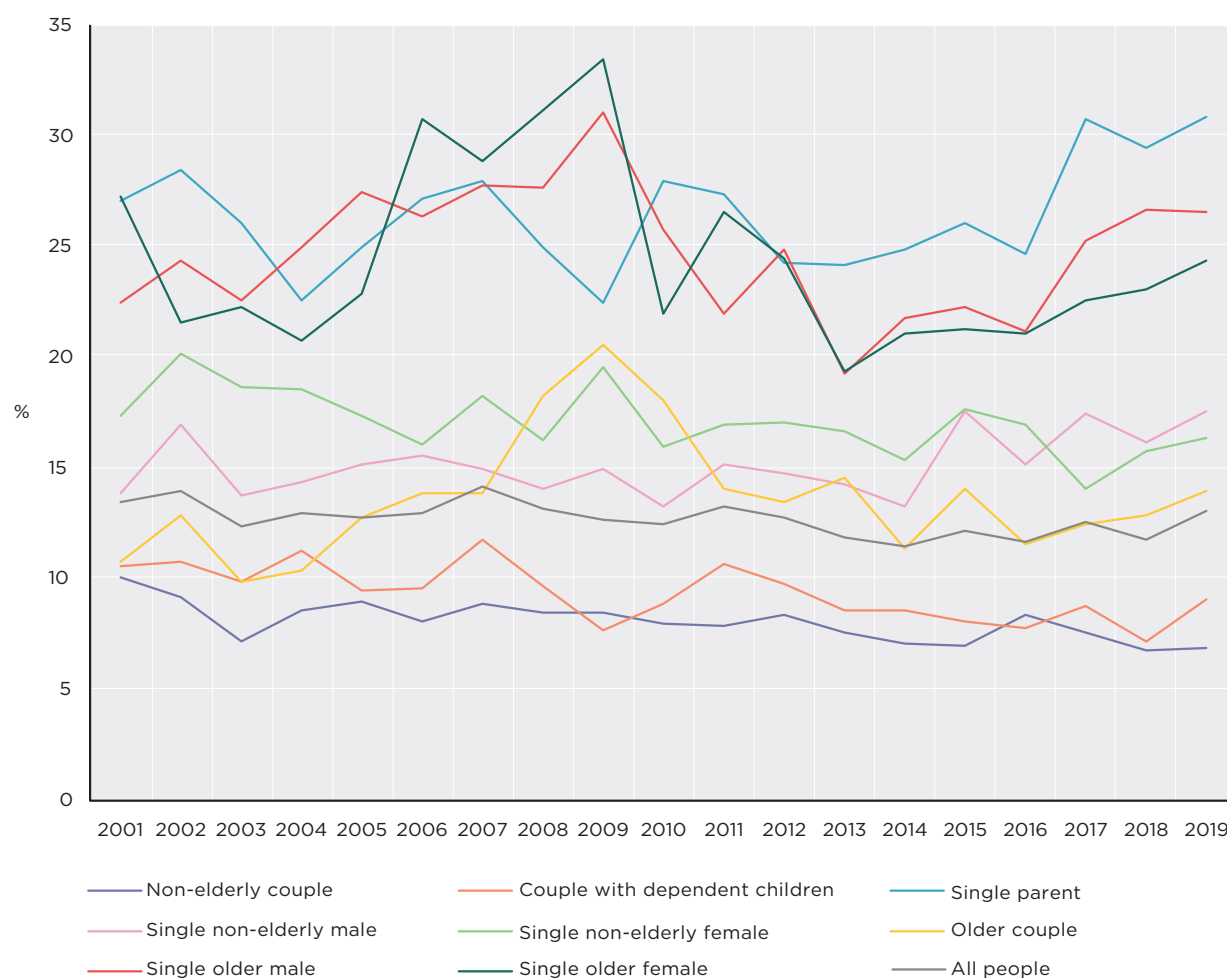
Figure 3.7 presents estimates of poverty rates for income after housing costs. The overall poverty rate, as given by the grey line, is somewhat higher than the overall before-housing-costs poverty rate shown in Figure 3.4. For example, in 2019, the after-housing poverty rate was 13.1%, compared with 11.3% for the before-housing poverty rate.

Most striking is that people living in single-parent families have had the highest poverty rate over most of the last decade, while older people—especially older



<sup>1</sup> To understand how this approach accounts for implicit rent on owner-occupied housing, note that we are effectively adding implicit rent to home-owners’ income, but then subtracting it from their income because—by definition—it is entirely spent on housing. Also note that there are alternative ways to measure housing costs, including broadening the measure to include other costs such as council rates. (However, council rates are not measured by the HILDA Survey.)

Figure 3.7: Poverty rates by family type based on income net of housing costs



single people—have relatively lower poverty rates compared with the before-housing measure of poverty. This reflects the fact that older people are more likely to own their own home outright than are younger people. That said, older single people still have relatively high poverty rates compared to people in family types other than single-parent families.

### Poverty over the longer term

While poverty experienced for a short period of time is undesirable, there is a great deal more public policy concern attached to long-term or entrenched poverty. Table 3.4 considers the amount of time people spend in poverty over a

10-year period. Both before-housing and after-housing poverty measures are examined, and separate estimates are produced for men and women in each of two age groups (aged 18 to 55 at the start of the period and aged 65 and over at the start of the period) and in each of two 10-year periods (2001 to 2010 and 2010 to 2019). The first age group broadly corresponds to people who were ‘working-age’ adults for the entire period (being aged 27 to 64 at the end of the period) and the second age group broadly corresponds to people who were of ‘retirement age’ for the entire period.

Considering first the younger age group, for the before-housing poverty measure, approximately 74% of men and 69% of women



Table 3.4: Experience of poverty over a 10-year period (%)

	Number of years in poverty					Total
	0	1 or 2	3 or 4	5 or 6	7 or more	
<b>Persons aged 18–55 at the start of the 10-year period</b>						
<i>Before-housing-costs poverty measure</i>						
2001–2010						
Men	73.8	16.3	5.3	2.1	2.4	100.0
Women	69.0	18.8	6.0	3.3	2.9	100.0
2010–2019						
Men	76.2	14.7	4.6	1.9	2.6	100.0
Women	72.8	17.2	5.3	2.8	2.0	100.0
<i>After-housing-costs poverty measure</i>						
2001–2010						
Men	63.0	23.8	6.7	3.3	3.2	100.0
Women	58.1	25.4	8.2	4.7	3.7	100.0
2010–2019						
Men	65.9	20.5	7.2	2.8	3.6	100.0
Women	62.1	21.7	8.8	3.5	3.9	100.0
<b>Persons aged 65 and over at the start of the 10-year period</b>						
<i>Before-housing-costs poverty measure</i>						
2001–2010						
Men	26.5	28.8	10.8	10.7	23.2	100.0
Women	23.2	23.6	16.2	8.1	28.9	100.0
2010–2019						
Men	40.7	22.9	13.2	7.0	16.2	100.0
Women	27.1	26.1	12.9	10.9	23.0	100.0
<i>After-housing-costs poverty measure</i>						
2001–2010						
Men	39.8	34.6	7.8	9.6	8.3	100.0
Women	33.9	32.9	14.5	8.8	9.9	100.0
2010–2019						
Men	50.6	29.6	8.3	4.0	7.4	100.0
Women	44.3	30.2	10.4	4.4	10.6	100.0

Note: Cells may not add up to row totals due to rounding.



aged 18 to 55 in 2001 did not experience income poverty in that year or any of the subsequent nine years, necessarily implying that approximately 26% of men and 31% of women did experience poverty in at least one year. For approximately 16% of men and 19% of women, poverty was experienced in only one or two years, and a further 5.3% of men and 6% of women experienced poverty in three or four of the 10 years. Highly persistent or recurrent poverty was confined



to the 4.5% of men and 6.2% of women who were in poverty in at least five of the 10 years.

Consistent with the downward trend in the rate of poverty over the HILDA Survey period as a whole (Figure 3.4), the 10 years from 2010 to 2019 saw slightly lower proportions of working-age people experience poverty at any stage over the 10-year period. However, while there was a decline in persistent poverty among women, there was a slight increase in the proportion of men experiencing poverty in seven or more of the 10 years.

For the after-housing measure of poverty, higher proportions of both men and women of working age experience poverty in at least one of the 10 years, but patterns are otherwise similar to those found for the before-housing poverty measure. The main exception is that, comparing the 2001 to 2010 period with the 2010 to 2019 period, the proportion of women experiencing poverty in seven or more years increased slightly for the after-housing measure, whereas it decreased for the before-housing measure.

For people aged 65 and over at the start of the 10-year period, poverty is both more prevalent

and more persistent. Indeed, for women, it was more common to be in before-housing poverty in seven or more of the 10 years from 2001 to 2010 than it was to avoid poverty in all 10 years—28.9% were in poverty in seven or more years, whereas only 23.2% were never in poverty.

Similar to what is found for working-age people, older men are less likely to experience poverty, and less likely to experience entrenched poverty, than older women. The decline in experience of poverty between the 2001 to 2010 period and the 2010 to 2019 period evident for ‘working-age’ people is also evident for older people. Moreover, a substantial decline in entrenched poverty among the older is evident. The proportion experiencing poverty in seven or more years fell from 23.2% to 16.2% for men, and from 28.9% to 23.0% for women.

In contrast to working-age adults, the proportion of older people experiencing after-housing poverty at some stage of the 10-year period is lower than the proportion experiencing before-housing poverty. As with the before-housing poverty measure, the proportion experiencing poverty over 10 years based on the after-housing measure was

lower in the second decade. However, in contrast to the before-housing poverty measure, the proportion of older women in poverty for seven or more of the 10 years based on the after-housing poverty measure actually rose in the second decade.

Long-term poverty experiences of children are considered in Table 3.5 by examining the number of years children were in poverty in the first 10 years of their lives. This requires identification of poverty status in each of the first 10 years of each child’s life, and as such the figure examines children born in the period from 1 July 2000 to 30 June 2010. Two birth cohorts are compared: those born between 1 July 2000 and 30 June 2005, and those born between 1 July 2005 and 30 June 2010.

The upper panel of the table, examining before-housing poverty, shows that 68.7% of children born between 1 July 2000 and 30 June 2005 were not living in poverty in any of their first 10 years of life, while this increased to 72.6% for those born between 1 July 2005 and 30 June 2010. For the earlier cohort, 19.0% were in poverty in one or two years, 6.8% were in poverty in three or four years, 4.0% were in poverty in five or six years, and 1.4% were in poverty in seven or more of the 10 years. For the more recent cohort, there were lower proportions in poverty in one or two years, three or four years and five or six years, but a slightly higher proportion were in poverty in seven or more of the 10 years.

For the after-housing poverty measure, there was similarly a lower rate of experience of poverty in the first 10 years of life for the more recent cohort. However, in contrast to the before-housing measure, there was no increase in the proportion experiencing poverty in seven or more years.



Table 3.5: Experience of poverty in the first 10 years of life (%)

	Number of years in poverty					Total
	0	1 or 2	3 or 4	5 or 6	7 or more	
<i>Before-housing-costs poverty measure</i>						
Born 1 July 2000 to 30 June 2005	68.7	19.0	6.8	4.0	1.4	100.0
Born 1 July 2005 to 30 June 2010	72.6	17.4	5.0	2.8	2.3	100.0
<i>After-housing-costs poverty measure</i>						
Born 1 July 2000 to 30 June 2005	50.8	28.2	9.4	6.1	5.5	100.0
Born 1 July 2005 to 30 June 2010	56.9	21.4	10.9	5.6	5.2	100.0

Note: Cells may not add up to row totals due to rounding.



## Welfare reliance

Reliance on social security (welfare) payments remains a significant concern for policy-makers in Australia (see Box 3.7, below, for a brief explanation of the Australian social security system). It is associated with significant demands on government budgets and reduced economy-wide market output. Moreover, reliance on welfare is often associated with long-term poverty, social exclusion and other adverse outcomes for recipients and their children.

That said, the social security system provides an important 'safety net'. Indeed, it may be important in assisting people to 'bounce back' from adverse shocks, and could conceivably be beneficial to both economic output and the government budget over the longer term.

In any case, it is clear that policy concern should be greatest for long-term or entrenched reliance on welfare.

The HILDA Survey is an important data source for understanding welfare reliance, since the longitudinal nature of the data enables the study of the duration and dynamics of benefit receipt. Importantly, it is possible to identify entrenched reliance and the factors associated with it. The HILDA Survey is therefore a key data source for policy-makers seeking to address long-term reliance.

## Income support receipt and welfare reliance over a one-year time-frame

Figures 3.8 and 3.9 respectively present cross-sectional estimates of income support receipt and welfare reliance for 'working-age' people, defined here as people aged 18 to 64. In the financial

### Box 3.7: The Australian social security system

The Australian social security system contains two broad categories of cash benefits. In the first category are benefits known as income support payments, which are intended to represent the primary source of income of recipients. Income support payments comprise the Age Pension, Disability Support Pension, Carer Payment, Parenting Payment (Single and Partnered), JobSeeker Payment (a consolidation of the previous Newstart Allowance and several other payments from 20 March 2020 on), Youth Allowance and Department of Veterans' Affairs Service Pension, as well as several other smaller payment types. In the second category are supplementary government benefits known as non-income support payments, and include Family Tax Benefit (Parts A and B) and Carer Allowance. Studies of reliance on welfare benefits in Australia typically focus on receipt of income support payments, but include non-income support payments in assessments of the extent of reliance on cash benefits of income support payment recipients.<sup>a</sup>

<sup>a</sup> 'Welfare' is a contested term, and many would argue that a much broader range of government expenditures than income support and non-income support payments should be classified as welfare benefits. However, the approach taken in this report is consistent with the approach taken by most Australian researchers on welfare reliance.

year ending 30 June 2019, 28.1% of individuals aged 18 to 64 were living in a household that received income support at some stage of the year. This is substantially lower than at the beginning of the HILDA Survey in 2001, when the corresponding figure was 38.2%. Most of the decline in household income support receipt was between 2002 and 2009 and between 2014 and 2018.

Figure 3.9 presents estimates of welfare reliance for two definitions of welfare reliance (as explained in Box 3.8, page 39): more than 50% of annual household income comes from welfare; and more than 90% of annual household income comes

from welfare. As would be expected, the proportion of the population classified as welfare-reliant depends on whether the 50% or 90% threshold is employed. However, the two measures show similar trends, both declining between 2004 and 2008, and both remaining relatively stable until 2012. Since 2013, there has been a slight decrease in the proportion deriving more than 90% of income from welfare (from 5.7% in 2013 to 5.0% in 2019). Between 2014 and 2018, there was a decrease in the proportion deriving more than 50% of income from welfare from 10.8% to 9.1%, but then a rise to 9.7% in 2019.

Figure 3.10, examining family types (see Box 3.4, page 25), shows that welfare reliance among working-age people is very much associated with living in single-parent families. For each year from 2001 to 2019, the figure presents the proportion of individuals in each family type obtaining more than 50% of financial-year household income from welfare benefits. Single parents have considerably higher rates of welfare reliance than other family types, although there was some decline in single-parent welfare reliance between 2002 and 2017, falling from 45.5% to 31.9%. Since 2017, however, welfare reliance among single parents has risen slightly, to be 32.7% in 2019.

Figure 3.8: Receipt of income support payments by persons aged 18–64

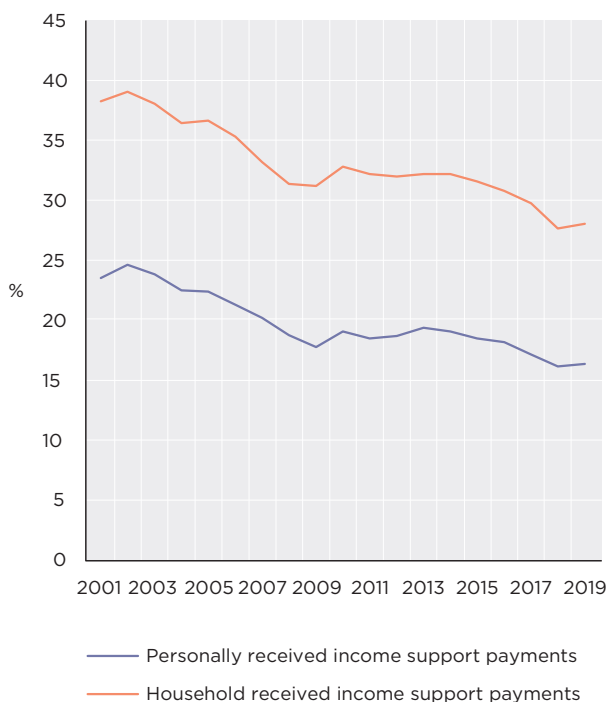
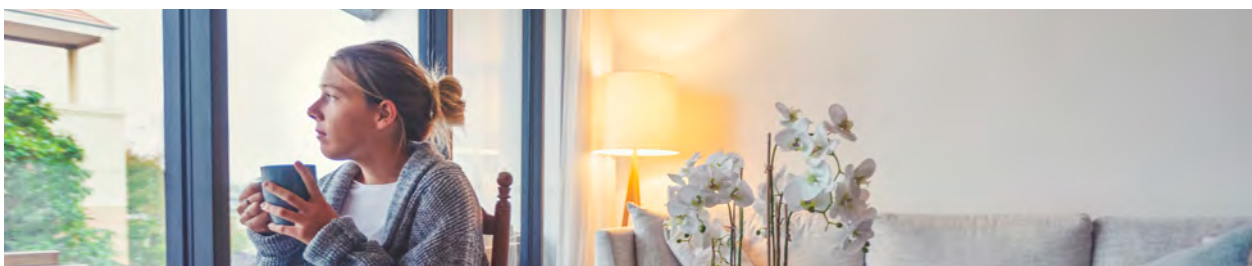
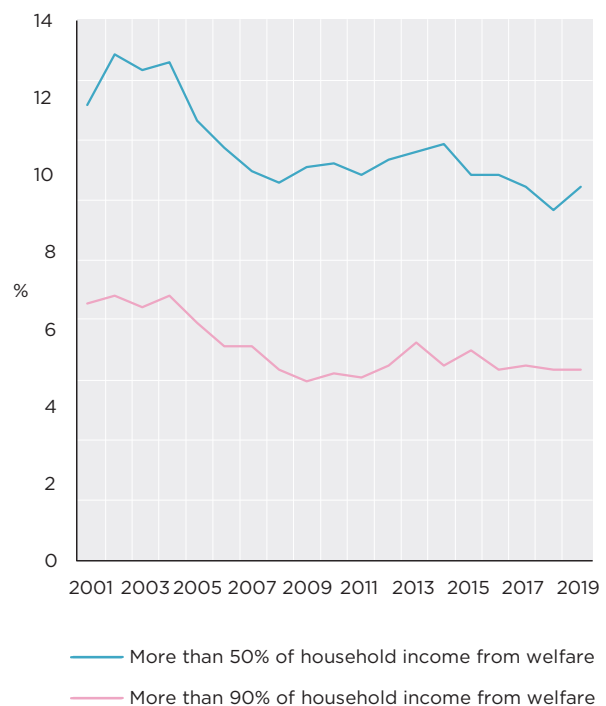


Figure 3.9: Reliance on welfare among persons aged 18–64





### Box 3.8: Definitions of welfare reliance

Welfare reliance is usually conceived as a situation in which welfare payments, in Australia often referred to as social security payments, represent the primary or main source of income for a household. In this report, two alternative specific definitions of welfare reliance are adopted:

- (1) The household receives income support payments and more than 50% of household income comes from income support and non-income support payments.
- (2) The household receives income support payments and more than 90% of household income comes from income support and non-income support payments.



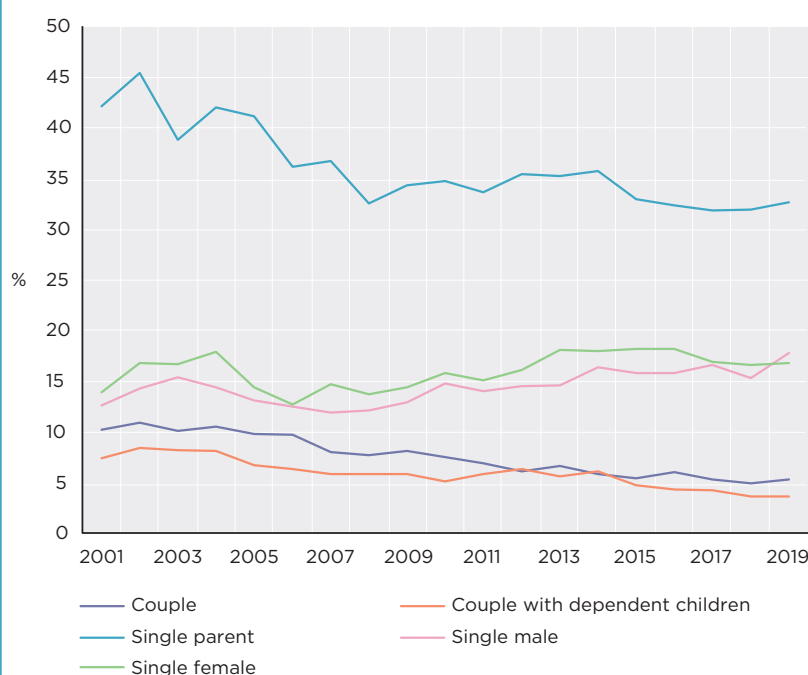
Individuals in couple families, with or without dependent children, have the lowest rates of welfare reliance, and have also exhibited declines in welfare reliance. The proportion of people who were welfare-reliant fell from 8.4% in 2002 to 3.6% in 2019 for couples with dependent children, and from 10.9% in 2002 to 5.3% in 2018 for couples without dependent children.

Single men and women have welfare-reliance rates somewhat higher than couples, and have exhibited no trend decline in welfare reliance. Indeed, since 2008, there has been a significant rise in welfare reliance among single people, rising from 13.7% to 16.8% for women and from 12.1% to 17.8% for men. The gap between couples (with or without dependent children) and single people (without dependent children) has therefore risen over the HILDA Survey period.

### Income support receipt and welfare reliance over 10 years

Drawing on the longitudinal nature of the HILDA Survey data provides significant insights into long-term contact with the income support system. Table 3.6 examines contact with the system over a 10-year period, presenting the proportion of people who at some stage in the 10-year period personally received an income support payment (personal contact), and the proportion who at some stage were living in a household in which at least one member received an income support payment (household contact). The population examined is restricted to people who were aged 18 to 64 for the entire 10-year period (and therefore aged 18 to 55 at the start of the 10-year period and aged 27 to 64 at the end of the period). Estimates are disaggregated by sex and age group and, as in the analysis of

Figure 3.10: Welfare reliance of people aged 18–64 years, by family type



Note: A person is defined to be welfare-reliant if more than 50% of household annual income comes from welfare.

poverty presented in Table 3.4, two 10-year periods are examined: 2001 to 2010 and 2010 to 2019.

The bottom-right cell of the top panel of the table shows that 63.8% of the working-age population had direct or indirect contact with the income support payments system at some stage between 2001 and 2010. Moreover, 40.7% of this cohort *personally* received income support payments at some stage between 2001 and 2010. Given that approximately 20% of working-age individuals received income support in any given year of this period, this indicates that the income support system was indeed providing temporary rather than long-term support for most recipients, and was potentially playing a very important safety-net role. Contact with the income support system was lower over the 10 years from 2010 to 2019

(lower panel of Table 3.6), but still substantial, with 58.3% having household contact and 35.3% having personal contact.

Rates of household contact with the income support system are high across all age groups. For both men and women, in all age groups, and in both the 2001 to 2010 and 2010 to 2019 periods, household contact with the income support system is approximately 50% or higher.

Personal contact with the income support system varies more by sex, age group and indeed time period than does household contact. For men, over the 2001 to 2010 period, personal contact was lowest among those aged 25 to 34 in 2001, and increases as we move up the age distribution, rising from 26.7% of the 25 to 34 age group to 35.9% of the 45 to 55 age group. However, in the 2010 to 2019 period, rates of personal contact were similar across the 25 to 34, 35 to 44



**Table 3.6: Income support receipt over 10 years, by sex and age group at the start of the 10-year period (%)**

	Age group at the start of the 10-year period				All aged 18-55 in initial year
	18-24	25-34	35-44	45-55	
2001-2010					
Men					
Personal receipt	47.2	26.7	29.6	35.9	33.2
Household receipt	77.7	57.5	61.0	60.0	62.3
Women					
Personal receipt	60.4	50.8	46.3	41.9	48.1
Household receipt	73.6	60.3	64.2	67.0	65.3
People					
Personal receipt	53.5	38.6	38.1	39.0	40.7
Household receipt	75.7	58.9	62.6	63.6	63.8
2010-2019					
Men					
Personal receipt	47.0	27.4	24.8	26.7	29.8
Household receipt	72.8	51.2	51.4	57.4	56.7
Women					
Personal receipt	53.2	42.5	38.5	33.1	40.5
Household receipt	69.2	54.3	54.5	63.9	59.7
People					
Personal receipt	50.2	35.0	31.8	30.0	35.3
Household receipt	70.9	52.8	53.0	60.8	58.3

and 45 to 55 age groups, and indeed were slightly higher in the 25 to 34 age group than in the two older age groups.

In both of the 10-year periods, rates of personal contact with the income support system are somewhat higher for women than men in all age groups, but particularly among those aged under 45. This is likely to be at least partly due to women being a high proportion of single parents. That said, the gap between men and women in the

18 to 44 age range was considerably smaller in the 2010 to 2019 period than in the earlier period due to greater declines in women's personal contact with the income support system.

The *extent* of working-age individuals' contact with, and reliance on, the income support system over a 10-year period is examined in Table 3.7. The upper panel of the table shows the distribution of the number of years in which the individual's household received income support. Measuring the extent of

contact with the system by the number of years in which one's household received income support payments, it is evident that the majority of working-age people have either no or only temporary contact with the system. Over the 2001 to 2010 period, 70.1% of men and 63.6% of women had contact with the system in three or fewer of the 10 years; while over the 2010 to 2019 period, 68.7% of men and 65.7% of women had contact with the system in three or fewer of the 10 years.

**Table 3.7: Welfare benefit receipt over 10 years—People aged 18 to 55 at the beginning of the 10-year period (%)**

	2001–2010		2010–2019	
	Men	Women	Men	Women
<i>Number of years of household income support receipt</i>				
0	37.7	34.7	43.3	40.2
1–3	32.4	28.9	25.4	25.5
4–6	12.3	13.7	13	13.1
7–9	8.3	11.3	7.7	9.8
10	9.3	11.4	10.6	11.4
Total	100.0	100.0	100.0	100.0
Mean proportion of household income from welfare benefits—All persons	11.4	15.1	10.5	13.0
Proportion obtaining more than 50% of 10-year household income from welfare benefits	6.5	10.3	6.5	8.3

*Note:* Cells may not add up to column totals due to rounding.





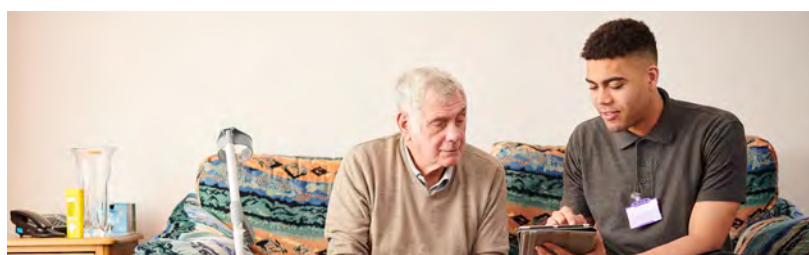
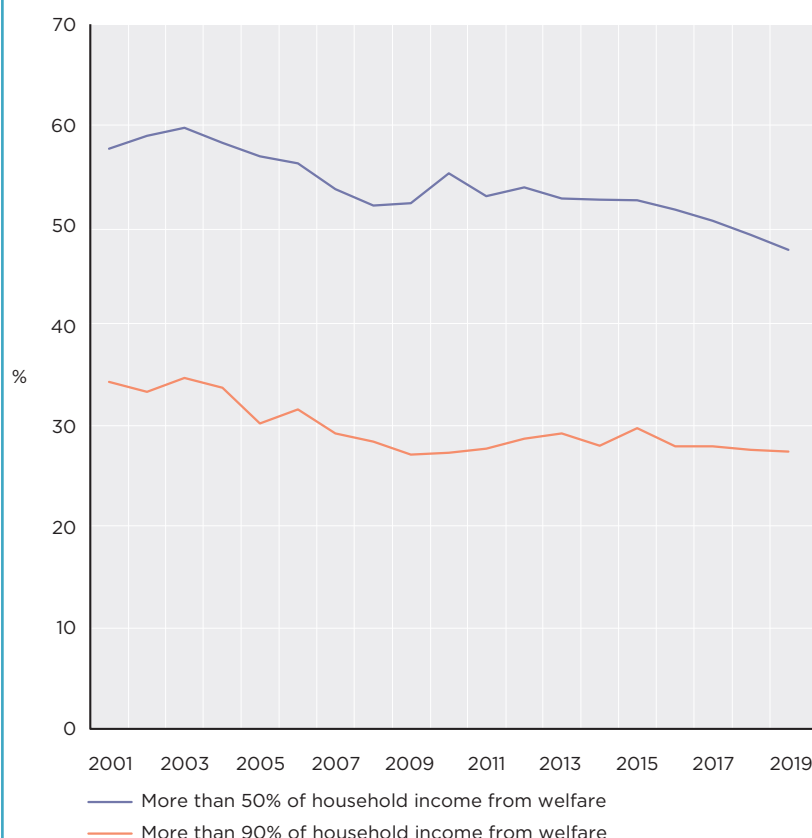
The bottom panel of Table 3.7 examines the extent of welfare reliance over a 10-year period, presenting the mean proportion of household income deriving from welfare over the 10 years for all people and the proportion of the population who were reliant on welfare over the 10-year period as a whole (defined as obtaining more than 50% of household income over the 10 years from welfare). On average, working-age men derived 11.4% of household income from welfare payments between 2001 and 2010, while working-age women on average derived 15.1% of household income from welfare. These figures dropped to 10.5% and 13.0%, respectively, in the 2010 to 2019 period. Comparing the same two 10-year periods, the proportion who were welfare-reliant fell from 10.3% to 8.3% for women, but remained unchanged at 6.5% for men.

### Income support receipt among older people

While many people continue to work in paid employment beyond 65 years of age (and the Age Pension age is gradually increasing to 67 by 1 July 2023), most people aged 65 and over are retired (see, for example, Figure 9.1 in Wilkins et al., 2020). We would correspondingly expect welfare reliance to be relatively high among this age group. Indeed, income support for people aged 65 and over primarily comprises the Age Pension, the payment designed to support people in retirement.

Figure 3.11 shows that welfare reliance is, as expected, considerably higher among people aged 65 and over than among people aged 18 to 64 (Figure 3.9). For example, the proportion of people aged 65 and over obtaining more than half of household income from welfare is greater than 45% across the entire 2001 to 2019

Figure 3.11: Reliance on welfare among persons aged 65 and over

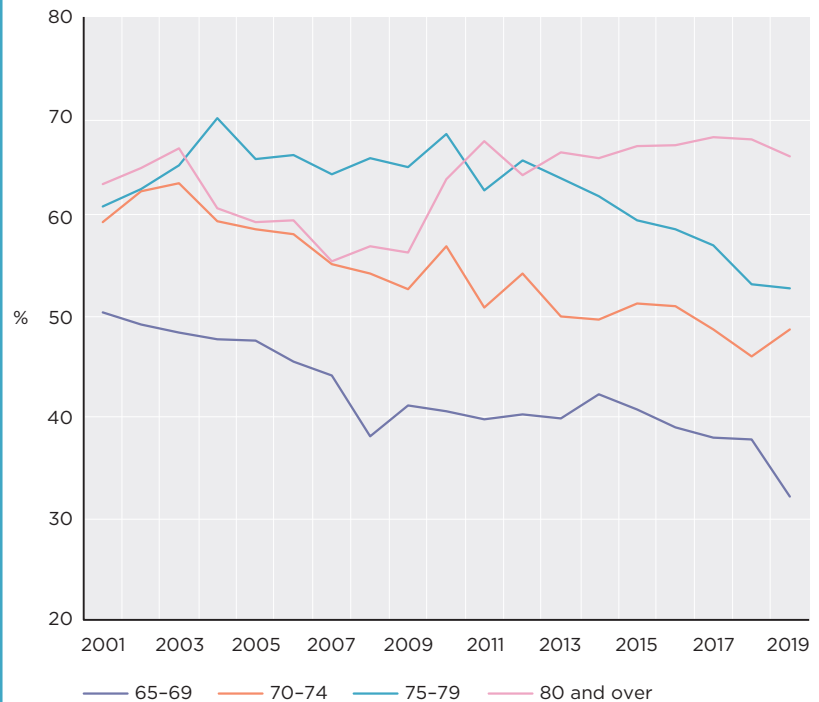


period, compared with less than 15% of people aged 18 to 64. There has, however, been a decline in welfare reliance among people aged 65 and over since 2003. In 2003, 59.9% of older people relied on welfare for more than 50% of their income, and 35.1% relied on welfare for more than 90% of their income; by 2019, these figures had respectively fallen to 47.8% and 27.8%. Increased reliance on superannuation is likely to be an important contributor to this decline, although much of the decline in reliance happened between 2003 and 2009.

Figure 3.12 examines welfare reliance among older people disaggregated into four age groups. Welfare reliance tends to be more prevalent in older age groups, although between 2004 and 2010 it was higher for the 75 to 79 age group than for the 80 and over age group. Reliance decreased for the three youngest age groups between 2001 and 2019. For the 80 and over age group, there has been little net change in the proportion reliant on welfare over the period as a whole, although there was a decline between 2003 and 2007 and a sharp rise between 2009 and 2011.



Figure 3.12: Reliance on welfare among persons aged 65 and over, by age group



Notes: A person is defined to be welfare-reliant if more than 50% of household annual income comes from welfare. Age groups are based on age at the beginning of the financial year.

## Superannuation balances at the time of retirement

As the superannuation system matures, we would expect people to be increasingly retiring with larger superannuation balances and that superannuation will be playing a growing role in supporting people in their retirement. In this section we examine data collected in 2015 and 2019, for those who had retired within the preceding four years, on their superannuation balances at retirement and what they did with their superannuation at the time of retirement. Table 3.8 presents summary statistics from this data.

The upper panel of the table shows that approximately 81% of both men who retired in the 2011 to 2015 period and men who

retired in the 2015 to 2019 period had superannuation at the time of retirement. For women, over the same two periods, the proportion with superannuation at the time of retirement rose from 84.9% to 88.1%. Among those who had superannuation, the mean balance at retirement rose from \$475,259 to \$476,744 (at December 2019 prices) for men, and rose from \$253,027 to \$289,277 for women. Median balances were lower than mean balances, but show the same patterns across the two periods and across men and women.

The lower panel of the table examines the extent to which superannuation was spent versus saved at the time of retirement (see Box 3.9, page 44). It shows that most superannuation is saved, although the proportion of superannuation spent rose for men from 7.2% in the 2011 to 2015 period to 13.4% in the 2015 to 2019 period. For women, by

### Box 3.9: HILDA Survey measurement of uses of superannuation at the time of retirement

In Waves 15 and 19, superannuation balances at the time of retirement were obtained for retirees who had retired within the preceding four years. For those who held superannuation at the time of retirement, respondents were asked whether they did each of the following with their superannuation around the time they retired:

1. Converted superannuation into a regular income, such as an allocated pension or annuity
2. Left it in the superannuation account
3. Invested it in an approved deposit fund, deferred annuity or other superannuation scheme
4. Invested it elsewhere (e.g., bank accounts, shares, property)
5. Paid off debts (e.g., home loan, car loan, business debt)
6. Paid for large expenditure items such as home renovations, holidays and motor vehicles
7. Assisted family members

In this report, items 1 to 4 are treated as forms of 'saving' and items 5 to 7 are treated as forms of 'spending'.



contrast, the proportion of superannuation spent fell from 13.1% to 10.3%.

Across the two time periods, the proportion of people spending at least some of their superannuation at the time of retirement rose from 12.7% to 16.3% for men, and fell from 16.9% to 14.7% for women. A majority of these people in fact spent all of their superannuation at the time of retirement. For example, in the 2015 to 2019 period, 10.4% of men spent all of their superannuation, which translates to 64% of the men who spent at least some of their superannuation. Similarly, 10.5% of women spent all of their superannuation, which translates to 71% of the women who spent at least some of their superannuation.

Table 3.8 further shows that retirees who spent at least some of their superannuation at the time of retirement had lower average superannuation balances than those who did not spend any of their superannuation. For example, in the 2015 to 2019 period, the mean balance for men who spent at least some of their superannuation was \$249,928,

Table 3.8: Superannuation of retirees at the time of retirement—Persons who retired between 2011 and 2019

	Men		Women	
	<i>Retired 2011-2015</i>	<i>Retired 2015-2019</i>	<i>Retired 2011-2015</i>	<i>Retired 2015-2019</i>
Proportion of retirees who had superannuation (%)	80.8	80.9	84.9	88.1
Mean balance of those who had superannuation (\$, December 2019 prices)	475,259	476,744	253,027	289,277
Median balance of those who had superannuation (\$, December 2019 prices)	340,762	343,343	121,733	150,036
<i>Use of superannuation at the time of retirement</i>				
<i>All retirees with superannuation</i>				
Mean superannuation saved (\$, December 2019 prices)	466,776	459,380	244,272	277,132
Mean superannuation spent (\$, December 2019 prices)	9,756	17,683	8,428	11,450
Proportion of superannuation spent (%)	7.2	13.4	13.1	10.3
Proportion who spent at least some of their superannuation (%)	12.7	16.3	16.9	14.7
Proportion who spent all of their superannuation (%)	7.9	10.4	12.9	10.5
<i>Retirees who spent at least some of their superannuation</i>				
Mean superannuation balance (\$, December 2019 prices)	284,701	249,928	100,823	165,726
Mean superannuation spent (\$, December 2019 prices)	76,761	108,428	49,993	78,092



while the corresponding mean for women was \$165,726. Among those not saving all of their superannuation at the time of retirement, the mean amount spent rose across the two periods, from \$76,761 to \$108,428 for men, and from \$49,993 to \$78,092 for women.

## Financial stress

While income approaches remain the most widely used basis for defining and measuring inadequacy in material living standards, other measures also potentially provide useful information on individuals' economic wellbeing. Measures of 'financial stress' provide one such piece of supplemental information.

Experience of financial stress refers to an inability to meet basic financial commitments because of a shortage of money. Measures of financial stress therefore provide direct evidence on the adequacy of economic

### Box 3.10: HILDA Survey measure of financial stress

In each wave, the self-completion questionnaire contains the following question: *Since January [survey year] did any of the following happen to you because of a shortage of money?*

- a. Could not pay electricity, gas or telephone bills on time
- b. Could not pay the mortgage or rent on time
- c. Pawned or sold something
- d. Went without meals
- e. Was unable to heat home
- f. Asked for financial help from friends or family
- g. Asked for help from welfare/community organisations

Respondents are asked to indicate which of the seven events had occurred. Experience of any one of these events can be considered an experience of financial stress, although some events, such as going without meals, probably indicate more severe stress than other events, such as inability to pay bills on time. In this report, no distinction is made between the indicators, but the condition is imposed that two or more of the indicators must be experienced for a person to be classified as in financial stress.

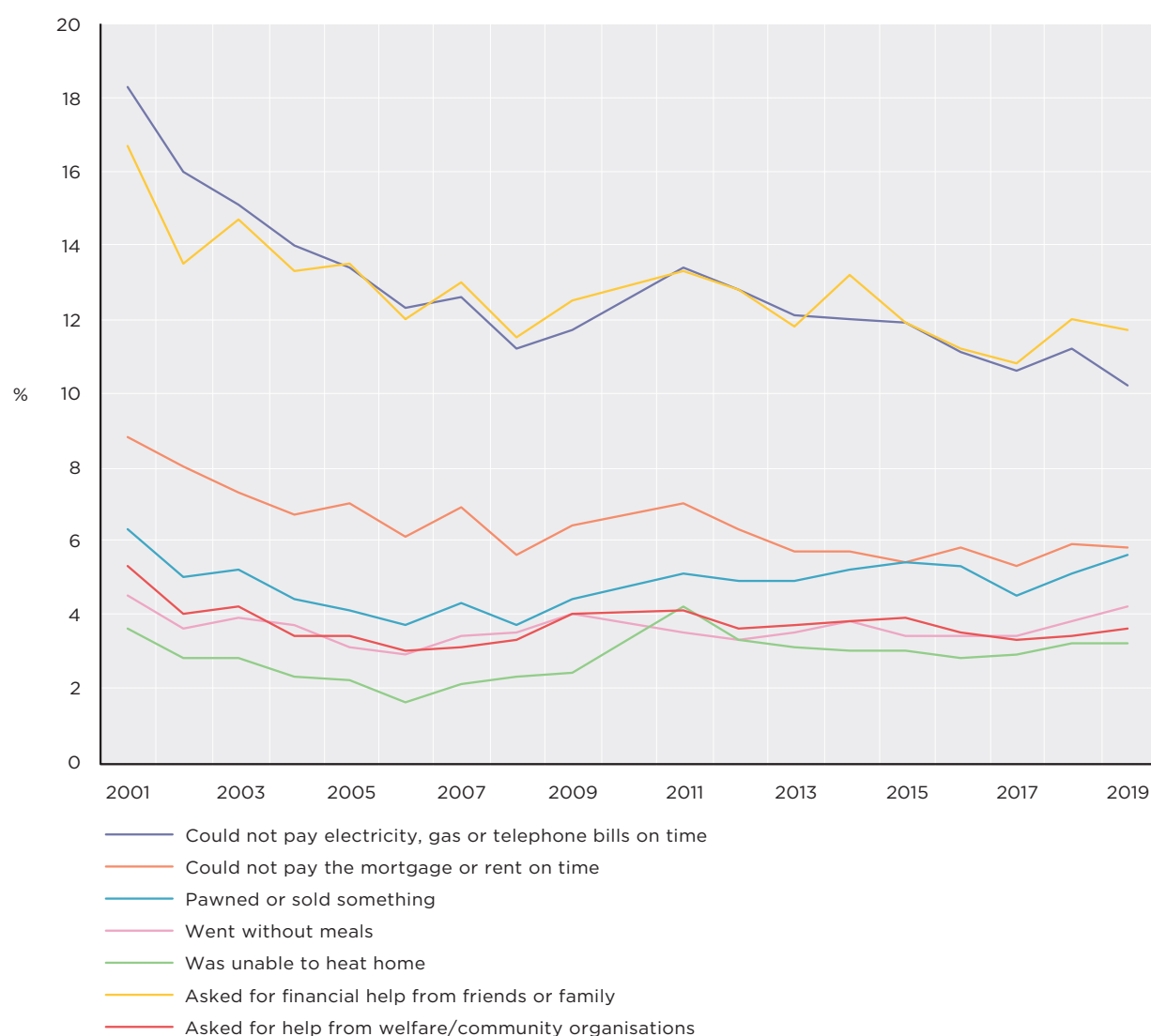
resources of individuals and households. In each wave, the self-completion questionnaire contains a question on whether, *because of a shortage of money*, the respondent had experienced each of seven events, such as not paying the rent or mortgage on time and going without meals, which facilitates the construction of measures of financial stress. (Box 3.10, page 45, itemises all seven events.)

Figure 3.13 shows the prevalence of each of these seven indicators of financial stress among people aged 15 and over between 2001 and 2019.<sup>2</sup> Inability to pay electricity, gas or telephone bills on time, and asking for financial help from friends or family, are the most commonly occurring of the seven indicators, followed by inability to pay the rent or mortgage on time. In most years, inability to heat the home is the least-common indicator.



<sup>2</sup> Estimates are not available for 2010.

Figure 3.13: Proportion of people aged 15 and over experiencing each indicator of financial stress



Prevalence rates tended to decline for all indicators up until around 2008, and then increased up to 2011. Between 2011 and 2017, the prevalence of each indicator tended to steadily decline, with the exception that there was some rise in the proportion of people reporting selling something because of a shortage of money. It is possible that the rise of low-cost online platforms for selling possessions increased the attractiveness of this option as a response to a shortage of money. Since 2017, there has been a slight uptick in the prevalence of all indicators other than inability to pay

electricity, gas or telephone bills on time.

Figure 3.14 examines the proportion of people aged 15 and over experiencing a measure of financial stress—specifically, experiencing two or more of the seven indicators shown in Figure 3.13. It presents estimates for all persons and for each of eight family types (see Box 3.4, page 25, for an explanation of the family types).

The trend in financial stress over time is quite similar across most family types, tending to decrease in prevalence up until 2008, increasing between 2008 and 2011, and thereafter remaining



relatively stable. However, levels of prevalence of financial stress are very different across family types. Single-parent families stand out as particularly prone to financial stress, while non-elderly single people also have relatively high prevalence rates.

In a marked contrast to the findings on poverty rates (Figure 3.5), the elderly have very low rates of financial stress. Figure 3.7, showing poverty rates based on income net of housing costs, shows that low housing costs are likely to be part of the explanation for this. However, it is also likely to reflect their relatively high wealth more broadly (see Wilkins et al., 2020) and their lower expenditure needs.

Persistence of financial stress from one year to the next is examined in Table 3.9. The table shows the proportion of those experiencing financial stress in one year also experiencing it in the next year, comparing across family types and across four sub-periods in the 2001 to 2019 period. As in Figure 3.14, a person is defined as being in financial stress if two or more of the seven indicators apply.

For the population as a whole, persistence of financial stress appears to be quite high. In all four sub-periods, approximately 54% of those in financial stress in one year are also in financial stress in the following year.

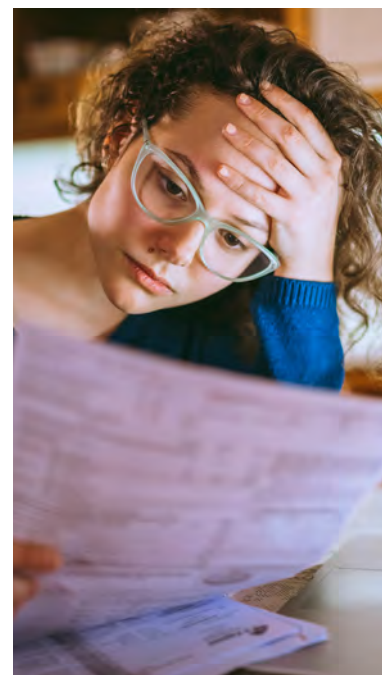


Figure 3.14: Proportion of people aged 15 and over experiencing two or more indicators of financial stress, by family type

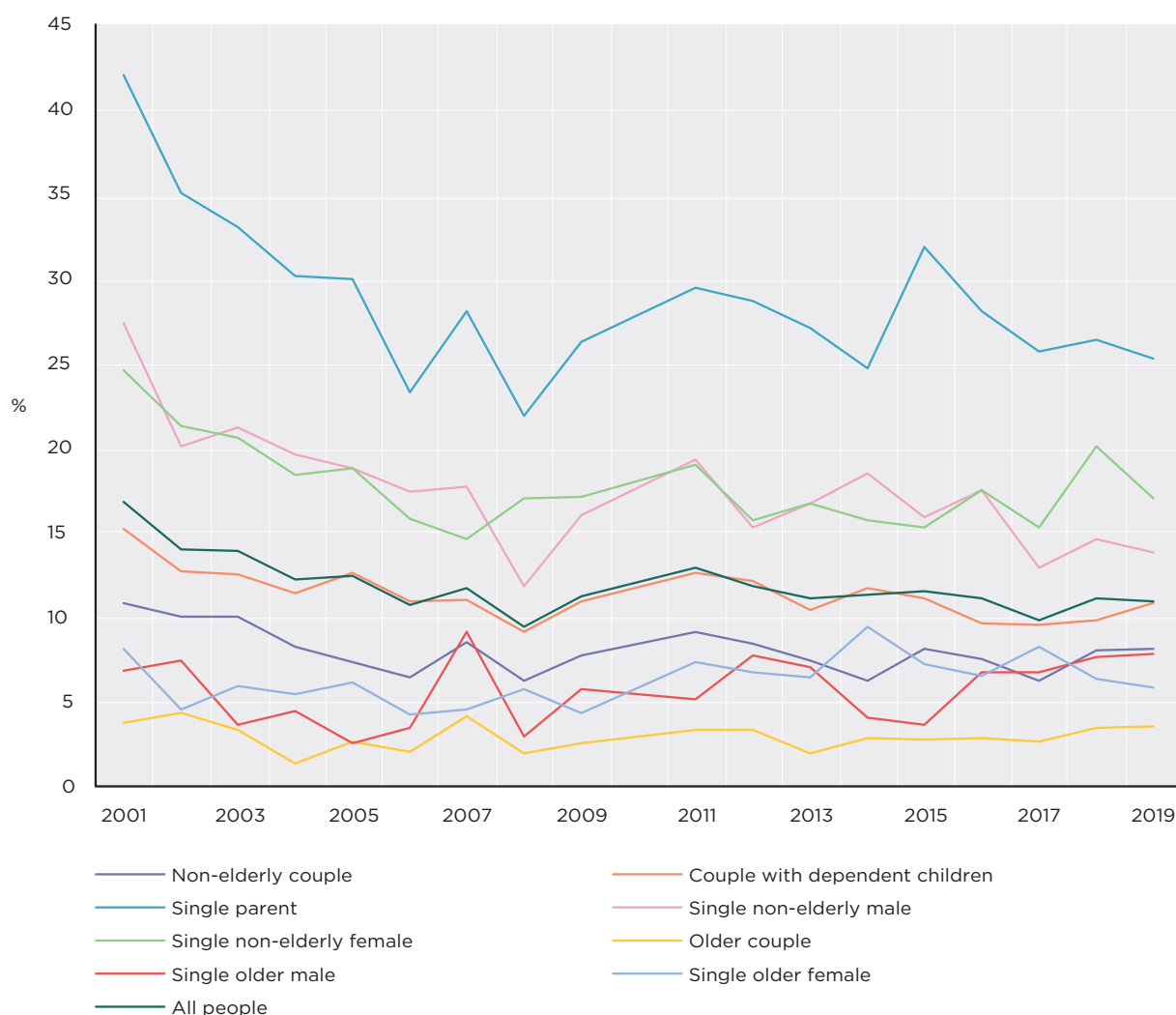


Table 3.9: Persistence of financial stress among people aged 15 and over, by family type, 2001 to 2019 (%)

	<i>Mean proportion in financial stress in any given year</i>	<i>Persistence rate</i>			
		<i>2001–2004</i>	<i>2005–2008</i>	<i>2011–2014</i>	<i>2015–2018</i>
Non-elderly couple	7.5	48.6	47.1	45.9	51.2
Couple with dependent children	11.0	55.6	57.9	57.0	56.2
Single parent	28.5	62.9	66.4	64.2	61.7
Single non-elderly male	16.3	55.7	54.7	53.6	52.6
Single non-elderly female	16.9	58.0	54.9	55.0	55.1
Elderly couple	2.7	17.3	27.5	26.8	28.3
Single elderly male	5.4	13.9	25.2	33.6	44.7
Single elderly female	6.5	34.1	42.5	47.5	46.9
All persons	11.9	54.4	55.3	54.2	54.4

Notes: Year labels for persistence rates refer to the initial years over which persistence is measured. For example, the column headed '2001–2004' presents (pooled) rates of persistence from 2001 to 2002, 2002 to 2003, 2003 to 2004 and 2004 to 2005.

There are considerable differences in rates of persistence across family types: persistence tends to be highest for the family types with the highest prevalence of financial stress (most notably, single-parent families), and lowest for the family types with the lowest prevalence of financial stress (the elderly). The notable exception is that couples with dependent children have similar rates of persistence to non-elderly single people, despite having markedly lower levels of financial stress.

Also notable is that persistence of financial stress among the elderly appears to have increased over time. In the 2001 to 2004 period, the persistence rate was 17.3% for elderly couples, 13.9% for single elderly men and 34.1% for single elderly women; in the 2015 to 2018 period, the persistence rates were 28.3%, 44.7% and 46.9% respectively. For a given prevalence of financial stress, greater persistence implies concentration of financial stress on a smaller fraction of the elderly—that is, more often it is the same people every year experiencing financial

stress. The reasons for this development are not clear, but certainly warrant investigation.

## Characteristics and events associated with financial stress

To investigate who is most susceptible to financial stress, a 'fixed-effects' panel model is estimated of the probability of being in financial stress (experiencing two or more indicators of financial stress) as a function of a range of factors. (See the Technical Appendix for an explanation of fixed-effects models.<sup>3</sup>) The results are reported in Table 3.10.

Unsurprisingly (but reassuringly), household income is a strong predictor of financial stress: each additional \$10,000 in equivalised income on average reduces the probability of financial stress by 3.5 percentage points.

Living in towns of between 1,000 and 99,999 people reduces the probability of financial stress by 3.2 percentage points compared



with living in a town or city of 100,000 or more people. This is perhaps reflective of lower housing costs in towns and small cities. However, residing in a non-urban area only reduces the probability of financial stress compared with living in a major urban area by 1.7 percentage points, perhaps because non-housing living expenses are higher in these regions.

<sup>3</sup> The fixed-effects specification required 14,873 individuals to be dropped, accounting for 100,202 observations, because they were never in financial stress or always in financial stress. As a robustness check, a random-effects model, which did not require exclusion of these individuals, was also estimated. While some differences were evident between the two models, for most explanatory variables the two models produced qualitatively very similar results.



**Table 3.10: Household characteristics associated with experience of financial stress, 2002 to 2019**

Household equivalised income (\$ '000, December 2019 prices)	-3.53
<i>Region of residence (Reference category: Major urban)</i>	
Other urban	-3.21
Other region	-1.73
<i>Family type (Reference category: Non-elderly couple)</i>	
Couple with dependent children	1.69
Single parent	7.53
Single non-elderly male	8.81
Single non-elderly female	7.12
Older couple	-3.76
Single older male	7.18
Single older female	ns
<i>Changes in partner status</i>	
Partnered	ns
Separated	4.27
<i>Disability and health of household members</i>	
Severe disability of a household member aged 15 or over	2.37
Disability of a child aged under 15	ns
Poor general health of a household member aged 15 or over	ns
Poor mental health of a household member aged 15 or over	3.69
<i>Housing tenure type (Reference category: Owner outright)</i>	
Owner with mortgage	4.72
Renter of social housing	5.87
Renter of private housing	9.80
<i>Life events experienced by a household member in the last two years</i>	
Birth or adoption of a child	2.68
Serious injury or illness	1.67
Death of spouse or child	ns
Detained in jail/correctional facility	ns
Victim of physical violence (e.g., assault)	3.17
Victim of a property crime (e.g., theft, housebreaking)	1.39
Changed residence	2.95
Changed jobs (i.e., employers)	2.61
Fired or made redundant by an employer	4.33
Retired from the workforce	ns
A weather-related disaster (e.g., flood, bushfire, cyclone) damaged or destroyed home	2.97
<i>Year (Reference category: 2002-2004)</i>	
2005-2009	-9.28
2010-2014	-8.24
2015-2019	-13.49
Number of observations	105,959

Notes: Estimates are mean marginal effects (in percentage points) from a fixed-effects logit model of the probability of experiencing two or more indicators of financial stress. See the Technical Appendix for further explanation of logit models and fixed-effects models. The sample period is 2002 to 2019, but with 2010 excluded due to the absence of financial stress data for that year. The estimation sample comprises people aged 15 and over. *ns* indicates the estimate is not significantly different from 0 at the 10% level.



Comparisons across family types show that elderly couples, followed by non-elderly couples without dependent children and single elderly women, are the least likely to experience financial stress, all else being equal. Single men, whether non-elderly or elderly, non-elderly single women and single parent families have similarly elevated probabilities of experiencing financial stress compared to people in other family types. The table also shows that moving in with a partner is not associated with significant effects on the probability of financial stress, but separating from one's partner on average increases the probability of financial stress by 4.3 percentage points.

Disability of an adult household member and poor mental health of an adult household member are associated with an increased risk of financial stress, but the presence of a child with a disability or an adult household member with poor general health is not associated with significant effects on risk of financial stress. (See Box 7.3, page 114, for an explanation of the disability variables and Box 7.4, page 114, for an explanation of the health variables.)

Renters in the private rental market are at considerably more risk of financial stress than people in other housing situations. Unsurprisingly, outright homeowners (without a mortgage) are at the least risk of financial stress, all else being equal. Thus, compared with an outright homeowner, a private renter on average has a 9.8 percentage-point higher probability of experiencing financial stress, all else being equal.

Significant effects are also found for a range of major (stressful) life events (experienced by a

member of the household in the preceding two years). Birth or adoption of a child, serious injury or illness, detention in jail, being a victim of physical violence, being a victim of a property crime, moving house, changing jobs, being dismissed from one's job and having a weather-related disaster damage or destroy one's home all substantially increase the likelihood of financial stress. No significant effects of death of a family member, incarceration or retirement are found.

Finally, all else being equal, the probability of financial stress was lowest in the 2015 to 2019 period and highest in the 2002 to 2004 period, and similar in the 2005 to 2009 and 2010 to 2014 periods.

### How do people respond to financial stress?

Experience of financial stress may, among other things, precipitate changes in housing or employment as people attempt to extract themselves from their predicament. In Table 3.11, housing and employment changes following onset of financial stress are examined.

The table shows that moving house, both in the year of onset of financial stress and in the following year, is considerably more likely for those who experience financial stress than those who do not.<sup>4</sup> In the year of onset of financial stress, 23.7% move house, and in the following year 23.3% move house, compared with 14.0% of people who do not experience financial stress. Exiting home ownership is also more common among those experiencing financial stress, although the proportion moving into home ownership is also slightly higher for those experiencing financial stress.



<sup>4</sup> Note that the housing and employment changes occurring in the year of onset of financial stress could occur before or after the onset of financial stress. They could therefore be precipitators of or responses to financial stress (or neither).

Table 3.11: Housing and employment changes associated with the onset of financial stress, 2002 to 2019

	<i>People who experienced a new episode of financial stress</i>		<i>People who did not experience a new episode of financial stress</i>
	<i>Year of onset of financial stress</i>	<i>Year after the year of onset of financial stress</i>	
Moved house (%)	23.7	23.3	14.0
Ceased being a home owner (%)	5.2	3.9	3.0
Became a home owner (%)	3.4	3.5	3.1
Changed jobs (%)	33.1	31.3	24.4
Mean change in household hours worked per week	-4.2	1.5	-1.2

On the employment front, people who experience financial stress are more likely to change jobs than people who do not experience financial stress, both in the year of onset of financial stress and in the following year. The number of hours worked per week by members of the household on average decreases by 4.2 in the year of onset of financial stress, suggesting this may be a cause of the financial stress. However, in the following year, household hours of work on average increase by 1.5 hours per week. This compares with an average 1.2 hours decrease in households not experiencing financial stress.

Household expenditure may also respond to experience of financial stress. The HILDA Survey has measured household expenditure on a number of items since 2006.<sup>5</sup> While these items are only a subset of total household expenditure, in particular excluding consumer durables and holidays, Table 3.12 indicates that financial stress leads to substantial cuts to household expenditure.

Overall, expenditure on average falls by over \$1,380 for those who experience onset of financial stress. The items on which expenditure decreases most are, in order, mortgage

repayments, groceries, clothing (men's, women's and children's combined), motor vehicle fuel, rent and meals eaten out.<sup>6</sup>

However, expenditure on some items increases for those who experienced onset of financial stress. This would suggest that these expenditure changes could be causes of financial stress, or at least symptoms of the causes of financial stress. This applies to home repairs/renovations/maintenance, child care and medicines. In the case of medicines, this could be capturing the effects of an injury or illness adversely impacting on ability to earn income.



<sup>5</sup> Expenditure data were collected in 2005, but the information collected has only been consistent since 2006. Note also that, as a result of a data quality evaluation, a number of expenditure categories were no longer collected as of 2011 and so are not examined in Table 3.12.

<sup>6</sup> It should be noted that inability to pay the rent or mortgage on time is an indicator of financial stress, so it is perhaps unsurprising that onset of financial stress is associated with large decreases in expenditure on these.

Table 3.12: Household expenditure changes associated with the onset of financial stress, 2006 to 2019  
(\$, December 2019 prices)

	<i>Mean annual expenditure on the item in the year before onset of financial stress</i>	<i>Mean change in annual expenditure on the item following onset of financial stress</i>
Groceries	9,683.09	-309.34
Alcohol	1,364.32	-46.80
Tobacco	1,259.31	2.40
Public transport and taxis	512.66	-8.22
Meals eaten out	2,607.79	-168.92
Motor vehicle fuel	2,487.67	-201.20
Men's clothing and footwear	475.60	-56.06
Women's clothing and footwear	725.83	-93.85
Children's clothing and footwear	509.80	-69.87
Telephone rent, calls and internet charges	2,181.18	3.21
Health insurance	784.65	-5.93
Other insurance	1,193.50	15.46
Fees paid to health practitioners	699.73	-21.36
Medicines, prescriptions, pharmaceuticals, alternative medicines	392.76	27.17
Electricity bills, gas bills and other heating fuel	1,635.40	11.13
Home repairs/renovations/maintenance	1,846.54	64.71
Motor vehicle repairs/maintenance	936.10	-69.69
Education fees	1,260.38	6.56
Rent	7,369.94	-198.56
Mortgage	9,620.58	-325.87
Child care	422.35	63.15
Total	47,969.18	-1,381.88

*Notes:* The table examines the period 2006 to 2019 and is restricted to people aged 15 and over living in households that remain the same size over the two-year period over which expenditure changes are evaluated.





# 4

## The labour market

*Roger Wilkins*



A major focus of the HILDA Survey is the labour market activity of household members. In each wave, detailed information is obtained from respondents to ascertain their labour force status, earnings, hours worked, type of work undertaken, employer characteristics and a host of other work-related aspects. Perceptions and attitudes on a range of labour market issues, such as preferred hours of work, satisfaction with the current main job and likelihood of retaining the current job, are also collected every year. Periodically, additional information is gathered on retirement intentions, attitudes to work, work-related training and experience of job-related discrimination.

Such an emphasis on the labour market reflects the pivotal role employment plays in determining economic and social wellbeing. Not only is it the key determinant of the majority of households' incomes, it is key to participation in society, both economically and socially. Understanding individuals' labour market outcomes, and the causes and consequences of those outcomes, is correspondingly core to the purpose of the HILDA Survey.

### Labour force status

Standard statistical summaries of the labour force, such as those produced by the Australian Bureau of Statistics (ABS) in its monthly labour force statistics, divide the population aged 15 and over into 'employed', 'unemployed' and 'not in the labour force' (see Box 4.1, page 54). The HILDA Survey collects information from respondents each year enabling classification of all respondents into one of these three categories. This allows us to produce cross-sectional labour statistics of the same kind as those produced by the ABS but, more importantly, it facilitates longitudinal analysis of many aspects of labour force status mobility—that is, movements over time across different labour force states.

Table 4.1 presents cross-sectional HILDA Survey estimates of the labour force status of the population aged 18 to 64 for each

year over the 2001 to 2019 period. They show, consistent with ABS labour force survey data, that the global financial crisis (GFC) marked something of a turning point for the Australian labour market. From 2001 until 2008, employment participation had been rising and unemployment had been falling. The labour market has subsequently been somewhat mixed. For women, the employment rate was relatively stagnant, at approximately 69% to 70%, between 2009 and 2016, but then grew quite strongly, reaching a record high of 74.2% in 2019. For men, however, the proportion employed has remained below the 2008 peak of 83.6% and the proportion of men unemployed has remained above the 2008 trough.

The proportion of men aged 18 to 64 employed part-time rose in 2011 and 2012, and has remained at approximately 14% in most years since then, up from the trough of 10.2% in 2008. However, the proportion

#### Box 4.1: Labour force status

In this report, insofar as is possible, we follow international and Australian Bureau of Statistics (ABS) conventions in determining an individual's labour force status. In particular:

- A person is classified as **employed** if that person had a job, business or farm in the week leading up to the interview, and had either worked in the last four weeks or had not worked but: had been in paid work for any part of the last four weeks; or had been on worker's compensation and expected to return to work for the same employer; or had not worked because of a strike or lock-out.
- An employed person is classified as employed part-time if usual weekly hours of work in all jobs total less than 35. Otherwise, an employed person is classified as **employed full-time**.<sup>a</sup> A person employed part-time who would prefer to work more hours and is available to work additional hours is additionally classified as **underemployed**.
- A non-employed person is classified as **unemployed** if that person had actively looked for work at any time in the four weeks preceding the interview and was available to start work in the week preceding the interview; or if that person was waiting to start a new job within four weeks from the date of interview and could have started in the week preceding the interview if the job had been available.
- A non-employed person who is not unemployed is classified as **not in the labour force**. Among people not in the labour force, several distinctions are often made based on the degree of 'attachment' to the labour market. This includes identifying the **marginally attached**—people who want to work and are either available to start work but are not currently looking, or are looking for work but are not currently available.

Several key statistics are commonly produced based on these definitions of labour force status, including the **participation rate** (the proportion of the population in the labour force) and the **unemployment rate** (the proportion of those in the labour force who are unemployed).

<sup>a</sup> The definition of part-time employment adopted in this report differs from the definition the ABS uses in its Labour Force Survey. The ABS definition requires both usual and current actual weekly hours to be less than 35; otherwise, a person is classified as employed full-time.

employed part-time dipped to 13.3% in 2019. Full-time employment of men showed a continued trend decline between 2008 and 2016, falling from a peak of 73.4% in 2008 to 66.9% in 2016. There was, however, some recovery in full-time employment of men beginning in 2017, with the proportion employed on this basis increasing to 68.2% by 2019. For women aged 18 to 64, the proportion employed full-time likewise declined in the wake of the GFC but has since more than recovered, to be 40.3% in 2019, 0.4 percentage points above its 2008 peak of 39.9%.

What is not clear from Table 4.1 is how this overall softening and then partial recovery of the labour market has translated into the rates at which various transitions in labour force status occur. For example, a lift in employment could arise from an increase in transitions into employment, or decreased transitions out of employment.



Table 4.1: Labour force status of the population aged 18 to 64, 2001 to 2019 (%)

	<i>Employed</i>	<i>Unemployed</i>	<i>Not in the labour force</i>	<i>Total</i>	<i>Employed full-time</i>	<i>Employed part-time</i>
<i>Men</i>						
2001	79.7	5.8	14.5	100.0	68.7	11.0
2002	80.3	4.9	14.8	100.0	69.3	11.0
2003	80.5	4.0	15.5	100.0	69.2	11.3
2004	82.0	3.3	14.7	100.0	70.4	11.7
2005	82.2	3.6	14.2	100.0	71.3	10.9
2006	82.4	3.3	14.3	100.0	70.6	11.8
2007	83.0	2.9	14.2	100.0	71.7	11.3
2008	83.6	3.0	13.4	100.0	73.4	10.2
2009	81.7	4.7	13.6	100.0	70.2	11.6
2010	83.2	3.8	13.0	100.0	71.9	11.3
2011	83.0	3.6	13.4	100.0	69.9	13.1
2012	82.5	4.3	13.2	100.0	68.8	13.7
2013	81.4	4.3	14.4	100.0	67.6	13.7
2014	81.6	4.8	13.6	100.0	67.0	14.5
2015	82.1	4.7	13.2	100.0	67.3	14.8
2016	81.1	4.4	14.5	100.0	66.9	14.1
2017	81.8	4.2	14.0	100.0	68.1	13.7
2018	82.3	3.9	13.8	100.0	68.1	14.1
2019	81.5	4.0	14.5	100.0	68.2	13.3
<i>Women</i>						
2001	64.3	3.7	32.0	100.0	35.3	28.9
2002	64.0	3.7	32.3	100.0	34.6	29.4
2003	64.5	3.0	32.5	100.0	34.7	29.8
2004	65.6	3.4	31.0	100.0	35.2	30.4
2005	66.8	3.1	30.1	100.0	35.6	31.2
2006	68.8	2.5	28.7	100.0	37.9	30.9
2007	69.8	2.8	27.5	100.0	39.0	30.8
2008	70.3	3.1	26.7	100.0	39.9	30.4
2009	69.8	3.0	27.3	100.0	38.1	31.6
2010	69.5	3.1	27.4	100.0	38.5	31.0
2011	68.5	3.7	27.8	100.0	37.0	31.5
2012	68.5	3.2	28.4	100.0	36.5	32.0
2013	68.6	3.9	27.5	100.0	37.1	31.5
2014	68.7	3.9	27.5	100.0	36.9	31.8
2015	70.1	3.9	26.1	100.0	37.6	32.5
2016	69.6	3.7	26.7	100.0	38.3	31.2
2017	71.3	3.6	25.1	100.0	39.1	32.2
2018	72.5	3.1	24.5	100.0	39.2	33.3
2019	74.2	2.9	22.9	100.0	40.3	33.8

Note: Cells may not add up to row totals due to rounding.



Figure 4.1 examines this issue by describing one-year transitions between employment and non-employment of people aged 18 to 64 over the 2001 to 2019 period. The figure shows the proportion of non-employed individuals moving into employment from one year to the next, and the proportion of employed individuals moving into non-employment from one year to the next.

Compared with women, men have lower transition rates out of employment, and higher transition rates into employment, in large part because of the effects of childbirth on women's employment participation. In any given year, approximately 25% of non-employed men aged 18 to 64 transition into employment, while approximately 5% of employed men aged 18 to 64 leave employment.

Approximately 20% of non-employed women aged 18 to 64 move into employment each year, and just under 10% of employed women aged 18 to 64 leave employment.

While there are no clear trends in transition rates sustained over the full 2001 to 2019 period, several patterns are evident. For men, there was a steady increase in the rate of transition out of employment between 2007 and 2012, from 4.4% to 6.3%; subsequent to 2012, the transition rate has shown no clear trend, hovering between 4.9% and 5.9%. For women, there was a sharp rise in transitions out of employment between 2007 and 2009, reaching a peak of 10.4% in 2009. Since then, there has been a downward trend in the rate of female transitions out of employment, which has been at approximately 7% in the most recent years.

The male rate of transition into employment has fluctuated from year to year, but shows no clear pattern over time. However, since 2016 it has fallen considerably, and the rate of transition into employment between 2018 and 2019 was only 19.3%, the lowest observed in the HILDA Survey period. For women, the rate of transition into employment rose between 2001 and 2004, declined between 2004 and 2008, rose between 2008 and 2010 and was stable between 2010 and 2015. Between 2015 and 2017, the female rate of transition into employment rose sharply, reaching 25.1% in 2017, and then fell back to 22.5% in 2018. Significantly, the rate of transition into employment was, for the first time, higher for women than men in 2017, and remained higher in 2018.



Figure 4.1: Rates of movement into and out of employment from one year to the next—People aged 18 to 64



Notes: Years on the horizontal axis refer to the first year of the two-year transition period. For example, 2001 refers to transitions between 2001 and 2002.



Figure 4.2 probes more deeply into labour market transitions by distinguishing between full-time and part-time employment. The upper two panels present transitions from non-employment, showing that men have higher rates of transition to full-time employment, while, in most years, women have a higher rate of transition into part-time employment. Between 2008 and 2013, there was a large increase in the male rate of transition from non-employment to part-time employment. However, it subsequently declined, reaching its lowest observed level of 7.9% between 2018 and 2019.

While there is considerable volatility in the proportion of non-employed men moving into full-time employment from one year to the next, over the 2001 to 2019 period as a whole there has been a trend decline in this transition rate. For women, Figure 4.2 shows that the increase in the rate of transition from non-employment into employment since 2015 that is evident in Figure 4.1 has involved increases in both transitions into part-time employment and transitions into full-time employment.

The second panel of Figure 4.2 examines transitions from part-time employment. Men are much more likely than women to move from part-time employment to full-time employment, while men and women have similar rates of movement from part-time employment to non-employment. The rate of movement from part-time employment to full-time employment tended to decline for men up until 2005, since when there has been no clear trend.

For women, there has been a trend decline in the rate of movement from part-time employment into non-employment—although this trend was interrupted by the GFC, when there was a spike in the

rate of movement into non-employment. There was also a slight trend decline in the rate of movement from part-time employment to full-time employment up until 2013, but this transition rate increased quite rapidly over the following two years, although it has again trended downwards since 2015.

The bottom panel of Figure 4.2 examines transitions out of full-time employment. Women have higher rates of transition out of full-time employment, to both non-employment and part-time employment. The rate of transition to part-time employment is approximately 10–12% for women, compared with approximately 4% for men, while the rate of

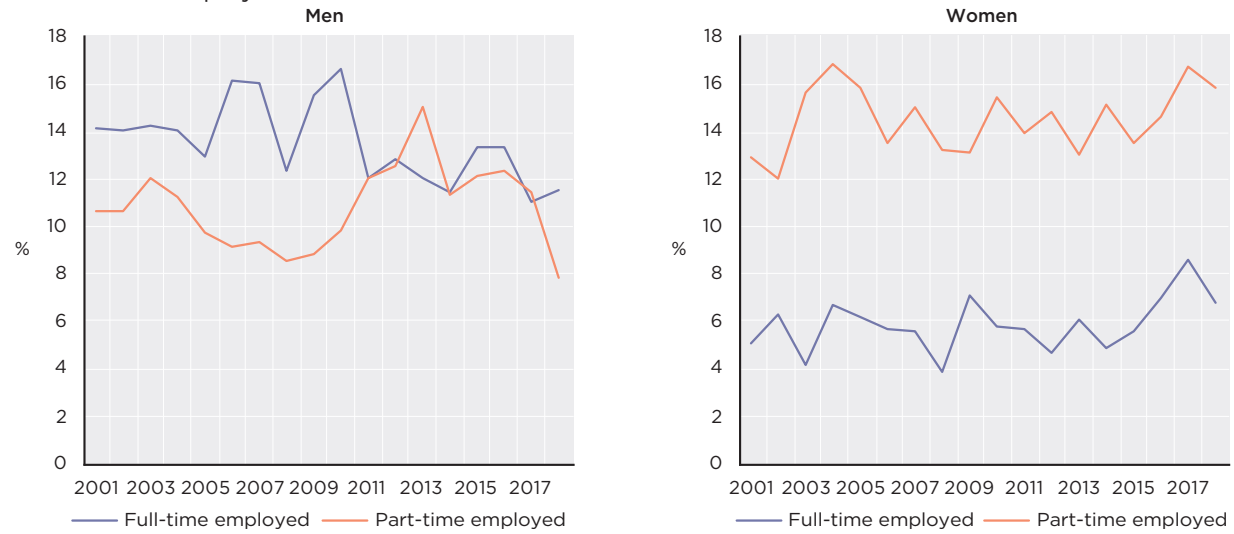
transition to non-employment is approximately 5% for women and 4% for men.

Between 2007 and 2012 there was a slight but steady rise in the proportion of full-time employed men transitioning to both part-time employment and non-employment. Since 2012, the broad trend has been for a decline in the proportion of full-time employed men moving into non-employment. For women, the rate of transition from full-time employment to non-employment has trended downwards over this century, while transitions from full-time employment to part-time employment, after rising between 2005 and 2008, have since declined slightly.

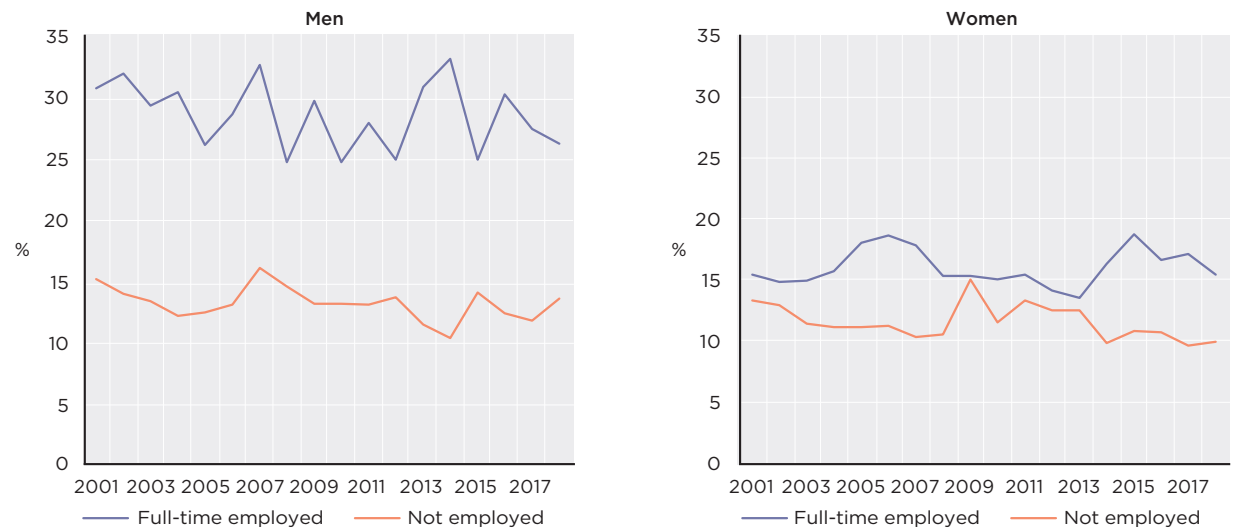


Figure 4.2: Rates of movement between non-employment, part-time employment and full-time employment from one year to the next—People aged 18 to 64

A. From non-employment



B. From part-time employment



C. From full-time employment



Notes: Years on the horizontal axis refer to the first year of the two-year transition period. For example, 2001 refers to transitions between 2001 and 2002.

## Labour market earnings

### Earnings levels and distribution

Earnings represent a key dimension of labour market outcomes. A worker's earnings per hour measures the rate at which their labour is rewarded in the labour market, and thus provides a measure of the value of that worker's labour. Earnings are also an important contributor to an individual's economic wellbeing, being the main income source for most working-age people.

Figures 4.3 to 4.6 provide an overall picture of earnings outcomes and changes over the period spanned by the HILDA Survey. They present graphs of summary measures of the male and female real earnings distributions over the 2001 to 2019 period, plotting the mean, median, 10th percentile, 90th percentile and Gini coefficient. Figure 4.3 examines weekly earnings of full-time employees, Figure 4.4 examines hourly earnings of part-time employees, Figure 4.5 examines weekly earnings of all employees and Figure 4.6 examines hourly earnings of all employees.<sup>1</sup>

Over the full 2001 to 2019 period, the graphs show that mean weekly earnings of full-time employees increased by 22.5% for males and 31.0% for females, and the Gini coefficient (see Box 3.3, page 24) increased by 2.9% for males and 13.2% for females, indicating that there has been a rise in earnings inequality since 2001. However, the Gini coefficient for males has been

#### Box 4.2: HILDA Survey measures of labour market earnings

The HILDA Survey does not ask respondents to report their hourly wage; rather, usual weekly (typically gross) earnings and usual weekly hours of work are obtained from everyone who is employed. Hourly rates of pay can then be calculated from this information. The hourly rate of pay so obtained is 'current usual earnings per hour worked'. While the hourly wage rate is the appropriate focus when interest is in the rate at which labour is rewarded, one concern that arises in hourly wage rate analysis is that additional measurement error is introduced by dividing reported weekly earnings by reported weekly hours of work. This provides one rationale for examining weekly earnings, at least as an augmentation to the study of hourly earnings. Another reason for examining weekly earnings is that, for full-time employees who are paid a salary, the notion of an hourly wage is less relevant. For example, a full-time employee may report working more than 38 hours per week but may implicitly only be paid for 38 hours.

trending down since 2013, falling from 0.301 to 0.287 in 2019.

While there is considerable growth in mean and median weekly earnings of male full-time employees over the period as a whole, there has been no increase since 2014. Mean and median earnings of female full-time employees, by contrast, have continued to grow over the whole 2001 to 2019 period.

Collectively, the recent movements in both average levels and inequality of male and female full-time employee earnings distributions imply that there has been some convergence between

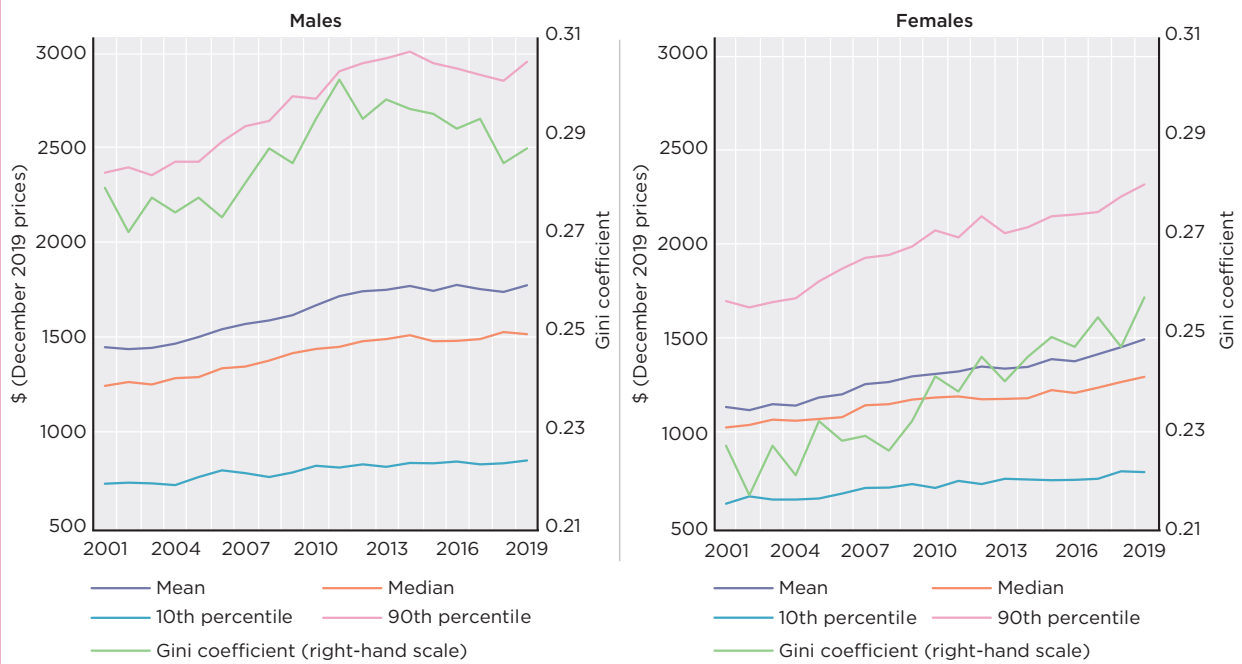
full-time employee male and female earnings distributions in recent years.

For hourly earnings of part-time employees, between 2001 and 2019, the mean increased by 31.4% for males and by 20.7% for females. The Gini coefficient for hourly earnings of part-time employees exhibits considerable year-to-year fluctuation for males, so it is difficult to discern an underlying trend. However, a downward trend is clearly evident for females since 2005, the Gini coefficient decreasing from approximately 0.32 in that year to approximately 0.28 in 2019.



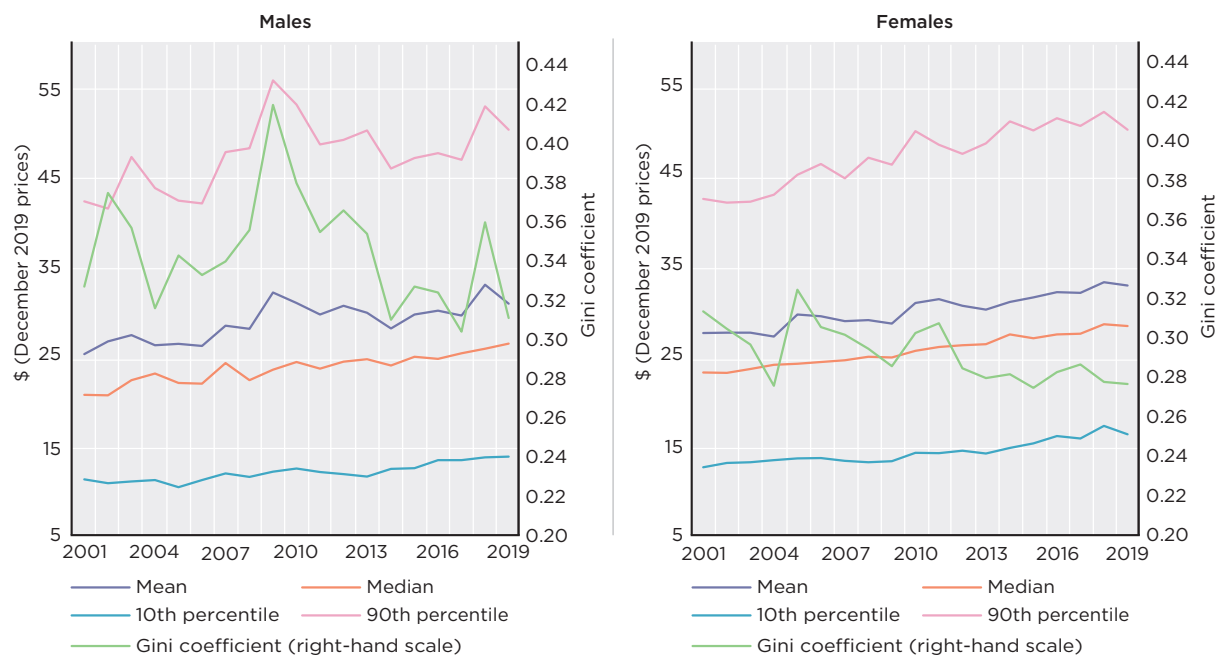
<sup>1</sup> See Box 4.2, page 59, for an explanation of the earnings measures. Note further that Figures 4.3 to 4.6 are for earnings of employees and therefore exclude earnings of the self-employed and employers, whose earnings are often confounded with returns on capital invested in the business, either because reported earnings include a return on capital, or because reported capital income includes a component that is actually a return on labour. In addition, in Figures 4.3 and 4.4, where an employee holds more than one job, we restrict analysis to earnings and hours worked in the employee's main job. Figures 4.5 and 4.6 examine earnings in all jobs (combined).

Figure 4.3: Weekly earnings in main job of full-time employees



Note: Weekly earnings less than \$100 at December 2019 prices have been excluded.

Figure 4.4: Hourly earnings in main job of part-time employees



Note: Hourly wages less than \$2 and more than \$600 at December 2019 prices have been excluded.







Figure 4.5 provides a sense of the total distribution of earnings among all employees—that is, how much total wage and salary income each employee receives, irrespective of part-time or full-time status. This perhaps gives a better indication of how, on average, employees are faring, and of the extent of inequality in the labour market.

For both males and females, the growth in mean weekly earnings between 2001 and 2019 is almost

identical for all employees as for full-time employees, rising by 22.5% for males and 32.2% for females. The growth in mean weekly earnings of all female employees is markedly higher than the 20.7% increase in mean hourly earnings of female part-time employees. This reflects the growth in full-time employment evident in Table 4.1, as well as growth in the mean weekly hours of female part-time employees (from 18.4 in 2001 to 20.2 in 2019).

The Gini coefficient for weekly earnings of all male employees remained relatively unchanged between 2001 and 2007, and then rose sharply up to 2011; since 2013 it has been declining, with the fall particularly sharp between 2016 and 2018. The sharp rise in the Gini coefficient is not evident for female employees, and indeed the Gini coefficient has hovered at approximately 0.35 for the entire 2001 to 2019 period.

Figure 4.5: Weekly earnings in all jobs of all employees

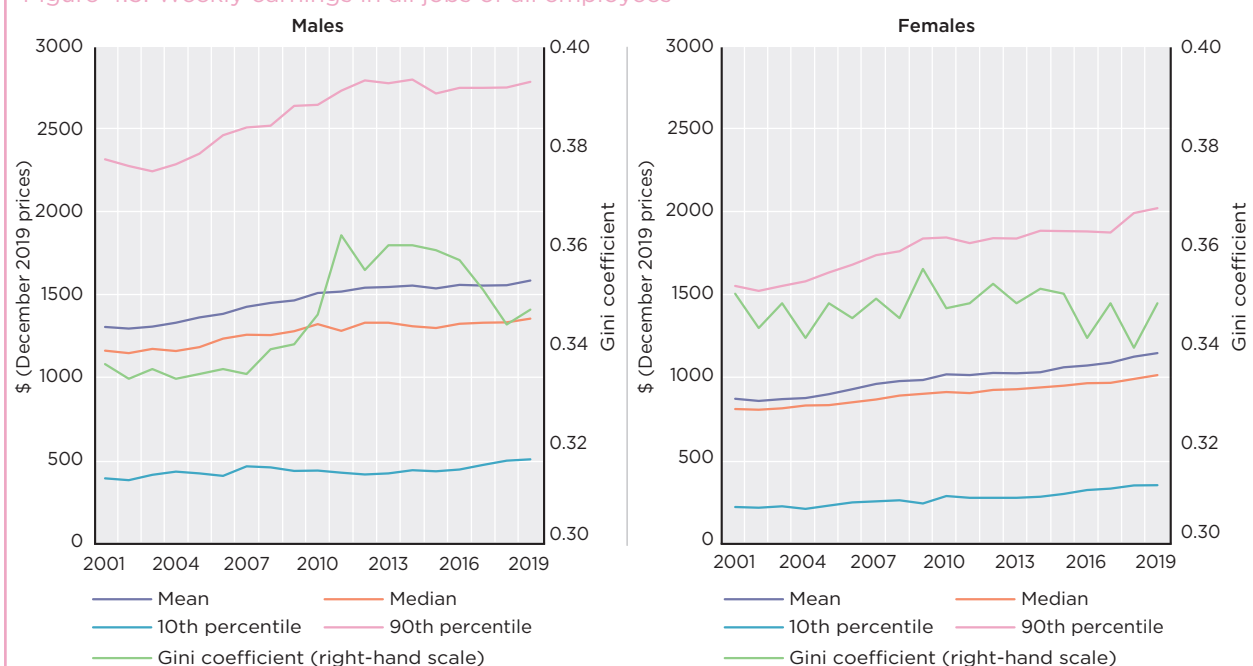
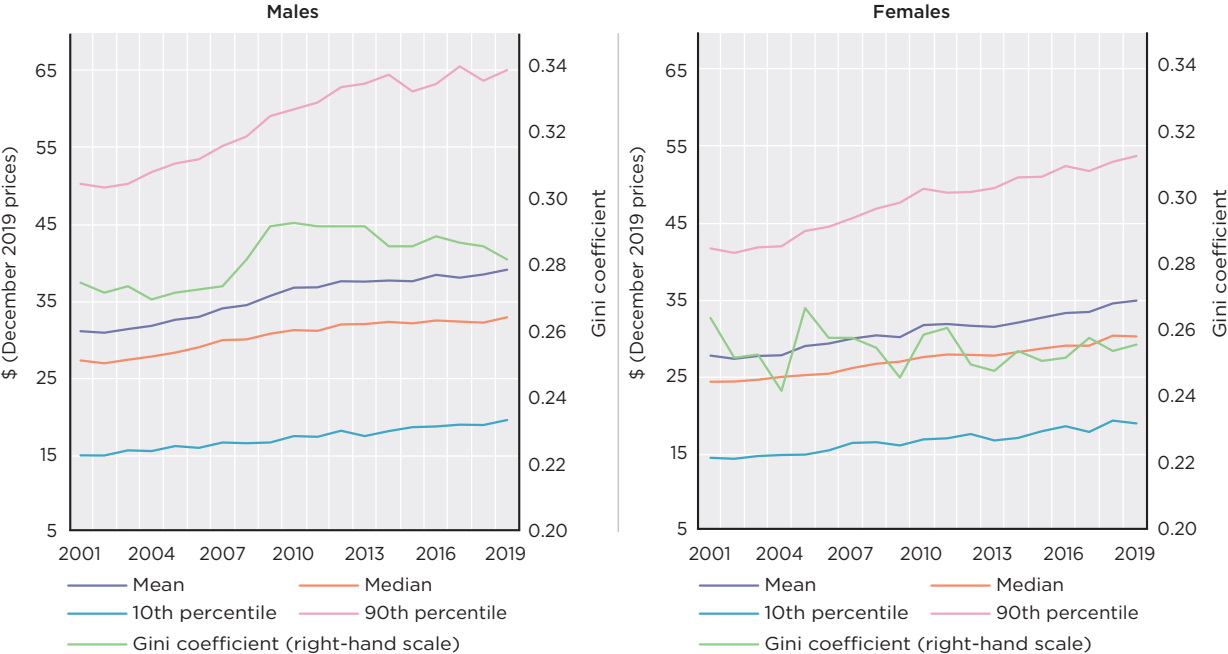


Figure 4.6 provides an overall picture of hourly rates of pay of all employees. Interestingly, both males and females have sustained consistent growth in mean hourly wages, implying the stagnation in mean weekly earnings of male full-time

employees is at least partially attributable to a decline in average hours worked by full-time employees. Indeed, analysis of the HILDA Survey data shows that mean weekly hours of work of male full-time employees fell slightly from 44.9 to 44.4

between 2014 and 2019. Inequality in hourly earnings has been broadly unchanged for female employees, while for males there was a substantial increase between 2007 and 2009, since when there has been a gradual but sustained decline.

Figure 4.6: Hourly earnings in all jobs of all employees



## Method of setting pay

The HILDA Survey has been collecting information on how the pay of employees is set in every wave since 2008. Each year, employees are asked if their pay is set by a collective (enterprise) agreement, by an individual agreement (or contract), by a combination of collective/enterprise agreement and individual agreement, or if they are paid exactly the award rate.

Table 4.2 presents the proportion of employees reporting each method of setting pay (where employees reporting a combination of collective and individual agreements are classified as covered by a collective agreement, and all public sector employees are assumed to be covered by a collective agreement irrespective of reported method). The HILDA Survey data indicate that pay is most commonly set by a collective agreement, followed by individual agreement and then the minimum rate specified in an industrial award. Between 2008 and 2019, there was a slight



increase in collective agreements as the method of setting pay and a slight decrease in the proportion paid the minimum

rate specified in an award. Also notable is a decline in the proportion reporting that they do not know how their pay is set.

Table 4.2: Method of setting pay—Employees, 2008 to 2019 (%)

	<i>Paid exactly the award rate</i>	<i>Collective agreement</i>	<i>Individual agreement</i>	<i>Don't know</i>	<i>Total</i>
2008	20.0	41.5	35.1	3.4	100.0
2009	21.6	43.9	31.6	2.9	100.0
2010	20.5	43.8	32.8	3.0	100.0
2011	20.2	44.2	33.1	2.5	100.0
2012	18.8	44.0	34.5	2.6	100.0
2013	19.0	44.4	33.8	2.8	100.0
2014	18.2	43.6	35.2	3.0	100.0
2015	19.9	43.2	34.8	2.1	100.0
2016	20.5	41.9	36.0	1.6	100.0
2017	19.4	42.1	36.2	2.4	100.0
2018	19.4	42.3	36.5	1.7	100.0
2019	18.5	43.9	35.8	1.9	100.0

Notes: Cells may not add up to row totals due to rounding. Public sector employees who reported being paid exactly the award rate have been reclassified as having pay set by a collective agreement (Wilkins and Wooden, 2011).





Table 4.3: Method of setting pay of employees, by sex, age group and firm size, 2008 to 2010 and 2017 to 2019 (%)

	<i>Paid exactly the award rate</i>	<i>Collective agreement</i>	<i>Individual agreement</i>	<i>Don't know</i>	<i>Total</i>
<b>Sex</b>					
<i>2008 to 2010</i>					
Males	17.8	41.5	38.2	2.4	100.0
Females	23.8	44.7	27.8	3.8	100.0
<i>2017 to 2019</i>					
Males	16.3	39.7	42.2	1.7	100.0
Females	21.9	45.9	30.0	2.2	100.0
<b>Age group</b>					
<i>2008 to 2010</i>					
15–24	38.6	27.9	26.6	6.8	100.0
25–34	15.0	39.8	42.6	2.6	100.0
35–44	16.3	44.9	37.1	1.7	100.0
45–54	16.7	54.5	26.4	2.4	100.0
55 and over	17.4	50.4	30.4	1.7	100.0
<i>2017 to 2019</i>					
15–24	39.1	27.9	27.9	5.1	100.0
25–34	17.7	38.7	41.6	2.0	100.0
35–44	11.3	45.9	41.8	1.0	100.0
45–54	13.8	49.4	36.0	0.8	100.0
55 and over	15.1	54.2	29.5	1.1	100.0
<b>Firm size</b>					
<i>2008 to 2010</i>					
Fewer than 20 employees	30.2	12.9	52.3	4.6	100.0
20–99 employees	26.2	25.6	43.9	4.3	100.0
100 or more employees	15.4	57.4	25.3	2.0	100.0
<i>2017 to 2019</i>					
Fewer than 20 employees	28.6	11.3	57.8	2.3	100.0
20–99 employees	23.4	23.8	50.5	2.2	100.0
100 or more employees	14.6	56.8	26.9	1.6	100.0

Note: Cells may not add up to row totals due to rounding.



Table 4.3 examines how method of setting pay differs by sex, age group and firm size in two time periods: 2008 to 2010 and 2017 to 2019. In both time periods males were considerably more likely than females to have pay set by individual agreement. Perhaps unsurprising is that people aged 15 to 24 are the most likely to be paid the award rate.

In the 2008 to 2010 period, collective agreements were most common among those aged 45 to 54, while individual agreements were most common among those aged 25 to 34. However, in the 2017 to 2019 period, collective agreements were most common

among those aged 55 and over, and individual agreements were similarly common among those aged 25 to 34 and those aged 35 to 44.

The bottom panel of Table 4.3 shows that small firms are much more likely to pay the award rate or have individual agreements, while large firms are much more likely to have collective agreements. Moreover, between 2008 and 2010 and 2017 and 2019, there was a decrease in the proportion of employees of both small and medium-sized firms with pay set by a collective agreement—although there was also a slight decrease in the use of collective agreements for employees of large firms.

Individual agreements increased for all three firm sizes, but increased by more for small and medium-sized firms.

Differences in the employment characteristics of employees by method of setting pay are examined in Table 4.4 for two (pooled) periods: 2008 to 2010 and 2017 to 2019. In the 2008 to 2010 period, 53.1% of award-reliant employees were employed part-time, compared with 27.1% of those on collective agreements and 22.8% on individual agreements. The same pattern is evident in the 2017 to 2019 period, but the part-time share of employment was higher for all methods of setting pay.



Table 4.4: Employment characteristics of employees by method of setting pay, 2008 to 2010 and 2017 to 2019

	2008-2010			2017-2019		
	Award	Collective agreement	Individual agreement	Award	Collective agreement	Individual agreement
Mean weekly hours of work	28.9	36.6	38.9	27.9	35.9	37.8
Employed part-time (%)	53.1	27.1	22.8	57.1	31.9	25.4
Work 50 or more hours per week (%)	6.5	12.7	21.6	4.7	11.4	18.9
<i>Type of employment contract (%)</i>						
Permanent/ongoing	51.9	75.6	74.2	45.1	72.8	72.8
Fixed-term	4.6	12.2	9.8	4.5	13.9	9.5
Casual	43.5	12.3	16.0	50.4	13.3	17.7
Total	100.0	100.0	100.0	100.0	100.0	100.0
<i>Firm size (%)</i>						
Fewer than 20 workers	31.1	6.3	32.1	30.0	5.2	31.0
20 to 99 workers	19.8	8.9	19.8	19.0	8.4	21.0
100 or more workers	49.0	84.8	48.1	51.0	86.3	48.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
Mean job tenure (years)	4.2	8.4	5.1	3.7	8.3	5.4
Work weekends (%)	40.6	26.4	21.7	46.0	29.6	22.1
Work nights or irregular hours (%)	30.4	25.2	14.8	30.5	26.2	13.1
Mean hourly wage (\$, December 2019 prices)	23.29	35.86	36.76	25.21	38.86	39.68
Mean weekly wage (\$, December 2019 prices)	686.55	1,310.22	1,437.35	704.54	1,404.97	1,515.49
Mean household equivalised income (\$, December 2019 prices)	53,072	65,644	69,020	54,226	68,455	71,061

Notes: Table excludes employees who did not know how their pay was set. Cells may not add up to column totals due to rounding.

Award-reliant employees also have the lowest share in permanent or ongoing roles, and the highest proportion in casual employment (see Box 4.3, page 66). Between the 2008 to 2010 and 2017 to 2019 periods, the proportion employed on a casual basis rose from 43.5% to 50.4%, compared with an increase from 12.3% to 13.3% for those on collective agreements and an increase from 16.0% to 17.7% for those on individual agreements.

Consistent with the evidence in Table 4.3, employees covered by collective agreements are much more likely to work for large employers than employees paid the award rate or on an individual agreement.

Nonetheless, approximately 50% of workers paid the award rate or on an individual agreement work for employers with 100 or more employees.

Job tenure is on average highest among those on collective agreements and lowest among those paid the award rate. Working weekends, nights or irregular hours is most common for award-reliant employees and least common for employees on individual agreements. As we would expect, award-reliant employees have the lowest average hourly and weekly wages. They also have the lowest average household equivalised incomes of the three groups of employees. Those on individual agreements have the highest average wages and household incomes, although the differences from those on collective agreements are relatively small.

In Table 4.5, a regression approach is taken to identify the association between job characteristics and method of setting pay. The table presents 'mean marginal effects' estimates obtained from multinomial logit models (explained in the Technical Appendix) of the probability an employee has pay

### Box 4.3: Types of employment contract

Three types of employment contract are distinguished in this report:

- i) Fixed-term contracts, defined as employment contracts that end at a specified date or upon completion of a specific task.
- ii) Casual employment. This has long been recognised in industrial awards, despite ambiguity about the legal definition of casual employment up until 22 March 2021, when an amendment to the *Fair Work Act 2009* was passed providing a statutory definition. The amendment essentially gave legal standing to what casual employment was commonly understood to be (for example, Creighton and Stewart, 2010), defining it as employment with no firm advance commitment from the employer to continuing and indefinite work according to an agreed pattern of work for the employee. However, casual employment is often identified on the basis of the absence of entitlement to paid leave and/or payment of a casual 'loading', which are common features of casual employment (for example, ABS, 2018). From an employee perspective, the payment of a casual loading, the absence of paid leave entitlements and/or irregularity of hours are all indicators of employment on a casual basis. In the HILDA Survey, casual employment status is determined based on employee self-reports of employment contract type. In 2019, the HILDA Survey data show that 96% of people who identified as being employed on a casual basis did not have paid leave entitlements, while 85% of those without paid leave entitlements identified as being employed on a casual basis.
- iii) Permanent/ongoing employment. Permanent employees typically have leave and other entitlements, and usually have a guaranteed minimum number of hours per week.



#### Box 4.4: Classification of educational attainment

The classification of educational qualifications adopted by the HILDA Survey is based on the Australian Standard Classification of Education (ASCED) (ABS, 2001), which classifies formal educational qualifications by level and by field of study.

The level of highest educational attainment is derived from information on highest year of school completed and level of highest non-school qualification. In this report, up to five levels of attainment are distinguished: postgraduate degree (master's or PhD); bachelor's degree; Diploma or Certificate Level III or IV (other post-school qualification); Year 12 (high-school completion); and Year 11 and below (less than high-school completion), although often fewer categories are examined by combining these categories (for example, combining postgraduate degree and bachelor's degree into one 'bachelor's degree or higher' category). Note that, as explained in ABS (2014), Year 12 is defined to be a higher qualification than a Certificate Level I or 2, so that the category 'Less than high-school completion' includes people who hold a Certificate Level I or II.

set by each method. For example, the estimates in the first row for model (A) show that, holding other personal characteristics constant, being male on average decreases the probability of being award-reliant by 6.69 percentage points, decreases the probability of being on a collective agreement by 4.97 percentage points, and increases the probability of being on an individual agreement by 11.66 percentage points.

Note that, for each explanatory variable, the sum of the mean marginal effects must equal zero because an employee must be in one of the three categories for method of setting pay. Thus, in the above example, we see that  $11.66 - 6.69 - 4.97 = 0$ .

Estimates for sex and age group in the model that examines only personal characteristics are consistent with the descriptive statistics presented in Table 4.3. Model (A) further shows educational attainment (see Box 4.4, page 67) is positively associated with the probability of coverage by a collective agreement and negatively associated with the probability of being award-reliant. Of the three region types distinguished in Table 4.5 (see Box 3.5, page 26), we see that employees living in major urban areas are the most likely to have an individual agreement and least likely to be

paid the award rate, other personal characteristics held constant. People living in other urban regions are the most likely to be award-reliant, the most likely to be covered by a collective agreement and the least likely to be on an individual agreement.

The addition of variables for job characteristics (Model B) generally reduces the estimated differences by personal characteristics, because an important mechanism by which employees with different personal characteristics have different methods of setting pay is that they work in different types of jobs. Nonetheless, the estimated effects of personal characteristics are, broadly speaking, not qualitatively affected by the addition of variables for job characteristics.

Comparing across occupations (see Box 4.5, page 69), all else being equal, managers are the most likely to be on individual agreements, least likely to be covered by a collective agreement and, along with professionals, least likely to be award-reliant. Machinery operators and drivers are the least likely to be on individual agreements, the most likely to be covered by a collective agreement and, along with labourers, the most likely to be paid the award rate.

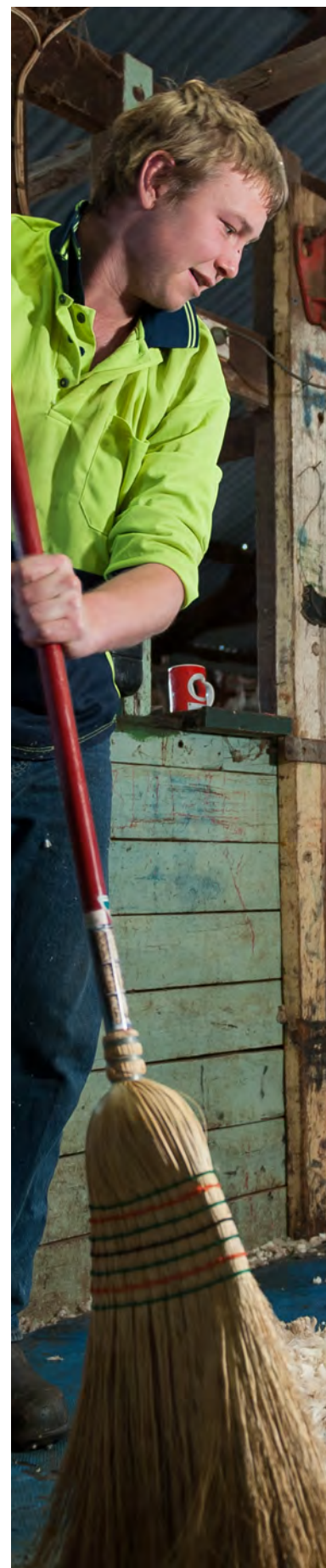


Table 4.5: Associations between personal and job characteristics and method of setting pay—Employees, 2008 to 2019

	(A) Personal characteristics			(B) Personal and job characteristics		
	Award	Collective agreement	Individual agreement	Award	Collective agreement	Individual agreement
Male	-6.69	-4.97	11.66	-5.35	ns	5.07
Age group (Reference category: 35–44)						
15–24	16.41	-9.55	-6.86	5.17	1.61	-6.79
25–34	3.95	-5.75	1.8	1.48	ns	-0.93
45–54	1.01	6.93	-7.94	2.25	ns	-2.84
55 and over	1.94	8.81	-10.76	3.35	-1.41	-1.95
Educational attainment (Reference category: No post-school qualifications)						
Bachelor's degree or higher	-19.74	16.20	3.54	-5.80	1.46	4.34
Other post-school qualification	-6.43	5.78	ns	-2.54	ns	2.25
Region (Reference category: Major urban)						
Other urban	3.95	6.59	-10.54	2.50	3.98	-6.47
Other region	1.77	2.90	-4.67	ns	3.29	-3.71
Occupation (Reference category: Managers)						
Professionals				ns	10.70	-9.60
Technicians and trades workers				12.91	12.97	-25.88
Community and personal service work				12.96	6.36	-19.32
Clerical and administrative workers				5.90	7.89	-13.79
Sales workers				11.91	9.60	-21.50
Machinery operators and drivers				17.25	16.88	-34.13
Labourers				17.11	13.21	-30.32
Industry (Reference category: Agriculture, forestry and fishing)						
Mining				-21.61	6.06	15.55
Manufacturing				ns	ns	ns
Electricity, gas, water and waste services				-10.00	23.41	-13.41
Construction				-8.30	10.48	ns
Wholesale trade				ns	ns	5.98
Retail trade				3.57	ns	-6.55
Accommodation and food services				4.60	ns	-7.75
Transport, postal and warehousing				-2.78	14.40	-11.62
Information media and telecommunications				-10.62	11.80	ns
Financial and insurance services				-9.86	10.15	ns
Rental, hiring and real estate services				-3.31	-5.56	8.87
Professional, scientific and technical services				-8.38	ns	6.75
Administrative and support services				ns	5.93	-3.74
Public administration and safety				-12.48	56.25	-43.78
Education and training				-6.29	40.08	-33.79
Health care and social assistance				ns	24.73	-24.78
Arts and recreation services				-6.99	17.20	-10.21
Other services				ns	5.71	-3.35
Employed part-time				2.94	ns	-2.85
Contract type (Reference category: Casual)						
Permanent/ongoing				-6.43	7.67	-1.24
Fixed term				-12.74	12.53	ns
Job tenure (years)				-0.39	0.72	-0.33
Firm size (Reference category: 100 employees or more)						
Fewer than 20 employees				5.47	-29.70	24.24
20–99 employees				4.80	-18.11	13.32
Work weekends				ns	2.39	-2.37
Work nights or irregular hours				-1.06	5.71	-4.65
Year	ns	-0.29	0.26	-0.11	-0.20	0.31
Number of observations		103,125			101,671	

Notes: The table reports mean marginal effects estimates from multinomial logit models of the probability an employee's pay is set by an award, collective agreement or individual agreement. Estimates are in percentage-point terms. See the Technical Appendix for explanation of multinomial logit models and mean marginal effects estimates. The sample comprises employees who reported method of setting pay. It excludes employees who did not know the method by which their pay was set. *ns* indicates the estimate is not significantly different from 0 at the 10% level.



There are also considerable differences in method of setting pay evident across industries (see Box 4.5, page 69). Payment at the award rate is, other factors held constant, most common in accommodation and food services and retail trade and least common in mining. Collective agreements are most common in public administration and safety and education and training, and least common in rental, hiring and real estate services. Individual agreements are most common in mining and least common in public administration and safety.

Casual employees are more likely to be paid the award rate than permanent/ongoing or fixed-term employees, while fixed-term employment is the contract type most likely to be covered by a collective agreement. Notable, however, is that differences by contract type in the probability of coverage by individual agreement are small or statistically insignificant. Each additional year of job tenure is associated with a 0.72 percentage-point increase in the probability of coverage by a collective agreement, a 0.39 percentage-point decrease in the probability of being paid the award rate and a 0.33 percentage-point decrease in the probability of being on an individual agreement.

Consistent with the findings in Table 4.4, the regression model estimates show that collective agreements are very much associated with larger employers (with at least 100 employees), while small firms have the highest rates of both award reliance and individual agreements. Interestingly, in contrast to the descriptive statistics presented in Table 4.4, we see that once we control for other personal and job characteristics, working weekends, nights or irregular hours is associated with an elevated probability of being covered by a collective

#### Box 4.5: Classification of occupations and industries

Occupation variables in this report are based on the first (2006) edition of the Australian Bureau of Statistics (ABS) ANZSCO classification system. ANZSCO stands for the Australian and New Zealand Standard Classification of Occupations. It is based on a conception of types of tasks and skill-level requirements. It has six 'levels', with eight occupation groups distinguished at the highest level of aggregation, known as the 1-digit level; 54 groups distinguished at the next (2-digit) level of aggregation, and so on. See ABS (2006) for details. In this report, only the 1-digit-level classification is used.

Industry variables in this report are based on the Australian Bureau of Statistics (ABS) Australia and New Zealand Standard Industry Classification (ANZSIC) classification system. ANZSIC classifies the economic activity of firms and other employers, and has a structure comprising categories at four levels: 'divisions' (the broadest level); 'subdivisions'; 'groups'; and 'classes' (the finest level). These levels are commonly referred to as '1-digit', '2-digit', '3-digit' and '4-digit', reflecting the number of digits used in the code to describe each category. At the 1-digit level, which is used in this report, 17 industry categories are distinguished. See ABS (2008) for details.



agreement. Finally, we see that, holding other factors constant, there has been a trend rise in coverage by individual agreements and a trend decline in coverage by collective agreements over the 2008 to 2019 period.

### Casual employees

The form of casual employment that exists in Australia is shared by no other country. It is characterised by no guarantee of working hours or continued employment, the absence of entitlements to paid leave and specification in industrial awards of higher minimum rates of pay than apply to non-casual employees (see Box 4.3, page 66).

The perceived lack of job security associated with casual employment has given rise to concerns about the wellbeing of casual employees, particularly given the relatively high

prevalence of this form of employment and the prospect that people may work in casual jobs for many years. In this section, we examine the prevalence and persistence of casual employment, as well as the characteristics and economic wellbeing of casual employees.

Figure 4.7 plots the proportion of employees employed on a casual basis between 2001 and 2019. There was a decline in the proportion of employees employed on a casual basis between 2002 and 2010, falling from 25% to 21%. Between 2010 and 2015 there was a slight increase back up to 23%, followed by a decrease to 22% in the period to 2019. Over the two decades as a whole, the gap between males and females has narrowed. Over 30% of female employees and approximately 20% of male employees were employed on a casual basis in 2002, while in 2019, 24% of female employees and 20% of male employees were casuals.

Figure 4.7: Proportion of employees employed on a casual basis

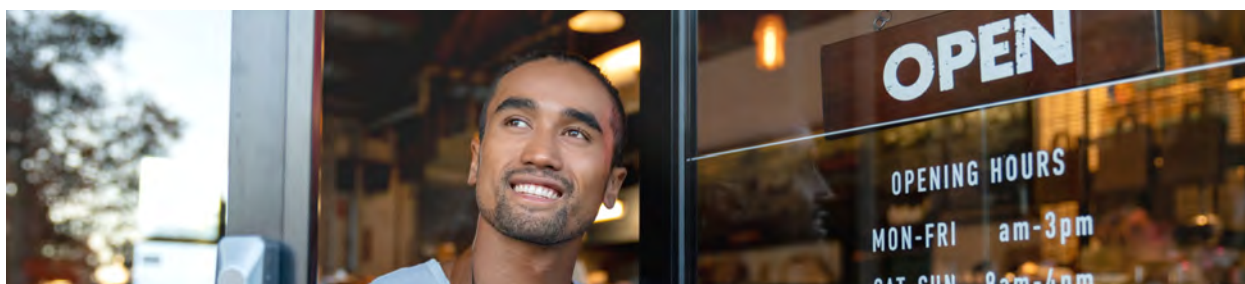
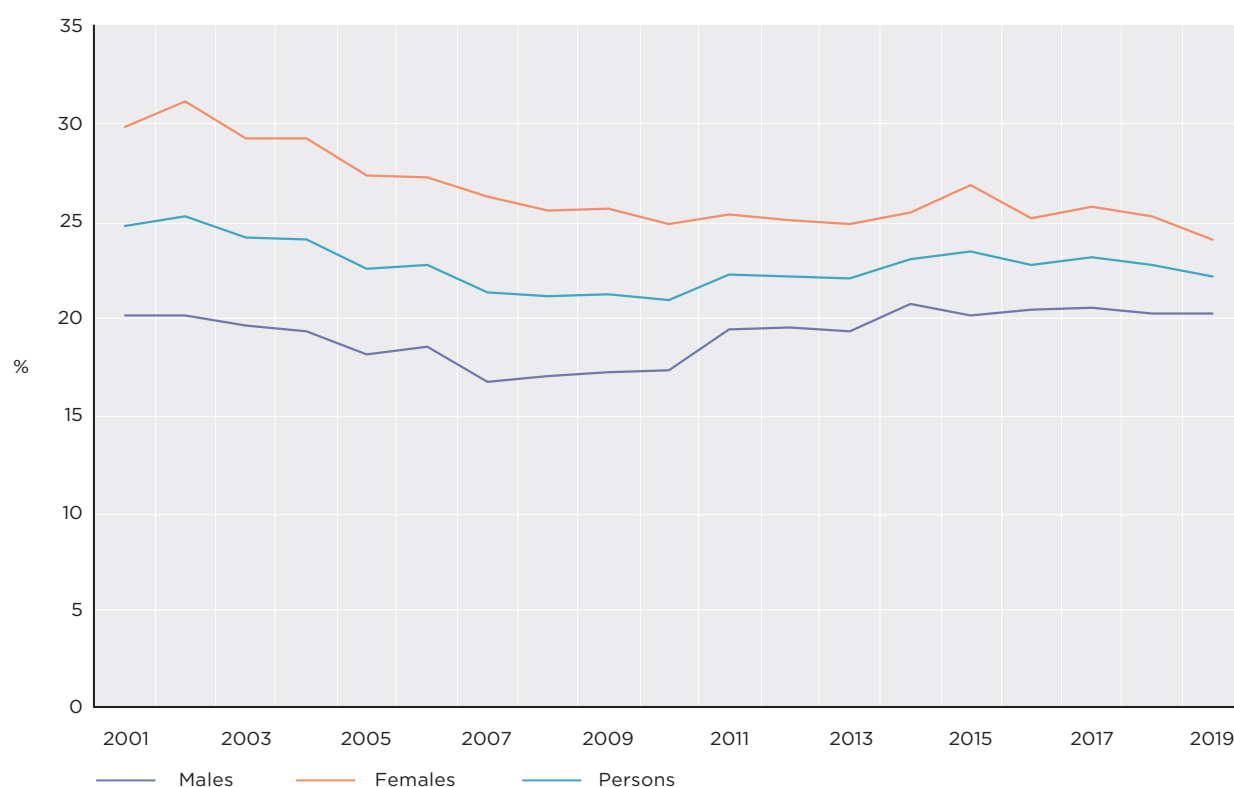


Table 4.6 examines rates of casual employment among employees by age group, educational attainment, industry and occupation, dividing the 2001 to 2019 period into four sub-periods: 2001 to 2004, 2005 to 2009, 2010 to 2014 and 2015 to 2019. In the 2015 to 2019 period, 55.7% of employees aged 15 to 24 were employed on a casual basis, up from 50.6% in 2001 to 2004 and 46.4% in 2005 to 2009. In the 2001 to 2004 period, employees aged 65 and over also had a high rate of casual employment of 49.1%, but this has fallen substantially, to be 30.4% in the 2015 to 2019 period. Indeed, casual employment has only risen

among employees aged 15 to 24, there being very little net change in the 25 to 34 age group, and all older age groups experiencing some decline in casual employment.

Higher educational attainment is negatively associated with casual employment, with the rate of casual employment highest for those who have not completed high school and lowest for those who have a bachelor's degree or higher (see Box 4.4, page 67, for explanation of the educational attainment categories). The education 'gradient' in casual employment has also steepened somewhat over time: between the

2001 to 2004 and 2015 to 2019 periods, the rate of casual employment increased by 4.2 percentage points for the 'less than high school completion' education group, 2.5 percentage points for the 'high-school completion' education group and 1.8 percentage points for the 'other post-school' group, while it decreased by 0.9 percentage points for the 'bachelor's degree or higher' group.

Comparing across industries (see Box 4.5, page 69), in 2015 to 2019, casual employment was most prevalent in accommodation and food services, followed by agriculture,

forestry and fishing and then arts and recreation services. Between the 2001 to 2004 and 2015 to 2019 periods, the casual rate of employment increased by 9.5 percentage points in agriculture, forestry and fishing, 5.6 percentage points in accommodation and food services and transport, postal and warehousing, 4.4 percentage points in other services and 1.2 percentage

points in arts and recreation services. All other industries either experienced little change or declines in the casual employment share. The biggest declines were in rental, hiring and real estate services (8.5 percentage points), retail trade (7.3) and professional, scientific and technical services (4.9). The occupations with the highest casual employment rates are labourers and sales

workers, while community and personal service workers also have a relatively high casual employment share. Five of the eight occupation groups experienced declines in the casual employment share between 2001 to 2004 and 2015 to 2019, and only one occupation group—machinery operators and drivers—experienced a significant rise in casual employment.

**Table 4.6: Proportion of employees employed on a casual basis, by age, educational attainment, industry and occupation, 2001 to 2019 (%)**

	2001-2004	2005-2009	2010-2014	2015-2019	Change <sup>a</sup>
<i>Age group</i>					
15-24	50.6	46.4	52.8	55.7	5.1
25-34	18.4	15.8	17.2	18.6	0.2
35-44	16.7	13.8	12.7	12.7	-4.0
45-54	14.6	13.4	12.7	12.3	-2.3
55-64	20.9	17.4	14.7	15.9	-5.0
65 and over	49.1	46.3	35.5	30.4	-18.7
<i>Educational attainment</i>					
Bachelor's degree or higher	13.4	10.8	12.2	12.5	-0.9
Other post-school qualification	16.7	15.5	16.6	18.5	1.8
High-school completion	33.7	29.4	33.0	36.2	2.5
Less than high-school completion	35.4	34.8	36.7	39.6	4.2
<i>Industry</i>					
Agriculture, forestry and fishing	43.9	40.7	48.7	53.4	9.5
Mining	10.1	6.2	9.8	11.1	1.0
Manufacturing	19.5	12.8	15.5	17.0	-2.5
Electricity, gas, water and waste services	11.4	10.4	12.0	7.1	-4.3
Construction	19.7	17.6	18.6	21.0	1.3
Wholesale trade	15.7	13.1	12.4	14.1	-1.6
Retail trade	45.6	41.8	39.2	38.3	-7.3
Accommodation and food services	62.1	63.2	66.3	67.7	5.6
Transport, postal and warehousing	18.5	19.3	19.8	24.1	5.6
Information media and telecommunications	17.2	14.6	14.0	14.7	-2.5
Financial and insurance services	6.2	5.4	3.3	3.2	-3.0
Rental, hiring and real estate services	23.0	20.9	17.4	14.5	-8.5
Professional, scientific and technical services	14.1	11.9	10.9	9.2	-4.9
Administrative and support services	34.7	29.9	30.3	33.0	-1.7
Public administration and safety	6.2	6.0	7.2	6.5	0.3
Education and training	18.0	17.2	18.5	18.1	0.1
Health care and social assistance	20.3	17.2	16.3	16.7	-3.6
Arts and recreation services	41.9	42.0	42.8	43.1	1.2
Other services	18.9	16.9	20.4	23.3	4.4
<i>Occupation</i>					
Managers	5.3	4.6	4.5	4.1	-1.2
Professionals	12.2	9.6	9.8	9.3	-2.9
Technicians and trades workers	16.4	14.0	14.2	15.5	-0.9
Community and personal service workers	39.8	38.6	39.2	40.0	0.2
Clerical and administrative workers	16.1	14.6	14.0	14.9	-1.2
Sales workers	49.8	48.6	46.7	47.6	-2.2
Machinery operators and drivers	23.7	18.9	23.9	29.6	5.9
Labourers	48.0	43.7	47.5	48.5	0.5

Note: <sup>a</sup> Change between 2001 to 2004 and 2015 to 2019 periods.

Employment, wage and income outcomes of casual employees are compared with those of other employees in Table 4.7. Despite the casual loading, average hourly wages are lower for casual employees across all four subperiods examined. Lower average weekly hours of work mean weekly wages are even lower for casual employees relative to other employees. Household equivalised income (see Box 3.2, page 23) is also on average lower for casual employees.

Mean job tenure is considerably lower for casual employees, but nonetheless well over half of all casual employees have been with their employer for a year or more. Moreover, over two-thirds of casual employees work regular hours (defined as situations in which neither the number of hours nor the days worked each week vary from week to week), despite there being no commitment from the employer to regular hours. Significantly, approximately 40% of casual employees (and 40.9% of casual employees in the most recent

period) both work regular hours and have been with their employer for a year or more. In principle, these employees would now be eligible for conversion to permanent/ongoing positions.<sup>2</sup>

The final row of Table 4.7 presents the proportion of casual and other employees who are underemployed, that is, are working part-time, would prefer to work more hours and are available to work those additional hours. It is clear that a substantial minority of casual employees are underemployed. Nearly one-third of casual employees are underemployed, compared with less than 5% of other employees. Figure 4.8 presents evidence of the level of job security of casual employment compared with other forms of employment. It presents the proportion of casual employees and other employees dismissed or made redundant from their jobs each year. This job-loss rate is markedly higher for casual employees, particularly since 2012, when it has fluctuated between 5.5% and 8.0%, compared with fluctuations between 2.7% and 4.2% for



**Table 4.7: Labour market outcomes and incomes of casual employees and other employees, 2001 to 2019**

	Casual employees				Other employees			
	2001-2004	2005-2009	2010-2014	2015-2019	2001-2004	2005-2009	2010-2014	2015-2019
Mean hourly wage (\$, December 2019 prices)	24.65	25.95	26.99	27.55	30.85	33.46	36.53	38.35
Mean weekly wage (\$, December 2019 prices)	501	528	572	596	1,239	1,331	1,436	1,488
Mean weekly hours worked	21.2	21.1	21.5	22.1	40.2	39.7	39.0	38.6
Mean household equivalised income (\$, December 2019 prices)	43,974	50,185	54,279	54,892	55,568	63,695	68,335	68,953
Mean job tenure (years)	2.6	2.8	3.0	2.8	6.8	6.9	7.2	7.3
With employer for 12 months or more (%)	55.9	56.8	60.9	60.3	82.4	82.3	84.3	84.2
Work regular hours (%)	71.0	69.3	67.0	68.2	–	–	–	–
With employer for 12 or more months and work regular hours (%)	39.2	39.4	40.6	40.9	–	–	–	–
Underemployed (%)	–	–	29.6	31.3	–	–	4.5	4.7

Note: The measure of underemployment is only available from 2010.

<sup>2</sup> In 2018 the Fair Work Commission introduced a right for casual employees to request conversion into a number of awards. This was broadened to all casual employees by amendments to the *Fair Work Act 2009* passed on 22 March 2021. Under these amendments, an employer is required to convert a casual employee to a permanent position after 12 months of employment if the employee has had a regular pattern of hours worked in the preceding six months and that employee wants to convert to a permanent position. However, this is not required if there are 'reasonable grounds' for not doing so based on 'known facts'.



other employees. Since 2016, the dismissal rate of casual employees has been approximately double that of other employees. It is thus objectively the case that casual employees have lower job security than other employees. Moreover, Figure 4.8 does not consider insecurity of hours worked, which could also be an important dimension of the broader insecurity of casual employment.

While the evidence presented to date shows that casual employees tend to have lower wages and lower job security, the HILDA Survey data allow us to probe further into the wellbeing of casual employees. Table 4.8 presents results from regression models of the impacts of casual employment on dimensions of job satisfaction, life satisfaction and job security (see Box 4.6, page 73).

The estimated models also consider whether the effects associated with casual employment have changed over the 2001 to 2019 period. The second column of the table presents estimates showing how the effects of casual employment in the 2007 to 2014 period differ from the effects in the 2001 to 2006 period, while the last column presents estimates showing how the effects of casual employment in the 2015 to 2019 period differ from the effects in the 2001 to 2006 period. Thus, the estimates presented in the first column should be interpreted as the effects associated with casual employment in the 2001 to 2006 period.

Considering first measures of job satisfaction, casual employment is associated with a 0.117 decrease in overall job satisfaction measured on a 0 to 10 scale. Unsurprisingly, it is associated with a substantial negative effect on satisfaction with job security,

Figure 4.8: Proportion of employees dismissed or made redundant over the following year



#### Box 4.6: HILDA Survey measures of subjective wellbeing

The HILDA Survey has asked Australians to report on life satisfaction as well as satisfaction in various areas or domains of life in every wave since 2001. Life satisfaction is measured by asking respondents *All things considered, how satisfied are you with your life overall?*, with responses ranging from 0 (completely dissatisfied) to 10 (completely satisfied), and where 5 represents 'neither satisfied nor dissatisfied'.

Questions on domain satisfactions are asked in a similar manner, such as *All things considered, how satisfied are you with your financial situation?* These domain satisfactions are also ranked from 0 (completely dissatisfied) to 10 (completely satisfied).

For employed people, there is an additional battery of questions on satisfaction with the (main) job overall and with aspects of the job. These questions have the same 0–10 response options.

although there has been some improvement in this regard in the post-2006 period, as indicated by the positive estimates in the second and third columns.

Consistent with the evidence on underemployment in Table 4.7, satisfaction with hours of work is lower for casual employees, although not in the 2007 to 2014 period. However, in the 2015 to 2019 period satisfaction with hours was particularly low compared with other employees.

Pay satisfaction was higher for casual employees than other employees in the 2001 to 2006 and 2015 to 2019 periods, but not the 2007 to 2014 period. Finally, casual employment is associated with greater satisfaction with job flexibility, although this has diminished over the 2001 to 2019 period. Given job flexibility ought to be one of the attractive features of casual employment, this trend is perhaps of some concern.



Table 4.8: Association between casual employment and job satisfaction, life satisfaction and probability of dismissal—Employees, 2001 to 2019

	Casual	Casual, 2007-2014	Casual, 2015-2019	Number of observations
<i>Job satisfaction</i>				
Overall	-0.117	ns	ns	152,373
Pay	0.104	-0.158	ns	152,312
Job security	-0.821	0.082	0.087	152,286
Hours	-0.149	0.174	-0.244	152,372
Flexibility to balance work and non-work commitments	0.414	-0.079	-0.191	152,272
<i>Life satisfaction</i>				
Overall	-0.046	ns	ns	152,386
Employment opportunities	-0.563	ns	ns	150,873
Finances	-0.575	0.090	0.079	152,384
Free time	0.521	-0.089	-0.157	152,354
Subjective probability of losing job over the next year	5.97	-2.10	-2.12	151,509
Subjective probability of leaving job over the next year	12.33	ns	-3.62	151,917
<i>Actual probability of dismissal over the next year</i>				
Controlling for personal characteristics	1.87	ns	ns	132,107
Controlling for personal and employment characteristics	1.67	ns	ns	130,776

Notes: Estimates are obtained from regression models that include controls for sex and age. Each row corresponds to a separate regression model. Ordinary Least Squares is used to estimate the models for job satisfaction and life satisfaction, while logit is used to estimate models of the probability of job loss, job leaving and dismissal. Estimates for the logit models are mean marginal effects (in percentage points). See the Technical Appendix for a brief explanation of these models. *ns* indicates the estimate is not significantly different from 0 at the 10% level.

Casual employment is associated with negative effects on overall life satisfaction, as well as substantial negative effects on satisfaction with employment opportunities and finances. It is, however, associated with positive effects on satisfaction with the amount of free time one has, although this effect has diminished over the HILDA Survey period.

In every wave, employees are asked to assess the probability (from 0% to 100%) of losing their job over the next year and the probability of leaving their job over the next year. As might be expected, casual employment is associated with higher subjective (self-assessed) and objective (realised) probabilities of job loss, although the subjective assessment of the probability of job loss is somewhat higher than the objective probability, especially in the 2001 to 2006 period. Casual employment is also associated with a



considerably higher subjective assessment of the probability of leaving the job within the next year.

A key consideration in concerns about the precariousness of casual employment is the length of time people spend in that form of employment. If casual employment tends to be a short-term form of employment that

most people leave to obtain permanent employment, there should be less concern about its adverse effects, and indeed it could be viewed as an important stepping stone to more secure and better-paying jobs.

Tables 4.9 and 4.10 consider this issue, first by examining the annual rates of transition out of casual employment to other



forms of employment as well as exit from employment (Table 4.9) and second by examining rates of transition from casual employment to permanent employment over varying time frames (Table 4.10).

Table 4.9 shows that more than half of people employed on a casual basis in one year are still employed on a casual basis in the following year. Perhaps worrying is that this persistence rate in casual employment appears to have increased in the most recent decade, rising from

approximately 54% in the first decade of this century to approximately 57% in the second decade. Encouragingly, the most common destination for people who exit casual employment is permanent employment, although again of concern is that the rate of movement into permanent employment has been lower in the second decade of this century than in the first decade. There has also been a slight rise in the proportion of casual employees exiting to fixed-term employment, which

is probably an inferior form of employment to permanent employment.

Table 4.10, considering the rate of transition from casual employment to permanent employment, shows that the proportion in permanent positions is greater the longer the time-frame examined. However, it is nonetheless the case that the majority of people who are casual employees in one year are still not in permanent employment five years later.

**Table 4.9: Annual rates of transition from casual employment to other forms of employment, 2001 to 2019 (%)**

	<i>Casual</i>	<i>Permanent</i>	<i>Fixed-term</i>	<i>Self-employed</i>	<i>Not employed</i>	<i>Total</i>
2001-2004	54.3	21.8	5.1	3.5	15.2	100.0
2005-2009	54.3	21.7	5.1	2.9	15.9	100.0
2010-2014	57.6	18.6	5.8	2.8	15.1	100.0
2015-2018	56.6	19.3	6.4	3.1	14.5	100.0

*Notes:* The table shows the proportion of casual employees in each employment situation in the next year. Years indicated in the row headings refer to the initial year of the two-year period. Cells may not add up to row totals due to rounding.

**Table 4.10: Rates of transition from casual employment to permanent employment over alternative time-frames, 2001 to 2019 (%)**

	<i>One year later</i>	<i>Two years later</i>	<i>Three years later</i>	<i>Four years later</i>	<i>Five years later</i>
2001-2004	21.8	31.8	37.3	41.5	44.4
2005-2009	21.7	29.4	33.3	35.8	38.4
2010-2014	18.6	25.5	31.0	34.1	37.9
2015-2018	19.3	26.6	32.4	35.9	–

*Notes:* The table shows the proportion of casual employees in permanent employment in subsequent years. Years indicated in the row headings refer to the initial year of the period being examined.



## Young new entrants to the labour market

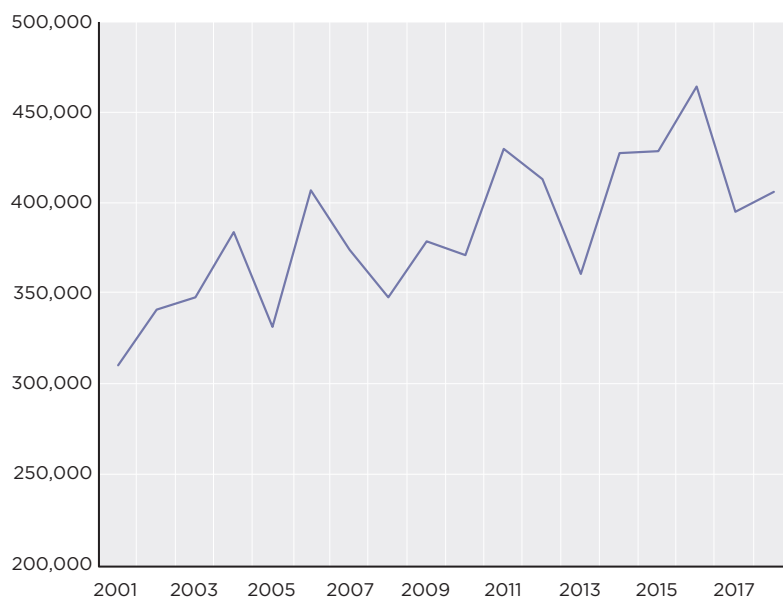
Young new entrants to the labour market have always faced a somewhat daunting prospect of securing employment, and in particular securing employment that sets them on a trajectory for career (and earnings) progression. The economic downturn since March of 2020 will have only made this more challenging. In this section we consider how young new entrants were faring prior to the arrival of COVID-19, and whether there had been improvement or deterioration in their labour market outcomes and trajectories.

For this analysis, young new entrants to the labour market are defined as people under the age of 25 who have left full-time education within the last year and are at least marginally attached to the labour force (see Box 4.1, page 54). Those not marginally attached are excluded because they cannot be considered to be participating in the labour market.

Figure 4.9 presents estimates from the HILDA Survey of the number of young new entrants to the labour market in Australia in each year from 2002 to 2019. In recent years, there have been approximately 400,000 young new entrants each year, which corresponds to approximately 3% of the Australian labour force inclusive of those marginally attached to the labour force.

The characteristics and labour market outcomes of young new entrants to the labour market are compared across the HILDA Survey period in Table 4.11. The

Figure 4.9: Number of young new entrants to the labour market each year



mean age of young new entrants has steadily increased, rising from 19.4 years in 2001 to 2004 to 20.3 years in 2017 to 2019. This reflects growth in educational attainment and in particular a rise in the proportion holding a bachelor's

degree or higher from 14.6% in 2001 to 2004 to 23.1% in 2017 to 2019. Over the same period, the proportion of young new entrants with a highest qualification of less than high school completion fell from 23.7% to 11.7%.<sup>3</sup>

<sup>3</sup> Note that many young new entrants will subsequently obtain higher educational qualifications because they return to study or because they are undertaking apprenticeships or part-time study while working.



Table 4.11: Characteristics and labour market outcomes of young new entrants, 2001 to 2019

	2001-2004	2005-2008	2009-2012	2013-2016	2017-2019
Mean age (years)	19.4	19.6	19.9	20.1	20.3
<i>Educational attainment (%)</i>					
Bachelor's degree or higher	14.6	14.2	18.2	22.6	23.1
Other post-school qualification	14.6	14.8	14.0	17.0	13.5
Completed high school	47.1	44.0	48.0	45.3	51.6
Less than high-school completion	23.7	27.0	19.8	15.1	11.7
Total	100.0	100.0	100.0	100.0	100.0
<i>Labour force status (%)</i>					
Employed full-time	43.6	50.1	45.4	39.8	41.3
Employed part-time	38.8	34.2	33.5	39.6	39.1
Unemployed	10.3	8.4	10.7	10.1	11.2
Marginally attached	7.3	7.3	10.3	10.5	8.3
Total	100.0	100.0	100.0	100.0	100.0
Casual employee	40.6	33.9	35.9	40.3	40.3
<i>Employees only</i>					
Median hourly wage (\$, December 2019 prices)	17.88	18.38	19.76	20.44	22.30
Median hourly wage relative to the overall median (%)	68.2	66.7	68.2	68.3	71.7
Median weekly wage (\$, December 2019 prices)	483.56	555.98	598.68	594.36	647.23
Median weekly wage relative to the overall median (%)	50.8	53.6	55.3	54.6	56.8

Note: Cells may not add up to column totals due to rounding.



The second panel of Table 4.11 examines the labour force status of young new entrants, showing that, in most sub-periods less than 50% are employed full-time. Other than the 2005 to 2008 period (when economic growth was very strong), over 10% of young new entrants are unemployed, while between 7% and 11% are only marginally attached to the labour force. Remarkably, in the two most recent sub-periods, as well as the 2001 to 2004 period, approximately 40% of all young new entrants were employed on a casual basis, which translates to approximately half of all those employed.

The median hourly wage (at December 2019 prices) of employee young new entrants

has risen from \$17.88 to \$22.30, which corresponds to an increase relative to the overall median from 68.2% to 71.7%. Reflecting lower average weekly hours of work compared to the general population of employees, the median weekly wage of young new entrant employees relative to the overall median weekly wage is somewhat lower, fluctuating between 50% and 57%.

Differences in labour market outcomes of young new entrants by sex and educational attainment are considered in Table 4.12. Females are less likely to be employed full-time, although the gap to males has decreased due to a decline for males and a slight increase for females in the proportion of

new entrants employed full-time. Hourly earnings of male and female new entrants have been similar in recent years, although between 2005 and 2016 they were somewhat lower for females.

Since the 2005 to 2008 period, there has been a decline in full-time employment for all four education groups distinguished in Table 4.12. The decline has been particularly large for those with post-school qualifications less than a bachelor's degree. Median hourly earnings relative to all employees have declined for those with post-school qualifications, but have remained unchanged or in fact increased for those without post-school qualifications.

Table 4.12: Labour market outcomes of young new entrants, by sex and by educational attainment, 2001 to 2019 (%)

	2001-2004	2005-2008	2009-2012	2013-2016	2017-2019
<b>Sex</b>					
<i>Males</i>					
Employed full-time	51.7	58.4	49.7	43.9	45.1
Median hourly wage relative to the overall median	68.2	68.9	70.9	70.3	71.6
<i>Females</i>					
Employed full-time	35.0	40.8	41.2	35.7	37.4
Median hourly wage relative to the overall median	68.4	65.1	64.6	65.1	72.4
<b>Educational attainment</b>					
<i>Bachelor's degree or higher</i>					
Employed full-time	60.9	67.6	58.6	52.6	55.9
Median hourly wage relative to the overall median	95.2	96.5	86.1	81.7	87.0
<i>Other post-school qualification</i>					
Employed full-time	45.2	59.1	50.2	42.2	41.4
Median hourly wage relative to the overall median	80.1	71.1	76.5	65.6	70.6
<i>Completed high school</i>					
Employed full-time	41.7	44.7	40.9	33.5	35.0
Median hourly wage relative to the overall median	68.2	65.7	61.8	65.9	68.8
<i>Less than high-school completion</i>					
Employed full-time	35.7	44.8	40.8	36.9	40.3
Median hourly wage relative to the overall median	43.6	47.1	49.9	51.9	50.9

Table 4.13 examines labour market outcomes of young new entrants in years subsequent to labour market entry. It shows employment and earnings outcomes generally improve the more time that passes from initial

entry. For example, for people who were young new entrants between 2013 and 2016, 45.9% were employed full-time one year after entry, 57.1% were employed full-time three years after entry and 65.6% were employed full-

time five years after entry. Similarly, the median weekly wage relative to the overall median weekly wage was 69.6% one year after entry, 81.7% three years after entry and 95.7% five years after entry.



Table 4.13: Labour market outcomes in years subsequent to initial labour market entry, by period of entry—Young new entrants to the labour market, 2001 to 2019 (%)

	2001–2004	2005–2008	2009–2012	2013–2016 <sup>a</sup>	2017–2018
<i>Outcomes one year after entry</i>					
Employed full-time	51.6	60.4	50.2	45.9	48.4
Employed part-time	30.7	25.7	29.1	34.1	33.3
Casual employee	23.0	20.3	22.8	26.5	19.9
Median hourly wage relative to the overall median	75.8	75.6	73.2	74.3	79.4
Median weekly wage relative to the overall median	62.9	68.8	67.0	69.6	67.5
<i>Outcomes three years after entry</i>					
Employed full-time	61.6	62.5	53.8	57.1	–
Employed part-time	22.1	22.1	26.9	26.3	–
Casual employee	15.2	16.2	21.5	23.1	–
Median hourly wage relative to the overall median	86.8	84.5	83.0	82.5	–
Median weekly wage relative to the overall median	88.6	83.3	78.8	81.7	–
<i>Outcomes five years after entry</i>					
Employed full-time	69.3	67.6	63.5	65.6	–
Employed part-time	15.3	16.8	20.5	19.3	–
Casual employee	6.5	10.4	13.2	12.7	–
Median hourly wage relative to the overall median	93.8	93.0	90.3	89.8	–
Median weekly wage relative to the overall median	96.1	97.8	90.7	95.7	–

Notes: Years indicated in the column headings refer to the year of labour market entry. <sup>a</sup>Labour market outcomes five years after entry are not observed for those who entered the labour market in 2015 or 2016.

Comparing across the five sub-periods examined in Table 4.13, there has been some deterioration in full-time employment rates and earnings in years subsequent to labour market entry, although it is the 2009 to 2012 entry cohort that, on most measures, has fared worst. This is consistent with the relative weakness of the labour market in the wake of the GFC. For example, three years after entry, only 53.8% of this cohort was employed full-time, compared with approximately 62% for the two earlier cohorts and 57.1% for the 2013 to 2016 entry cohort. Median weekly earnings relative to overall median earnings were also lowest for this entry cohort three years after entry. Even five years after entry, the 2009 to 2012 cohort had the lowest full-time employment rate and median weekly earnings relative to the overall median, indicating that



weakness in the labour market at the time of initial entry can have long-lasting impacts.

A particular concern in recent years is how university graduates are faring in the labour

market. Table 4.14 examines employment and earnings outcomes over the same time frames as Table 4.13, restricting attention to young new entrants holding university degrees.



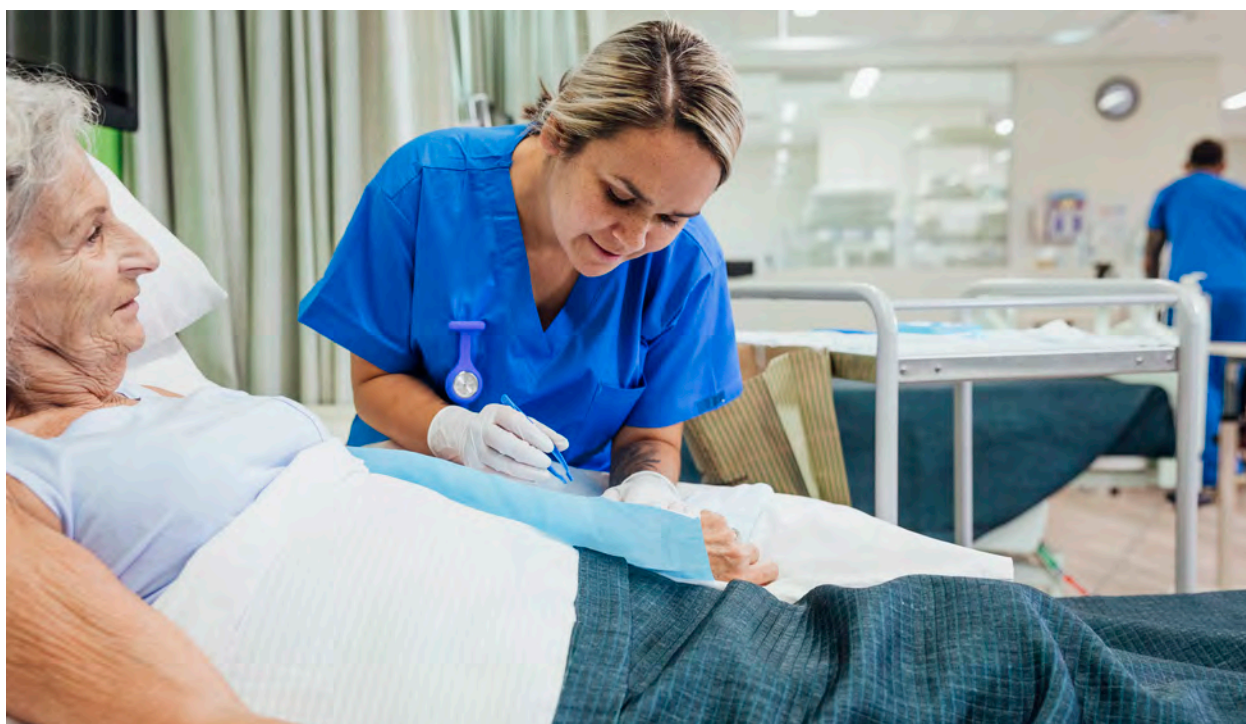


Table 4.14: Outcomes of university graduates following labour market entry, 2001 to 2019 (%)

	2001-2004	2005-2008	2009-2012	2013-2016 <sup>a</sup>	2017-2018
<i>Outcomes one year after entry</i>					
Employed full-time	75.2	84.3	61.7	65.9	79.2
Median hourly wage relative to the overall median	88.7	99.3	91.3	89.3	95.2
<i>Outcomes three years after entry</i>					
Employed full-time	86.9	82.3	79.9	79.6	–
Median hourly wage relative to the overall median	109.9	113.1	92.2	95.5	–
<i>Outcomes five years after entry</i>					
Employed full-time	91.5	80.9	87.4	81.2	–
Median hourly wage relative to the overall median	123.2	121.2	109.8	99.8	–

Notes: Years indicated in the column headings refer to the year of labour market entry. <sup>a</sup>Labour market outcomes five years after entry are not observed for those who completed study in 2015 or 2016.

Overall, patterns are somewhat similar to those observed for all young new entrants, but the magnitudes of the changes are generally larger. Particularly notable is that five years after labour market entry, the median hourly wage of graduates is approximately the same as the overall median wage for the 2013 to 2016 entry cohort, whereas it is over 20% higher for the 2001 to 2004 and 2005 to 2008 cohorts, and 10% higher for the 2009 to 2012 cohort. This relative deterioration for university

graduates compared with other new entrants may reflect the relative increase in supply of university graduates among new entrants over recent years.

While it appears that the labour market outcomes of young new entrants have deteriorated somewhat over the first two decades of this century, how do young new entrants who manage to secure employment feel about their jobs? Table 4.15 presents mean levels of satisfaction with the job overall and with aspects of the job for young new entrants

in employment, comparing across the same entry cohorts as the preceding analysis. The table also compares average levels of job quality measures derived from subjective assessments of employed people (as explained in Box 4.7, page 81). Note that all measures are evaluated in the year the young new entrants first enter the labour market.

Perhaps surprising is that overall job satisfaction of young new entrants has on average increased over time, from 7.5 for the 2001 to 2004 entry cohort to





7.8 for the 2017 to 2019 entry cohort. Satisfaction with pay, hours of work and flexibility to balance work and non-work commitments have also increased, while satisfaction with job security has remained broadly

unchanged. Similarly, for the five job quality measures examined in the table, average levels of quality have tended to rise over time or remain relatively stable. The reasons for these improvements are not clear. It is possible that

job quality has indeed improved, but it is also possible that new entrants are more easily satisfied, perhaps because of the perception that it is in general more difficult to secure employment.

#### Box 4.7: Subjective measures of job quality in the HILDA Survey

This report examines five summary measures that reflect different dimensions of job quality: (1) Demands; (2) Autonomy; (3) Skills and Variety; (4) Security; and (5) Pay. The summary measures are based on workers' extent of agreement, on a 7-point Likert scale (where 1 is 'strongly disagree' and 7 is 'strongly agree'), with 21 statements about their current main job, stemming from an item battery in the Self-Completion Questionnaire. Besides theoretical considerations, factor analysis and reliability analysis were used to identify the number of job quality dimensions captured by these statements and to select the specific statements that should be included in each dimension. Some statements were not included in the summary measures as they did not match any dimension, or reflected several dimensions at the same time. The following 19 statements were used to construct the five job quality dimensions:

##### Dimension 1: Demands

- a. My job is more stressful than I had ever imagined*
- b. I fear that the amount of stress in my job will make me physically ill*
- c. I have to work fast in my job*
- d. I have to work very intensely in my job*
- e. I don't have enough time to do everything in my job*

The score for the Demand dimension is calculated as an average across the five items as follows:  $(a + b + c + d + e)/5$ . Higher values correspond to lower job quality.

##### Dimension 2: Autonomy

- a. I have a lot of freedom to decide how I do my own work*
- b. I have a lot of say about what happens on my job*
- c. I have a lot of freedom to decide when I do my work*
- d. I have a lot of choice in deciding what to do at work*
- e. My working times can be flexible*
- f. I can decide when to take a break*

The score for the Autonomy dimension is calculated as an average across the six items as follows:  $(a + b + c + d + e + f)/6$ . Higher values correspond to higher job quality.

##### Dimension 3: Skills and Variety

- a. I use many of my skills and abilities in my current job*
- b. My job provides me with a variety of interesting things to do*
- c. My job requires me to take the initiative*
- d. My job requires me to do the same things over and over again*

The score for the Skills and Variety dimension is calculated as  $(a + b + c + (8 - d))/4$ . Higher values correspond to higher job quality.

##### Dimension 4: Security

- a. I have a secure future in my job*
- b. The company I work for will still be in business 5 years from now*
- c. I worry about the future of my job*

The score for the Security dimension is calculated as  $(a + b + (8 - c))/3$ . Higher values correspond to higher job quality.

##### Dimension 5: Pay

- a. I get paid fairly for the things I do in my job*

The score for the Pay dimension is simply equal to *a*. Higher values correspond to higher job quality.

All five summary scores potentially range from 1 to 7. Most of the items contributing to these measures were first administered in Wave 1. However, items *c*, *d* and *e* of the Demands dimension, items *d*, *e* and *f* of the Autonomy dimension, and items *b*, *c* and *d* of the Skills and Variety dimension were first administered in Wave 5. Therefore, values for the Demands, Autonomy and Security measures are only available from Wave 5 onwards.

Table 4.15: Job satisfaction and subjective measures of job quality of employed new entrants, 2001 to 2019

	2001-2004	2005-2008	2009-2012	2013-2016	2017-2019
<i>Measures of job satisfaction (mean, 0-10 scale)</i>					
Overall	7.5	7.6	7.6	7.6	7.8
Pay	6.7	6.7	7.0	7.2	7.4
Job security	8.0	8.1	8.1	8.0	8.1
Hours	6.9	7.0	7.0	7.0	7.3
Flexibility to balance work and non-work commitments	7.5	7.4	7.5	7.6	7.7
<i>Job quality measures (mean, 1-7 scale)</i>					
Job demands	–	3.6	3.7	3.6	3.7
Autonomy	–	3.6	3.7	3.6	3.6
Skills and variety	–	3.8	3.8	3.8	3.8
Security	4.3	4.5	4.4	4.4	4.5
Pay	4.4	4.4	4.5	4.9	4.9

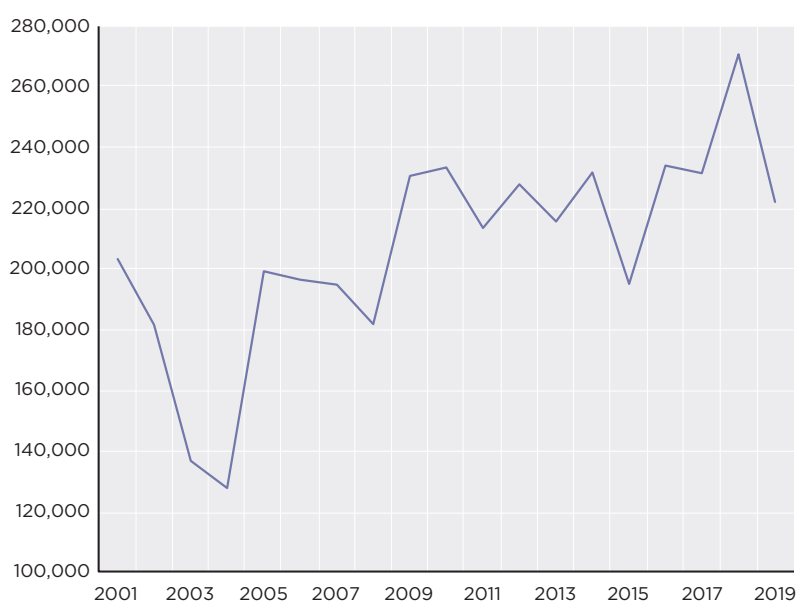
## Young people not in the labour force or engaged in education or training

Not all young people are participating in the labour market or are engaged in education or training. Figure 4.10 shows that, in recent years, over 220,000 people aged 15 to 24 were not in the labour force or engaged in study or training. The number of people in this group has fluctuated over time, reaching a low of 127,000 in 2004 and a high of 271,000 in 2018. This translates to a fluctuation of between 4.0% (in 2004) and 7.5% (in 2018) of all people aged 15 to 24.<sup>4</sup>

The questions that naturally arise are ‘why are they in this situation?’ and ‘what are they doing?’. Candidate explanations include that they are caring for children or people with a disability, they have disability or health barriers, or they are engaged in leisure activities, including artistic or athletic activities, or even playing video games.



Figure 4.10: Number of young people not in the labour force and not engaged in study or training



<sup>4</sup> Closely related to this group are those ‘not in employment, education or training’ (NEET). The group examined here is slightly narrower because it excludes the unemployed, who are not employed but are active participants in the labour force.

**Table 4.16: Caring responsibilities, disability and health of young people not in the labour force or engaged in education or training, 2001 to 2019 (%)**

	2001-2004	2005-2008	2009-2012	2013-2016	2017-2019
<i>Caring</i>					
Primary carer for child aged under 5	43.1	37.7	33.1	28.3	22.2
Main carer for elderly or disabled relative <sup>a</sup>	–	2.3	3.4	6.8	5.1
Either of the above caring barriers	43.1	39.3	35.0	33.0	26.5
<i>Disability and health</i>					
Has a moderate or severe disability	22.1	17.3	24.7	29.0	30.3
In poor mental health	39.4	42.7	42.2	37.4	41.5
In poor general health	30.7	33.0	30.6	28.7	30.4
Any of the above disability or health barriers	50.9	53.0	53.5	52.9	59.6
Any of the above barriers	75.1	75.9	73.3	71.7	71.6

Note: <sup>a</sup> Information on caring for elderly or disabled relatives has only been collected since Wave 5 (2005).



Table 4.16 considers the extent to which caring, disability and health barriers account for non-participation. (See Box 7.3, page 114, for an explanation of the disability variables and Box 7.4, page 114, for an explanation of the health variables.) It shows that these barriers can account for a considerable fraction of the non-participation of young people, although this fraction has declined slightly over time. In the 2001 to 2004 period, 75.1% of young people not in the labour force or studying faced one or more of the caring, disability and health barriers. In the 2017 to 2019 period, this had fallen to 71.6%.

Caring responsibilities for young children in particular have declined as a factor. In the 2001 to 2004 period, 43.1% of this group were the primary carer of a child aged under 5. In the 2017 to 2019 period, this had declined to 22.2%. Disability has increased as a factor, with 30.3% in the 2017 to 2019 period having

a disability restricting the type or amount of work they could do, up from 22.1% in the 2001 to 2004 period and 17.3% in the 2005 to 2008 period.

The corollary of finding that approximately three-quarters of young people not in the labour force or studying face caring, disability or health barriers is that approximately one-quarter do not face such barriers, and therefore may be interpreted as engaged in leisure activities. Table 4.17 examines the characteristics of non-participating young people who do not have caring, disability or health barriers. It shows that, while in the 2001 to 2004 period the majority were female, in more recent years the majority have been male. Indeed, in the 2017 to 2019 period, nearly two-thirds were male.

Over the period as a whole there has been little net change in the proportions aged 15 to 19 and 20 to 24, but in the aftermath of the

GFC (2009 to 2012), the proportion aged 20 to 24 was 67.2%, considerably higher than the approximately 57% in this age group in other periods. The living situation of people aged 15 to 24 not participating in the labour force or studying has changed markedly, with the proportion living with their parents rising from 58.5% to 75.4% and the proportion living with a partner declining from 22.7% to 8.8%. Notable, however, is that the proportion living with their parents was highest in the boom years of 2005 to 2008.

Strikingly, young people not in the labour force or studying and without health and caring barriers are relatively likely to live in poorer households, and indeed their concentration in the bottom 20% of the income distribution has increased over time. This perhaps raises questions about the extent to which this group can be interpreted as engaged in leisure activities.

4.17: Characteristics of young people not in the labour force or engaged in education or training who do not have substantial caring, disability or health barriers, 2001 to 2019 (%)

	2001-2004	2005-2008	2009-2012	2013-2016	2017-2019
Male	44.4	58.3	48.5	54.7	63.1
<i>Age group</i>					
15-19	42.5	43.8	32.8	42.8	43.5
20-24	57.5	56.2	67.2	57.2	56.5
Total	100.0	100.0	100.0	100.0	100.0
<i>Living situation</i>					
Child living with parent(s)	58.5	76.3	63.5	68.6	75.4
Living with a partner	22.7	12.2	15.8	14.3	8.8
Other living arrangement	18.8	11.5	20.7	17.1	15.8
Total	100.0	100.0	100.0	100.0	100.0
<i>Income quintile</i>					
Bottom	27.1	27.9	33.2	34.2	42.1
2nd	20.5	22.6	26.7	24.7	23.5
Middle	25.3	15.9	16.0	15.6	14.7
4th	16.4	21.6	7.5	15.9	11.2
Top	10.7	12.0	16.6	9.6	8.5
Total	100.0	100.0	100.0	100.0	100.0

Note: Cells may not add up to column totals due to rounding.

Table 4.18 considers the persistence of non-participation of young people who do not have caring, disability or health barriers to participation. Since 2005, less than a quarter of this group were still not participating one year after being observed in this state. Of those participating in the

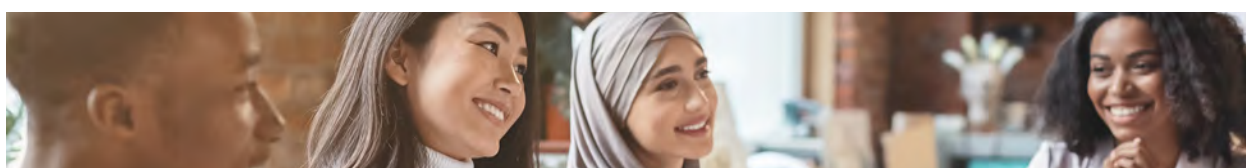
labour market or study one year later, a majority (or close to a majority) were employed, and approximately one-third were studying. Nonetheless, a high proportion were unemployed: 27.0% in the 2001 to 2004 period, 13.3% in the 2005 to 2008 period, 24.7% in the 2009 to 2012 period,

28.4% in the 2013 to 2016 period and 18.7% in the 2017 to 2018 period. Thus, especially in light of information on the location in the household income distribution of young non-participants shown in Table 4.17, the indications are that this is a relatively disadvantaged group.

Table 4.18: Young people not in the labour force or engaged in education or training who do not have substantial caring, disability or health barriers—Labour force and education activity one year later, 2001 to 2019 (%)

	2001-2004	2005-2008	2009-2012	2013-2016	2017-2019
Not in the labour force or engaged in study	30.3	22.6	22.7	16.8	21.2
In the labour force and/or studying	69.7	77.4	77.3	83.2	78.8
Total	100.0	100.0	100.0	100.0	100.0
<i>Those in the labour force and/or studying</i>					
Employed	57.4	71.6	55.9	49.3	61.7
Unemployed	27.0	13.3	24.7	28.4	18.7
Studying	32.3	27.4	34.8	35.5	39.6
Both in the labour force and studying	16.8	12.3	15.4	13.2	20.0

Note: Cells may not add up to column totals due to rounding.





# 5

## Unpaid work

*Roger Wilkins*



Chapter 4 of this report focused on paid employment, which is, of course, an important contributor to individual and household wellbeing. However, unpaid work is also an important contributor to wellbeing. Much of this unpaid work can be thought of as household production that contributes to the living standards of all household members. This includes housework, household errands, outdoor tasks and child care (see Box 5.1, below). However, it also includes care provided to other people not living in the household and volunteer work, both of which contribute to the living standards of the broader community.

In this chapter, we examine the time spent on unpaid work, how it depends on family type and how it is distributed between men and women in opposite-sex couples with dependent children. We also consider how different distributions of paid and unpaid work between couples impact on measures of satisfaction with various aspects of family life and with life overall, and the factors associated with a greater gap between women and men in their unpaid work. Patterns in paid and unpaid working time of couples around the time of the birth of their first child are also examined.

### Box 5.1: Classification of paid and unpaid work

In the self-completion questionnaire of the HILDA Survey, respondents are asked annually how much time they spend in a typical week on each of nine activities:

- a. Paid employment
- b. Travelling to and from the place of paid employment
- c. Household errands, such as shopping, banking, paying bills and keeping financial records (but not driving children to school and other activities)
- d. Housework, such as preparing meals, washing dishes, cleaning house, washing clothes, ironing and sewing
- e. Outdoor tasks, including home maintenance (repairs, improvements, painting, etc.), car maintenance or repairs, and gardening
- f. Playing with your children, helping them with personal care, teaching, coaching or actively supervising them, or getting them to child care, school or other activities
- g. Looking after other people's children (aged under 12 years) on a regular, unpaid basis
- h. Volunteer or charity work (for example, canteen work at the local school, unpaid work for a community club or organisation)
- i. Caring for a disabled spouse or disabled adult relative, or caring for elderly parents or parents-in-law

The question has been included in the HILDA Survey every year, although paid employment was only added in 2002, and the possibility to report time use in minutes (as opposed to hours only) was likewise only added in 2002. As a result, the time-use data is only comparable from 2002 on.

In this report, total working time is equal to the sum of the time spent on these nine activities. Total time spent on paid work is equal to the sum of activities a and b, while total time spent on unpaid work is equal to the sum of the remaining seven activities.

Figure 5.1 shows the mean time spent on each of the seven types of unpaid work described in Box 5.1 by people aged 15 and over in

each year of the HILDA Survey since 2002. The figure also presents the mean total time spent on unpaid work and the

mean total time spent on paid work.

Housework is the largest form of unpaid work, averaging approximately 10 hours per week, followed by caring for one's own children. Volunteer work and caring for other people's children have the lowest mean times. There has been a downward trend in the mean time spent on housework, falling from 11 hours

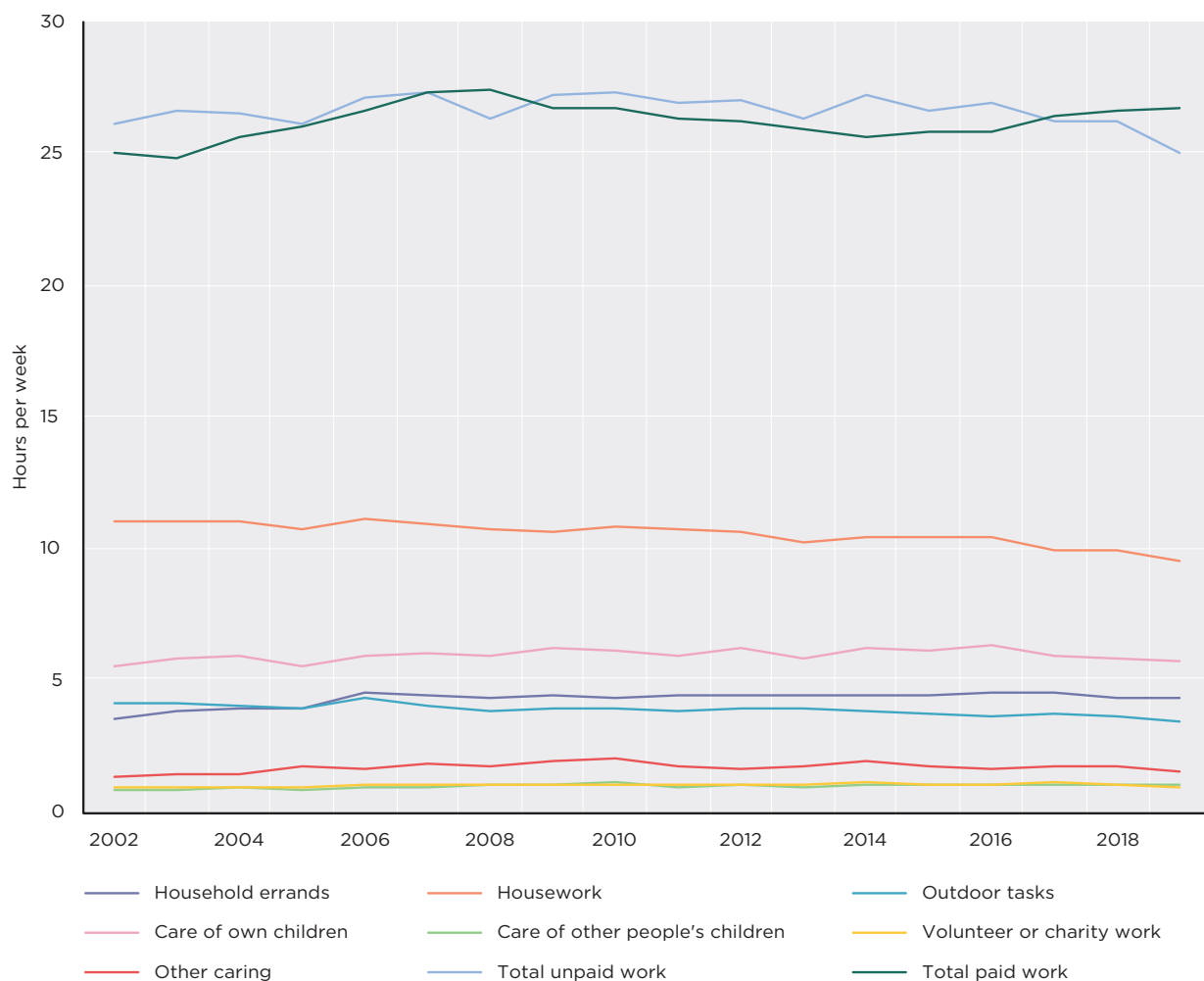
per week at the start of this century to 9.5 hours per week in 2019. Mean time spent on outdoor tasks has also trended downwards, declining from 4.1 hours per week to 3.4 hours per week.

Total time spent on unpaid work showed no clear trend up until 2014, but since then there has been a sustained decline in mean time spent on unpaid work

from 27.2 hours per week to 25.0 hours per week. Total time spent on paid work inclusive of time spent travelling to and from work is remarkably similar on average to total time spent on unpaid work. That said, three distinct periods for mean total time spent on paid work are evident: a steady increase from 2003 to 2008 (from 24.8 to 27.4 hours per week), followed by a steady



Figure 5.1: Mean time spent on paid and unpaid work by persons aged 15 and over



decline up until 2014 (down to 25.6) and then a trend rise to 2019 (to 26.7).

Figure 5.2 presents mean total time spent on unpaid work by sex and relationship in the family in each year from 2002 to 2019. Males and females have the same ordering of mean time spent on unpaid work across relationship types, with couples with dependent children having the highest means and dependent children (aged 15 and over) having the lowest.<sup>1</sup> However, with the exception of dependent children, in all of the relationship types distinguished in the figure, females average more unpaid work than males. The gaps are particularly large for couples with

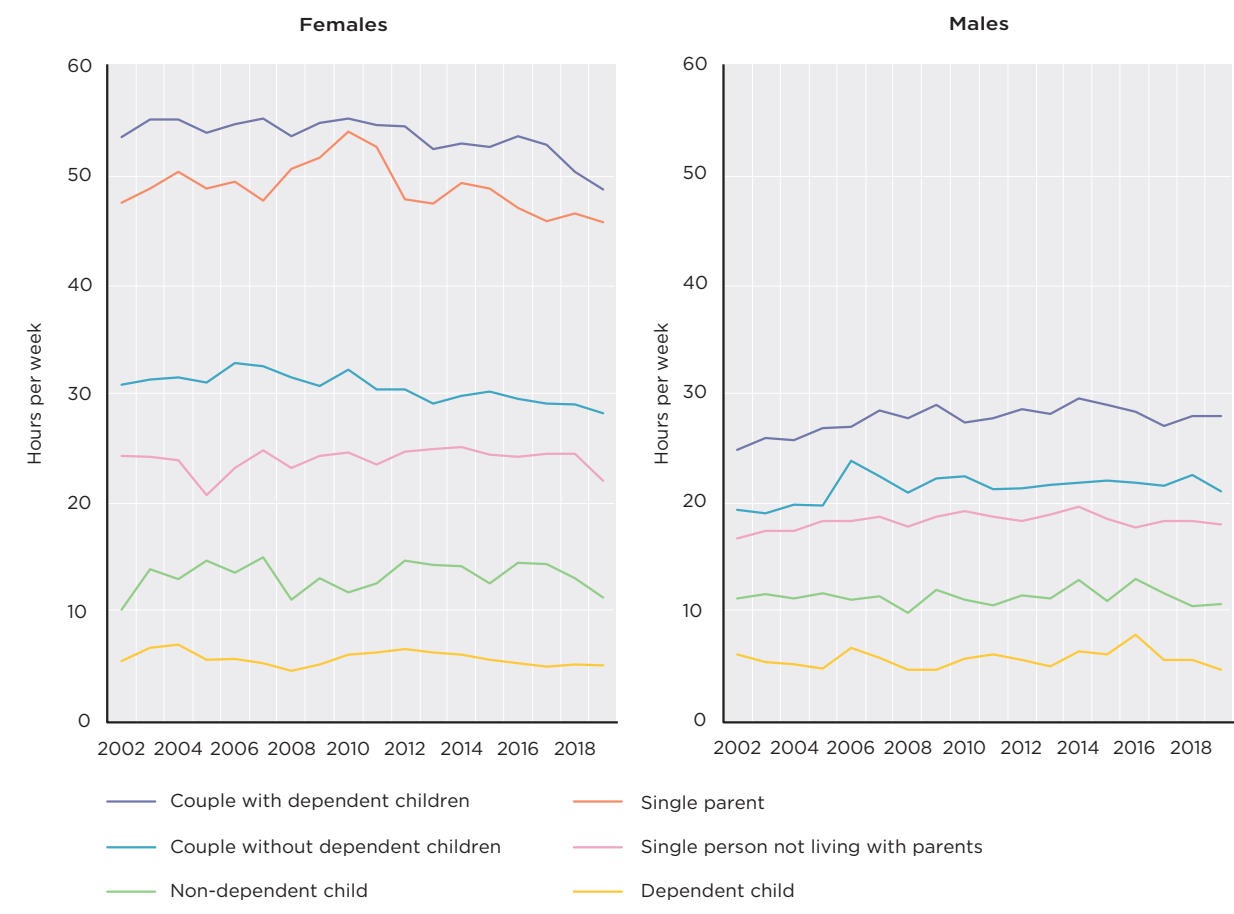
dependent children, although there has been considerable reduction in this gap, from 28.8 hours per week in 2002 to 20.9 hours in 2019.

The reduction in the gap has partially come from males increasing their unpaid work (from an average of 24.7 hours in 2002 to 27.8 hours in 2019), but the bigger contributor has been the reduction in unpaid work undertaken by females (from 53.5 hours in 2002 to 48.7 hours in 2019). Much of the decline for partnered females with dependent children occurred between 2016 and 2019, while for partnered males with dependent children, mean time spent on unpaid work actually

peaked in 2014 and has since declined slightly.

The gap has also narrowed somewhat for couples without dependent children, again both because males have increased their time spent on unpaid work and females have decreased their time spent on unpaid work. Since 2010, single-parent females have on average decreased the time spent on unpaid work, prior to which there was a considerable rise in the mean time spent on unpaid work from 2007. For single people, non-dependent children and dependent children, while there has been fluctuation in mean time spent on unpaid work over time, no clear trends are evident.

Figure 5.2: Mean time spent on unpaid work, by sex and relationship in the family—People aged 15 and over



Note: Estimates for male single parents are unreliable due to small sample sizes and are therefore not reported.

<sup>1</sup> Estimates for single-parent males are not reliable because of small sample sizes, but the estimates nonetheless show that single-parent males spend more time on unpaid work than partnered males with dependent children. This is in contrast to females, among whom partnered females with children on average spend more time on unpaid work than single-parent females.

Figure 5.2 shows considerable disparities between people based on sex and relationship in the family in the amount of unpaid work they do. Figure 5.3 examines whether the distribution of total working time inclusive of paid work is more equitably distributed. The figure shows that some gaps between people based on these characteristics are indeed smaller for total working time.

Particularly notable is that mean working time of partnered males and females is similar, although females still average slightly higher total working times, for both couples with dependent children and other couples. Further, total working time is quite similar for single people not living with their parents, non-dependent children and

couples without dependent children, for both males and females.

Nonetheless, people with dependent children stand out as having considerably higher mean working times than other people. In 2019, partnered females with dependent children averaged 75.7 hours of work per week, up from 72.0 hours in 2002, while partnered males with dependent children averaged 73.7 hours of work per week, up from 69.7 hours in 2002. Single-parent females averaged 70.0 hours of work per week in 2019, up from 65.7 hours in 2002. By contrast, in 2019, partnered females without dependent children averaged 48.5 hours of work and partnered males without dependent children averaged 46.3 hours.

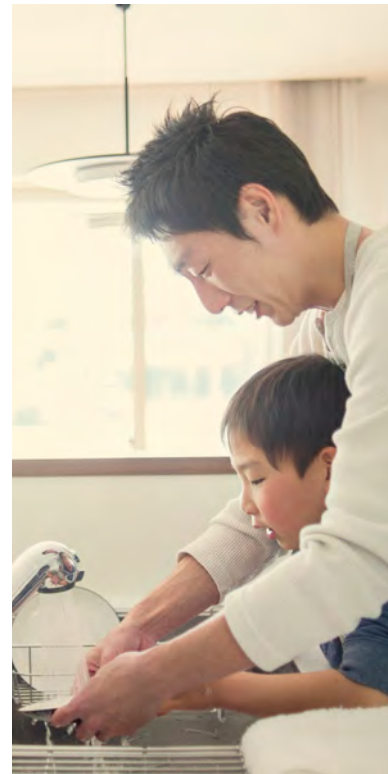
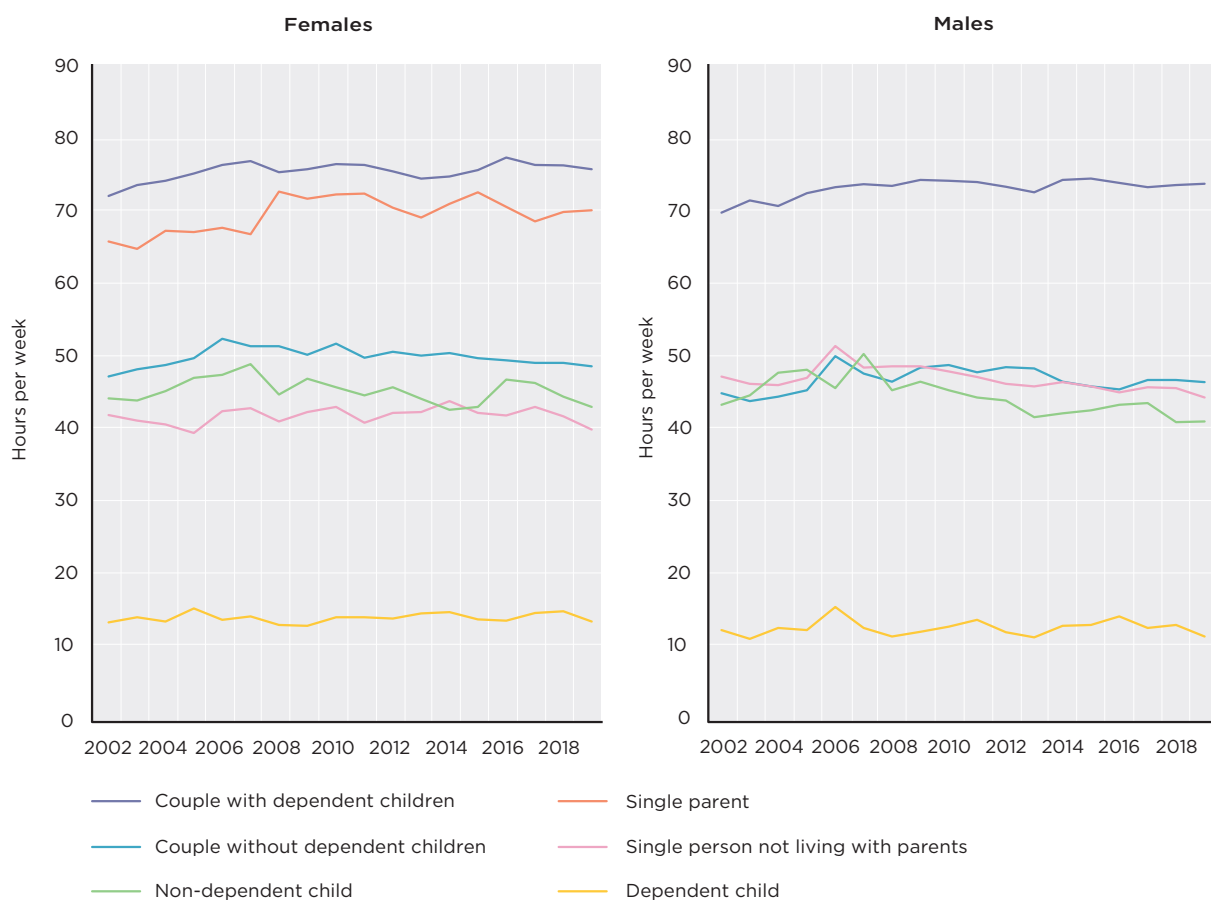


Figure 5.3: Mean time spent on paid and unpaid work combined, by sex and relationship in the family  
—People aged 15 and over



Note: Estimates for single-parent men are unreliable due to small sample sizes and are therefore not reported.



## Opposite-sex couples with dependent children

In Figures 5.4 and 5.5, we focus on opposite-sex couples with dependent children aged under 18, presenting analogous graphs to Figures 5.2 and 5.3, but examining how working time depends on the age of the youngest child.

Time spent on unpaid work is ordered by the age of the youngest child for both men and women, with unpaid working time being higher the younger the child. However, the differences by age of youngest child are much larger for women. For example, in 2019, average unpaid working time of women was 60.8 hours per week where the youngest child was aged under 6, 43.3 hours per week where the youngest child was aged 6 to 12, and 33.6 hours per week where the youngest child was aged 13 to 17.



youngest child was aged 6 to 12, and 33.6 hours per week where the youngest child was aged 13 to 17. For men, the corresponding averages were 31.6, 27.1 and 22.4.

As found in Figure 5.3, differences between men and women in total working time are smaller than differences in unpaid working

time. However, mean total working time of men is still considerably lower than mean total working time of women when the youngest child is aged under 6, and is still somewhat lower when the youngest child is aged 6 to 12. It is only when the youngest

Figure 5.4: Mean time spent on unpaid work by opposite-sex couples with dependent children aged under 18



Figure 5.5: Mean time spent on paid and unpaid work combined by opposite-sex couples with dependent children aged under 18



### Box 5.2: HILDA Survey measures of satisfaction with aspects of family life

The self-completion questionnaire of the HILDA Survey contains a battery of questions on the degree of satisfaction, rated on a 0 to 10 scale, with various family relationships, including the relationship with one's partner. It also contains two questions on satisfaction with 'the way child care tasks are divided between you and your partner' and 'the way household tasks are divided between you and your partner', again on the 0 to 10 scale.

child is aged 13 to 17 that the gap completely disappears.

Measures of satisfaction with aspects of family life (see Box 5.2, page 90) and with life overall (see Box 4.6, page 73) are considered in Table 5.1, which examines how these measures differ depending on the distribution of unpaid and total working time among opposite-sex couples with dependent children aged under 18. Nine situations are distinguished based on whether unpaid and total working time of the woman are greater than, similar to or less than those of her partner. Working time is defined to be 'similar' if the woman's working time is not more than 10% greater than her partner's working time and her partner's working time is not more than 10% greater than her working time.

The most common situation is where the woman is working





more unpaid hours and more total hours (40.4%), followed by the woman working more unpaid hours and fewer total hours (18.1%) and then the woman working more unpaid hours and similar total hours (17.6%). The only other situation with a sizeable proportion of couples is the woman working fewer unpaid hours and fewer total hours (13.2%).

For both men and women, mean satisfaction with one's partner is relatively similar across the three most-common working-time situations (which all involve women working more unpaid hours than men), but is highest for both women and men when total working time is similar—mean satisfaction on the 0–10 scale is 8.1 for women and 8.4 for men. Across all the situations

distinguished in the table, women are on average least satisfied with the relationship with their partner when they work fewer unpaid hours but more total hours, a situation where the woman has considerably higher hours of paid work.

Women are on average most satisfied with the relationship with their partner when both paid and total working time are similar to that of their partner. Men are on average least satisfied with the relationship with their partner when they work similar unpaid hours but more total hours, while they are most satisfied when they work the same unpaid hours but fewer total hours.

Satisfaction with the way child care tasks are divided with one's partner shows somewhat different patterns. Women are on

average least satisfied when their unpaid and total working time are both greater than their partner's, while they are most satisfied when they work fewer unpaid hours but more total hours. Curiously, this latter working-time arrangement is also associated with a high average satisfaction with the division of child care tasks for men, although men are most satisfied with this aspect of family life when the woman has similar unpaid hours and fewer total hours. Men's lowest average satisfaction with the division of child care tasks occurs when the woman works fewer unpaid hours and similar total hours.

Perhaps the key measure of desirability of a working-time arrangement is how it is associated with overall life satisfaction. On this count,

women have the highest life satisfaction when they work similar unpaid hours and more total hours than their partner, while men have the highest life satisfaction when the woman works similar unpaid hours, but the man works more total hours.

It is perhaps counterintuitive that both men and women appear to be happiest when they work similar unpaid hours to their partner, but more paid hours than their partner, but this is what the HILDA Survey data show.

While we cannot conclude that particular distributions of working time causally impact on satisfaction with family life and life overall, it is nonetheless of interest to note the arrangements that are associated with highest levels of satisfaction.



Table 5.1: Satisfaction with aspects of family life—Men and women in opposite-sex couples with dependent children aged under 18, by working-time group, 2017 to 2019 (pooled)

	Proportion of couples in each group (%)	Mean satisfaction (0–10 scale)							
		Relationship with partner		The way child care tasks are divided with partner		The way household tasks are divided with partner		Life overall	
		Women	Men	Women	Men	Women	Men	Women	Men
Woman's working time compared with her partner's working time									
More unpaid hours, more total hours	40.4	8.0	8.2	7.2	8.0	6.6	7.9	8.0	7.9
More unpaid hours, similar total hours	17.6	8.1	8.4	7.5	8.1	7.1	8.0	8.2	7.9
More unpaid hours, fewer total hours	18.1	8.0	8.2	7.3	8.0	7.0	7.8	8.1	7.8
Similar unpaid hours, more total hours	1.0	8.0	7.8	7.9	8.0	7.6	7.8	8.3	7.9
Similar unpaid hours, similar total hours	2.0	8.3	8.4	8.2	8.3	7.7	8.0	7.9	7.6
Similar unpaid hours, fewer total hours	3.7	8.2	8.6	7.8	8.7	7.3	8.1	8.1	8.1
Fewer unpaid hours, more total hours	2.3	7.7	8.3	8.3	8.4	7.7	8.3	7.9	7.1
Fewer unpaid hours, similar total hours	1.8	7.8	8.1	8.1	7.7	7.6	7.4	7.9	7.9
Fewer unpaid hours, fewer total hours	13.2	7.9	8.0	7.6	8.1	7.1	7.9	7.7	7.8
Total	100.0	8.0	8.2	7.4	8.1	6.9	7.9	8.0	7.9

Notes: Working time is 'similar' if the woman's working time is not more than 10% greater than her partner's working time and her partner's working time is not more than 10% greater than her working time. Cells may not add up to total in the first column due to rounding.



For relationship satisfaction, the average of women's and men's satisfaction is maximised when the woman works similar unpaid hours and fewer total hours.

For both satisfaction with the division of child care tasks and satisfaction with the division of household tasks, average satisfaction is maximised when the woman works fewer unpaid hours but more total hours. For overall life satisfaction, similar unpaid hours and more total hours for the woman, and similar unpaid hours and fewer total hours for the woman, are equally associated with the highest average satisfaction of men and women.

The factors associated with the gap between unpaid working time of women and their partners are examined in Table 5.2, which presents estimates from a regression model of the determinants of the excess of the woman's unpaid working time over her partner's unpaid working time.

The estimates show that the younger the youngest child, the greater the gap. All else being equal, de facto marriages act to decrease the gap by 3.51 hours compared with legal marriages, while the gap is also 1.35 hours lower in urban regions outside major urban areas than in other regions (see Box 3.5, page 26). The man's educational attainment (see Box 4.4, page 67) is positively associated with the gap, with the gap 4.82 hours higher for men with a bachelor's degree or higher compared with a man who has not completed high school, all else being equal. Birth in a country other than Australia or one of the main English-speaking countries (see Box 5.3, page 93) is associated with a decrease in the gap.

Periodically, the HILDA Survey has measured the importance of

#### Box 5.3: Classification of place of birth and Indigenous status

In this report, two groups of immigrants are distinguished: those born in one of the main English-speaking countries, which comprise the United Kingdom, the United States, Canada, Ireland, New Zealand and South Africa; and those born in other countries.

Among people born in Australia, in some analyses in this report a distinction is drawn between people who self-identify as Aboriginal or Torres Strait Islander (Indigenous) and other people born in Australia.

#### Box 5.4: HILDA Survey measure of the importance of religion

In Waves 4, 7, 10, 14 and 18, the self-completion questionnaire has contained a set of questions on religious belief, included in which is the question 'On a scale from 0 to 10, how important is religion in your life?' where 0 corresponds to 'One of the least important things in my life' and 10 corresponds to 'The most important thing in my life'.

In this report, to allow inclusion of the importance of religion in analysis of all years of the HILDA Survey data, in years in which the questions on religion are not administered the values from the nearest year are used—thus, in 2001 to 2003 and 2005, the responses in 2004 are used, in 2006 and 2008, the responses in 2007 are used, and so on.



Table 5.2: Factors associated with the female-male gap in weekly hours of unpaid work in opposite-sex couples with dependent children aged under 18, 2002 to 2019

Age of youngest child	-1.84
Number of dependent children	ns
Not legally married	-3.51
<i>Region (Reference category: Major urban)</i>	
Other urban	-1.35
Other region	ns
<i>Woman's educational attainment (Reference category: Less than high-school completion)</i>	
Bachelor's degree or higher	ns
Other post-school qualification	ns
High-school completion	2.88
<i>Man's educational attainment (Reference category: Less than high-school completion)</i>	
Bachelor's degree or higher	4.82
Other post-school qualification	3.07
High-school completion	ns
<i>Woman's place of birth (Reference category: Australia)</i>	
Main English-speaking countries	ns
Other country	-10.95
<i>Man's place of birth (Reference category: Australia)</i>	
Main English-speaking countries	ns
Other country	-2.43
Importance of religion for woman (0-10 scale)	0.58
Importance of religion for man (0-10 scale)	-0.32
Extent to which woman has traditional views on marriage and children (1-7 scale)	-0.93
Extent to which woman has traditional views on parenting and paid work (1-7 scale)	5.12
Extent to which man has traditional views on marriage and children (1-7 scale)	ns
Extent to which man has traditional views on parenting and paid work (1-7 scale)	4.36
<i>Birth year (Reference category: Before 1970s)</i>	
1970s	ns
1980s	-2.92
1990s or later	-5.30
Year	ns
Number of observations	16,427

Notes: The table presents estimates from an Ordinary Least Squares regression model. See the Technical Appendix for a brief explanation of this model. The dependent variable is the difference between the time the woman spends on unpaid work and the time her male partner spends on unpaid work, where a positive number indicates the woman does more unpaid work. *ns* indicates the estimate is not significantly different from 0 at the 10% level.



religion in people's lives (see Box 5.4, page 93). The estimates presented in Table 5.2 indicate that the importance of religion in the woman's life is associated with an increase in the gap in unpaid work, but its importance in the man's life is associated with a decrease in the gap.

Traditional views on parenting and paid work (see Box 11.1, page 146) are, unsurprisingly, associated with a greater gap, but traditional views on marriage and children are associated with a reduction in the gap (women's views) or no significant effect on the gap (men's views). Finally,

compared with those born in the 1970s or earlier, the gap is lower for those born in the 1980s and lower again for those born in the 1990s.

Changes in time spent on unpaid work and all work around the time of birth of the first child of a couple are examined in



Figure 5.6: Mean time spent on paid and unpaid work by opposite-sex couples, by time to and from birth of first child

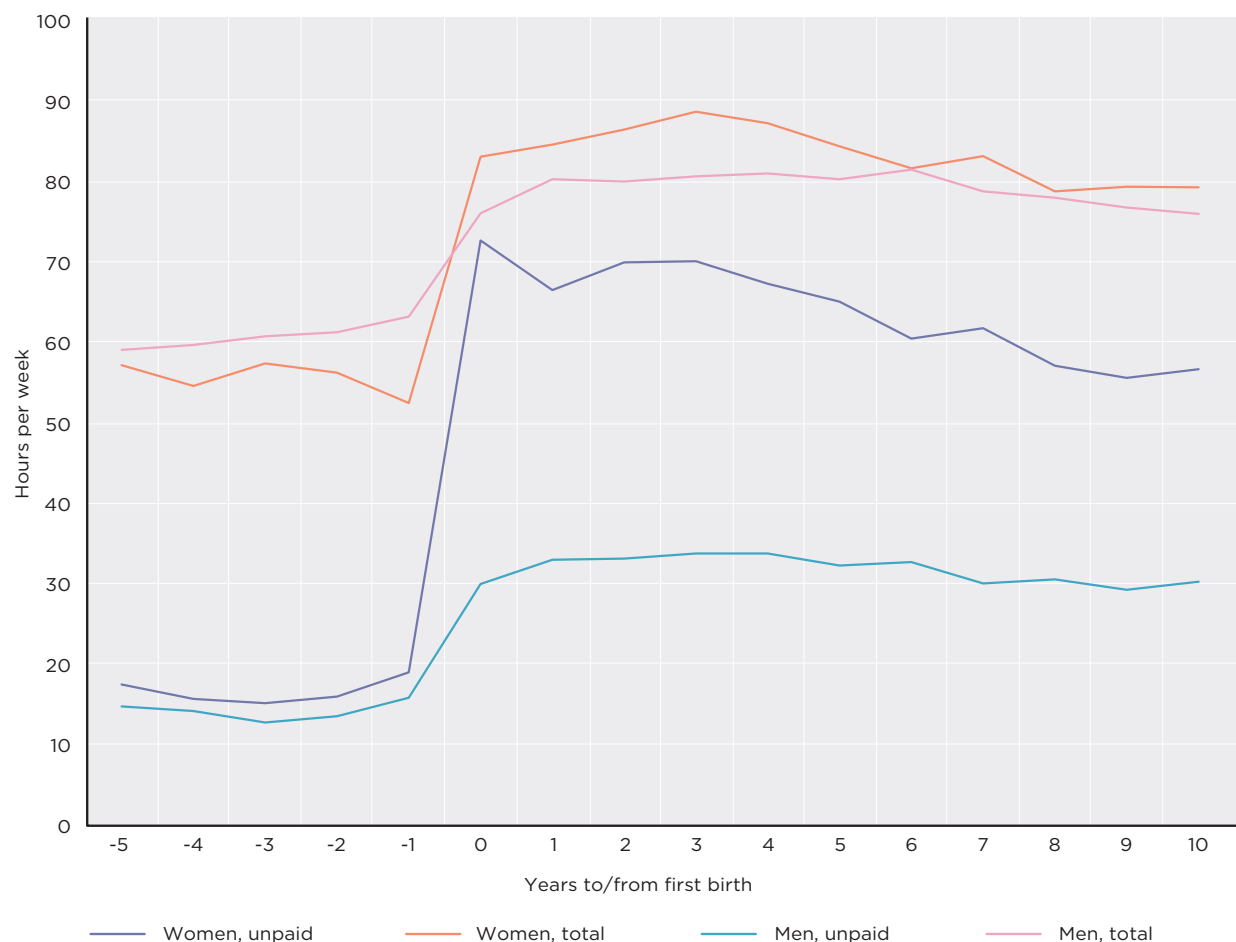
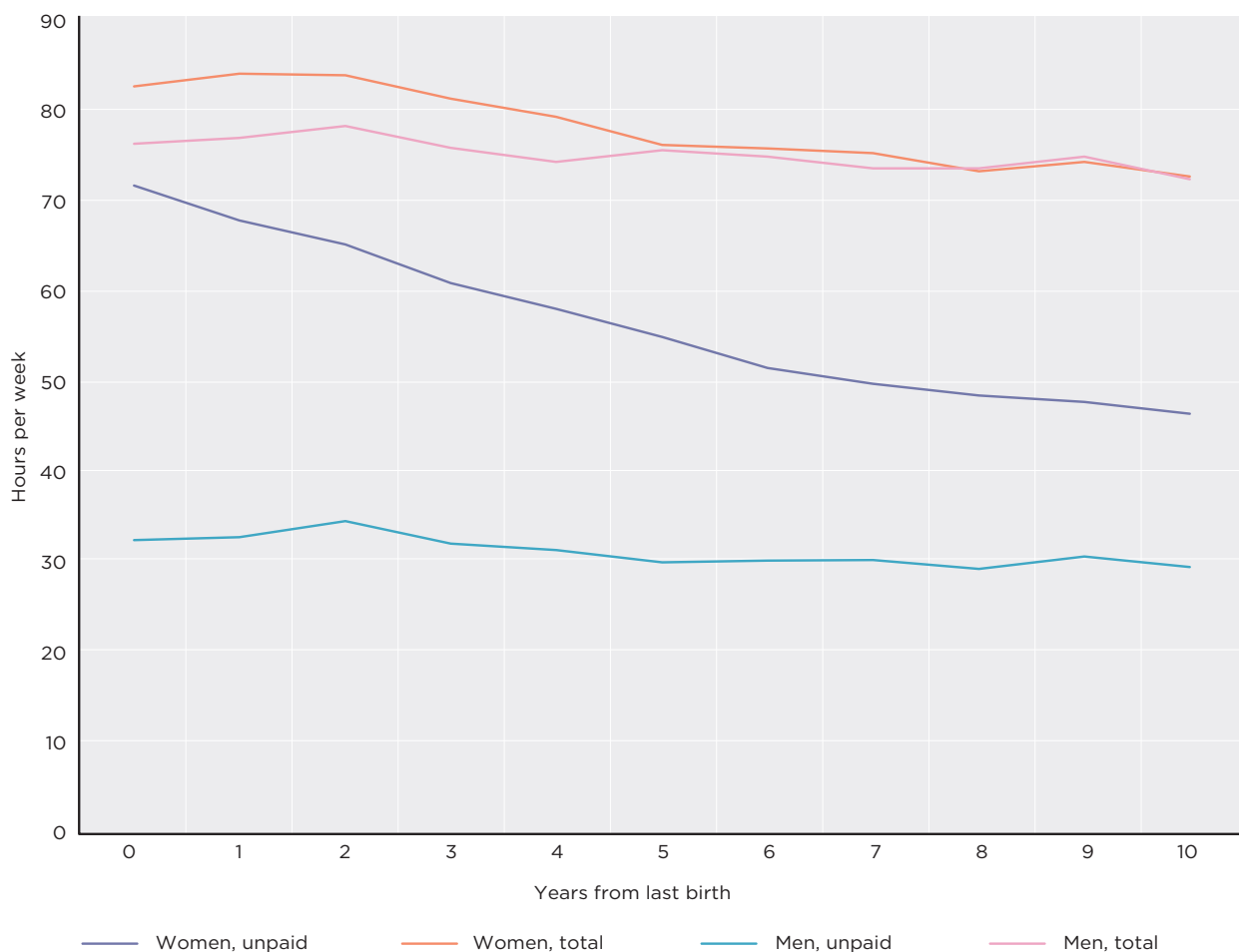




Figure 5.6. The figure shows that men and women have similar average times spent on both paid and unpaid work up until the arrival of the first child, at which time an enormous gulf develops. Women's time spent on unpaid work jumps dramatically, as does their total time spent on work, despite a decline in time spent on paid work. Men's time on unpaid work also increases, but to a much smaller degree.

Post the birth of the first child, total time working is slightly higher for women than men, having been slightly lower prior to arrival of the first child. Total working time remains slightly higher for women until six years after the arrival of the first child, after which total working time is similar for men and women. The

Figure 5.7: Mean time spent on paid and unpaid work by opposite-sex couples, by time from birth of last child





gulf in unpaid working time that opens up on the birth of the first child remains very large, even 10 years after the arrival of the first child. It does narrow, but is still over 26 hours per week after 10 years, having been more than 42 hours in the year of arrival of the first child.

At the other end of the child-rearing spectrum, Figure

5.7 examines mean time on paid and unpaid work in the years subsequent to the birth of the last child of the couple. Total working time remains higher for women for four years after the arrival of the last child, but is then similar for men and women. There is still a very large gap in time spent on unpaid work following the arrival of

the last child, which narrows only slowly over subsequent years, and is still 17 hours per week 10 years after the arrival of the last child. Perhaps surprising is that comparisons of the first decade with the second decade of this century (not presented) show almost no discernible change in these patterns.



# 6

## Housing mobility

*Roger Wilkins*

How often do people move house, and are we moving more or less often than we used to? The HILDA Survey is almost certainly the best source of data Australia has on how frequently we move house, the nature of those moves and the factors that impact on the decision to move.

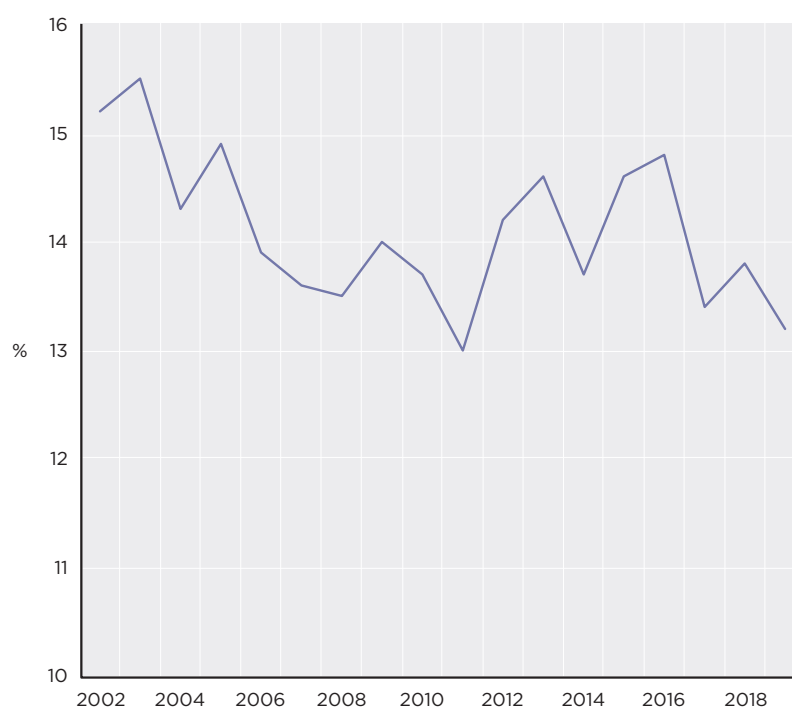
In this chapter, we examine frequency of moves, the nature of the moves in terms of factors such as distance and the reasons for the move, the characteristics of people who move, and the factors that make one more likely to move.

### Annual rates of moving house

Figure 6.1 shows how the proportion of people moving house each year has changed between 2002 and 2019. It shows that between 13% and 15% of people typically move house in any given year. However, there is considerable variation over the period since 2002. In 2002 and

2003, over 15% of people moved house, but the proportion moving showed a trend decline up until 2011, when only 13% of people moved. There was then an increase in the proportion moving to 2013, since when there has been some volatility in the proportion moving, but with the proportion moving to not much above 13% in each of the last three years.

**Figure 6.1: Proportion of people aged 15 and over moving house since the previous year**



Annual rates of moving house by household type are compared in Figure 6.2, showing that couple households, with or without dependent children, are the least likely to move in any given year. 'Other' household types, comprising a variety of household types, including single-person households, group households and multiple-family households, have the highest moving rates, although they have declined over time and have been similar to single-parent households since 2017.

Figure 6.3 presents annual rates of moving by housing tenure type. Unsurprisingly, private renters, with the least security of tenure (but perhaps also a greater predisposition to move), have the annual highest rates of moving. Home owners have the lowest rates. For both private renters and home owners there has been a decline in the annual rate of moving. In percentage terms, mobility for owner-occupiers has declined by 27% (from 9.4% in 2002 to 6.9% in 2019). It has also declined by 27% for private renters (from 42.4% in 2002 to 31.1% in 2019), although much of that decline occurred up to 2004, since when the decline has been 9% (from 34.0% to 31.1%).

## Housing mobility over longer time frames

Rates of moving house over time frames longer than one year are considered in Table 6.1. The table shows that approximately 40% of people move over the course of a five-year period, and nearly 60% move over a 10-year period. Those who do move on average move 1.7 to 1.8 times over five years and 2.4 times over 10 years. There was some decline in five-year housing mobility up until the 2009 to 2014 period, but it

Figure 6.2: Proportion of people aged 15 and over moving house in the previous year, by household type in the previous year

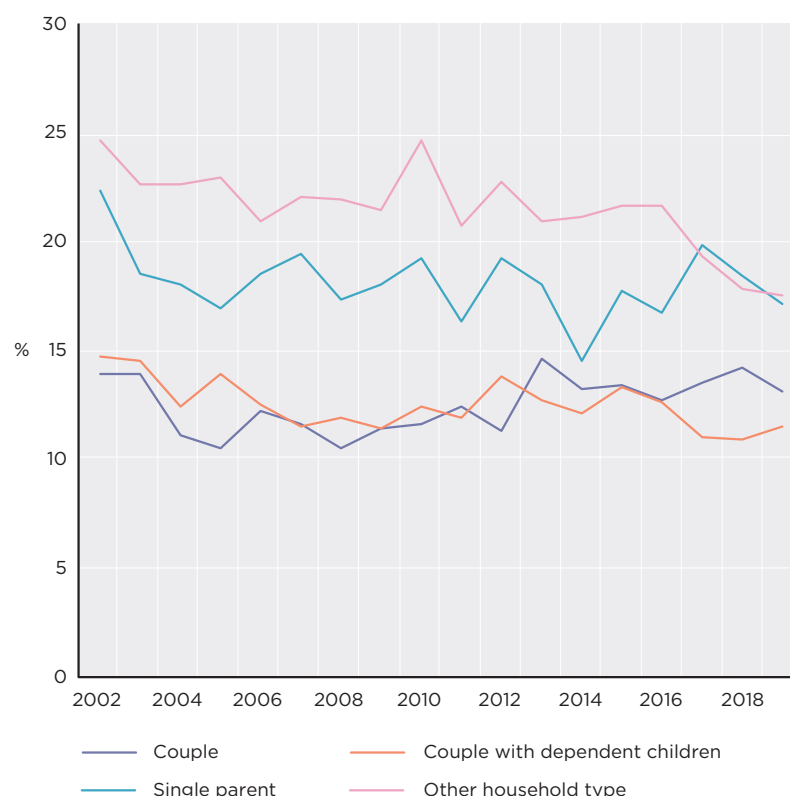


Figure 6.3: Proportion of people aged 15 and over moving house in the previous year, by housing tenure type in the previous year

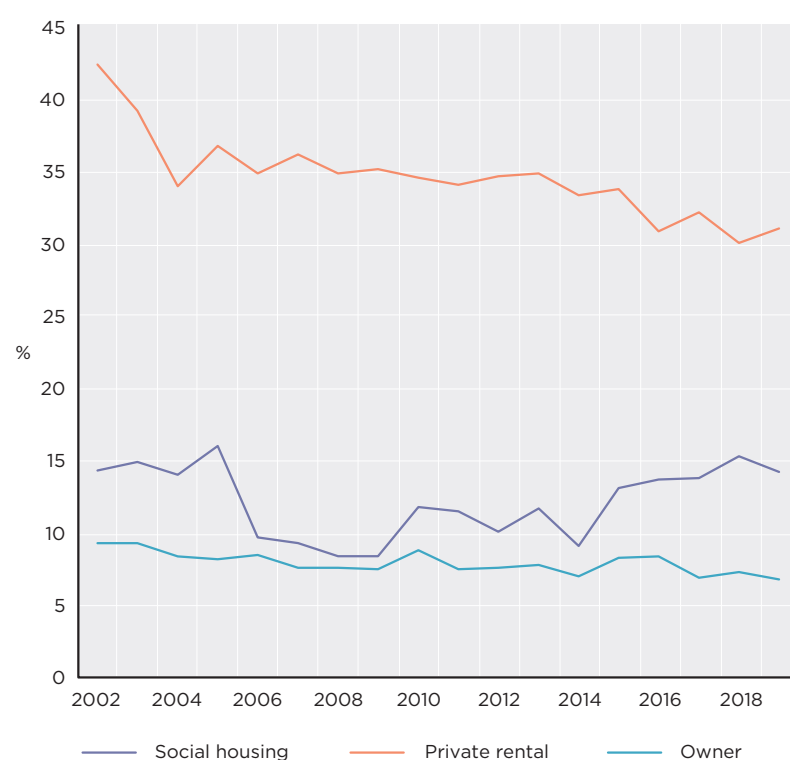




Table 6.1: Rates of moving house over five-year and 10-year time-frames—People aged 15 and over, 2001 to 2019

<i>Initial year</i>	<i>Over five years from the initial year</i>		<i>Over 10 years from the initial year</i>	
	<i>Proportion who moved (%)</i>	<i>Mean number of moves of those who moved</i>	<i>Proportion who moved (%)</i>	<i>Mean number of moves of those who moved</i>
2001	43.5	1.8	59.3	2.4
2005	40.6	1.7	56.9	2.4
2009	39.9	1.8	57.2	2.4
2014	42.3	1.7	–	–

increased again in the five-year period from 2014 to 2019. For 10-year mobility, it was 59.3% in the 10 years from 2000, 56.9% in the 10 years from 2005 and 57.2% in the 10 years for 2009.

Table 6.2 examines differences in housing mobility by housing tenure type in more detail than Figure 6.3. The upper panel examines annual rates of moving for each housing tenure type in each of three time periods, presenting the proportion moving, the proportion moving for work or study reasons and, for renters, the proportion forced to move by the landlord (see Box 6.1, page 102).

As shown in Figure 6.3, annual rates of moving are highest for private renters and lowest for owner-occupiers, and for both tenure types there has been a decline in moving rates. The annual rate of moving from social housing declined between the 2002 to 2006 period and

the 2007 to 2012 period, but then rose again in the 2013 to 2019 period.

Work and study reasons represent a relatively low share of the reasons people move, and perhaps of concern for the efficiency of operation of the labour market, such moves have declined for all three housing tenure types. In the 2013 to 2019 period, while 32.3% of private renters moved house each year, only 4.4% moved for work-related reasons, down from 6.0% in the 2001 to 2006 period. On average, only 1.3% of owner-occupiers and 1.1% of renters of social housing moved for work-related reasons each year in the 2013 to 2019 period, compared with respective rates of 1.6% and 2.3% in the 2001 to 2006 period.

Eviction is a more common reason for moving for private renters than moving for work or study, with 6.7% evicted each year on average between 2002

and 2012, and 5.8% evicted each year between 2013 and 2019. A rise in evictions is evident for renters of social housing in the 2013 to 2019 period, although the annual eviction rate of 1.6% was still considerably lower than that of private renters.

The lower panels examine rates of housing mobility by tenure type over five years and over 10 years. The same ordering of mobility by tenure type found for one-year mobility is broadly evident over the longer time frames, but the differences are proportionately smaller. For example, in the 10 years from 2001, 50.2% of owner-occupiers moved house, compared with 52.6% of renters of social housing and 86.5% of private renters. Significantly, the proportion who moved house at some stage over five years, and the proportion who moved house at some stage over 10 years, has changed very little for private renters but has trended down for owner-occupiers.





Table 6.2: Proportion of people aged 15 and over moving house, by housing tenure type, 2001 to 2019 (%)

<b>Annual rates</b>	<b>2002–2006</b>	<b>2007–2012</b>	<b>2013–2019</b>
<i>Moved</i>			
Social housing	13.9	10.1	13.0
Private rental	37.5	34.9	32.3
Owner	8.8	7.9	7.6
<i>Moved for work or study reasons</i>			
Social housing	2.3	1.8	1.1
Private rental	6.0	5.1	4.4
Owner	1.6	1.3	1.3
<i>Forced to move by landlord</i>			
Social housing	1.3	1.0	1.6
Private rental	6.7	6.7	5.8

<b>Proportion moving over 5 years</b>	<b>From 2001</b>	<b>From 2005</b>	<b>From 2009</b>	<b>From 2014</b>
Social housing	35.6	28.7	35.1	44.3
Private renter	75.2	73.6	74.1	73.0
Owner	33.0	31.5	28.7	30.1

<b>Proportion moving over 10 years</b>	<b>From 2001</b>	<b>From 2005</b>	<b>From 2009</b>
Social housing	52.6	41.9	57.5
Private renter	86.5	85.6	85.9
Owner	50.2	47.6	46.8

## Characteristics of moves

Each year, people aged 15 and over who had changed address since their last interview are asked for the main reasons for the change of address (see Box 6.1, page 102). Table 6.3 shows the distribution of reasons for moving in each of the three periods. Note that individuals can report more than one reason for moving and hence the total of each column exceeds 100%.

The most commonly reported reason for moving is to get a better place (which includes getting a place in a better neighbourhood or closer to amenities), followed by 'getting a place of my own/our own' and then work or study reasons. Between the 2002 to 2006 and 2013 to 2019 periods, there has



### Box 6.1: Classification of reasons for moving

The HILDA Survey personal interview contains a question on the main reasons for moving house asked of all people aged 15 and over who had changed their address since their last interview. Responses are classified by interviewers into over 20 categories. In this report, these categories are reduced to the following 10 categories.

1. Work or study (to start a new job with a new employer; to be close to place of study; to be nearer place of work; to start own business; work transfer; decided to relocate own business; to look for work; other work reasons)
2. To get a place of my own/our own
3. To get married/moved in with partner
4. Marital/relationship breakdown
5. Other family-related reasons (to be closer to friends and/or family; to follow a spouse or parent/whole family moved)
6. To get a better place (to get a larger/better place; to live in a better neighbourhood; to be closer to amenities/services/public transport)
7. To get a smaller/less expensive place (less rent, less upkeep, etc.)
8. Seeking change of lifestyle
9. Other personal reasons (seeking change of lifestyle; health reasons; temporary relocation (e.g., while renovating/re-building); moved to Australia; travelling/returned from overseas; other personal/family reasons; other housing/neighbourhood reason)
10. Forced to move by owner/landlord (evicted; property no longer available; government housing (no choice))

Since there may be multiple reasons for moving, an individual may be in more than one category.

been a decline in the proportion of movers reporting work or study reasons from 16.5% to 14.3%, as well as a decline in the proportion moving for a change in lifestyle from 9.5% to 7.7%.<sup>1</sup>

How far people move, and whether they change the type of region or state in which they live, are examined in Table 6.4. The majority of moves can be considered as broadly staying in the same area, with approximately 58% of moves being less than 10 kilometres. Less than a quarter of moves are 30 or more kilometres away. Thus, relatively few moves are to a major urban region from an other-urban or non-urban area, or vice versa, and fewer than 10% of moves are interstate.

Table 6.3: Main reasons for moving—People aged 15 and over who changed address in the last year, 2002 to 2019 (%)

	2002–2006	2007–2012	2013–2019
Work or study	16.5	15.8	14.3
To get a place of my own/our own	19.2	19.0	19.2
To get married/moved in with partner	7.5	8.3	7.4
Marital/relationship breakdown	5.6	5.6	5.2
Other family-related reasons	12.5	12.8	13.3
To get a better place	23.0	20.5	23.1
To get a smaller/less expensive place	7.8	7.5	7.9
Seeking change of lifestyle	9.5	8.8	7.7
Other personal reasons	9.2	7.2	8.1
Forced to move by owner/landlord	11.1	12.5	12.3

Note: Individuals may report more than one reason for moving and hence each column adds up to more than 100%.



<sup>1</sup> Notable, however, is that moves for work or study account for approximately 45% of moves of over 100 kilometres.

Table 6.4: Distance and regional characteristics of moves—People aged 15 and over, 2002 to 2019 (%)

	2002–2006	2007–2012	2013–2019
<i>Distance moved in kilometres</i>			
1 or less	21.3	19.8	19.7
2–9	37.6	36.5	37.3
10–29	17.6	19.1	19.7
30–99	7.0	8.1	7.8
100 or more	16.5	16.5	15.4
Total	100.0	100.0	100.0
<i>Proportion moving ...</i>			
To major urban area (from an other-urban area or non-urban area)	6.2	7.3	6.9
From major urban area (to an other-urban area or non-urban area)	7.6	8.5	9.4
Interstate	9.2	9.7	8.6

Note: Cells may not add up to column totals due to rounding.

## Does satisfaction with housing predict moves?

Each year, HILDA Survey respondents are asked to report, on a 0 to 10 scale, how satisfied they are with their home. Figure 6.4 shows that lower satisfaction is indeed associated with a higher likelihood of moving over the year subsequent to which satisfaction is reported. For example, in the 2001 to 2006 period, 47% of people reporting satisfaction of 2 or lower on the 0 to 10 scale moved house over the subsequent year, while only 11.9% of those reporting satisfaction of 8 or higher moved over the subsequent year.

Notably, there has been a decline in the proportion of those very dissatisfied with their home who move over the subsequent year. In the period from 2013 to 2019, 37.4% of those reporting satisfaction of 2 or lower moved house over the following year, compared with 47.0% in the 2001 to 2006 period and 40.9% in the 2007 to 2012 period.

There has also been some decline in the rate of moving by those moderately dissatisfied with their

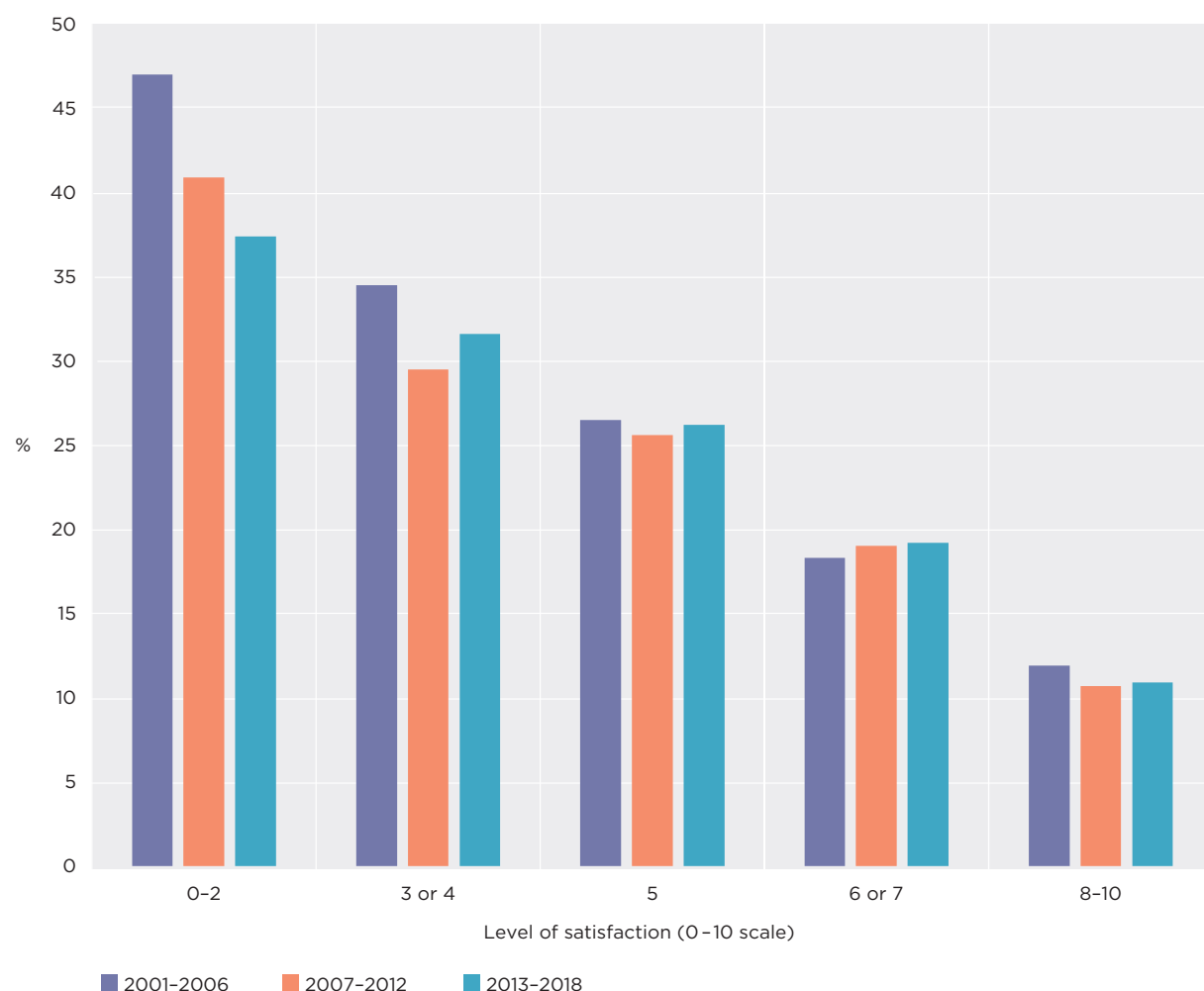


home: of those reporting 3 or 4 on the 0 to 10 scale in the 2001 to 2006 period, 34.5% moved house over the subsequent year, compared with 31.6% in the 2013 to 2018 period. It therefore seems there has been an increase in

people 'stuck' in homes they do not like. By contrast, the rate of moving has changed little for those very satisfied (8–10), moderately satisfied (6 or 7) or neither satisfied or dissatisfied (5) with their home.



Figure 6.4: Proportion of people aged 15 and over moving house over the subsequent year, by level of satisfaction with current home



Are preferences for living in the local area predictive of moving house? In every year between 2001 and 2004, and in every second year since, the self-completion questionnaire has contained the following question:

*Now think about the local area in which you live. How strong is your preference to continue living in this area?*

Respondents can choose from one of the following five response options: (1) strong preference to stay; (2) moderate preference to stay; (3) unsure/no strong preference to stay or leave; (4) moderate preference to leave; and (5) strong preference to leave.





Table 6.5 examines whether the likelihood of moving is related to these preferences by presenting the proportion moving house, and the proportion moving 10 or more kilometres, for individuals classified by responses to the above question. We indeed see that moving is strongly predicted by strength of preference to stay/leave, and this relationship is stronger for

longer-distance moves. In the 2001 to 2006 period, 2.7% of people with a strong preference to stay in the local area moved 10 or more kilometres over the subsequent year, compared with 33.5% of those with a strong preference to leave the area. However, while moves of 10 kilometres or more have changed little for those with a preference

to stay in the area, there has been a substantial decrease in the proportion moving 10 kilometres or more among those with a strong preference to leave the area. In the 2013 to 2019 period, 26.6% of those reporting a strong preference to leave the local area moved 10 or more kilometres over the subsequent year, down from 33.5% in the 2001 to 2006 period.

**Table 6.5: Moves by preferences for remaining living in area—Persons aged 15 and over, 2001 to 2019 (%)**

	<i>Strong preference to stay</i>	<i>Moderate preference to stay</i>	<i>Unsure/No strong preference to stay or leave</i>	<i>Moderate preference to leave</i>	<i>Strong preference to leave</i>
<i>Proportion moving</i>					
2001–2006	9.1	16.2	23.3	30.5	48.2
2007–2012	8.4	15.5	22.3	25.2	41.4
2013–2018	8.5	14.8	21.4	29.8	38.5
<i>Proportion moving 10 or more kilometres</i>					
2001–2006	2.7	6.6	11.4	17.5	33.5
2007–2012	2.5	6.0	10.9	15.9	29.9
2013–2018	2.7	6.3	10.1	19.7	26.6

*Notes:* Preferences for remaining living in the area were obtained in every year from 2001 to 2004 and every second year thereafter (2006, 2008, and so on). Moves are for the year immediately subsequent to measurement of preferences.

## Predictors of moving house

To investigate in a more comprehensive way the factors associated with moving house, logit models of the probability of moving over the next year are estimated as functions of a variety of personal and household characteristics and experiences/events. Two models are estimated, the first of which contains only variables for personal and household characteristics, and the second of which adds variables for experience of financial and housing stress, health and disability, major life events and measures of personality. The results are presented in Table 6.6, which reports the mean effect of each factor on the probability of moving house, expressed in percentage-point terms.

The estimate in the top row for Model (A) indicates that being male on average decreases the probability of moving in any given year by 0.7 percentage points, other characteristics held constant. This effect reduces to 0.5 percentage points when we have the additional variables included in Model (B) (indicating that differences in these factors, such as health, partly explain the lower rate of moving of males).

Both models show that the probability of moving decreases with age. For example, Model (A) shows that the probability a person aged 65 or older moves in any given year is 17.8 percentage points lower than a person aged 15 to 24, other characteristics held constant. Among the categories for an individual's relationship in their co-resident family (see Box 6.2, page 106), couples with dependent children are the least likely to move, while non-dependent children and other single people are the most likely to move.

### Box 6.2: Relationship in family

In this report, we distinguish six categories for an individual's relationship in their co-resident family: (1) member of a couple that has dependent children; (2) member of a couple that does *not* have dependent children; (3) single parent with a dependent child; (4) non-dependent child; (5) single person (other than non-dependent child); and (6) dependent child.

### Box 6.3: Definition of housing stress

Housing stress occurs when a household's expenditure on housing is, by necessity, 'excessively' high. Various definitions of housing stress have been employed by researchers, but a common approach is to define housing stress as a situation where a low-income household spends more than a particular proportion of household income on housing. A reasonably common standard for defining housing stress in Australia is the so-called '30/40 rule' (for example, Yates and Gabriel, 2006), whereby a household is in housing stress if housing costs exceed 30% of income and equivalised income of the household is below the 40th percentile. In this report, we define housing stress using this 30/40 rule—that is, an individual is in housing stress if expenditure on mortgage repayments and rent exceed 30% of disposable income and their equivalised income places them in the bottom two income quintiles.

Estimates for the region of residence variables (see Box 3.5, page 26) show that people living in urban areas outside the major urban areas are the most likely to move, other factors held constant, while people living in major urban areas are the least likely to move. Consistent with the descriptive analysis presented by housing tenure type, all else being equal, private renters are the most likely to move and owner-occupiers are the least likely to move.

Full-time employment is associated with a higher probability of moving compared with other labour market states. In Model (A), unemployment is associated with a similar probability of moving to the full-time employed, but this disappears when we include the additional variables of Model (B). Those in the top third of the income distribution are also more likely to move than those lower down the income distribution.

Considering the factors included only in Model (B), experience of two or more indicators of financial stress (see Box 3.10, page 45) is associated with a 1.8 percentage-point increase in the probability of moving the following year, while experience of housing stress (see Box 6.3,

above) on average acts to increase the probability of moving by 1.3 percentage points. Poor mental health is associated with a 0.8 percentage-point increase in the probability of moving, but neither poor general health or disability have significant effects. (See Boxes 7.3 and 7.4, page 114 for explanation of the health and disability measures.)

Most of the major life events included in the regression model are statistically significant predictors of moving house. The probability of moving is higher if the individual has a child, is a victim of violence, retires from the workforce, changes jobs, is promoted at work, has a major improvement or worsening in financial situation, or experiences a weather-related disaster that damages or destroys the home. Being dismissed from one's job is the only event associated with a decrease in the probability of moving, while the death of a spouse or child and being a victim of a property crime are not associated with significant effects on the probability of moving.

Significant effects are found for four of the 'Big 5' personality traits (see Box 6.4, page 108), with greater agreeableness and greater emotional stability associated with a lower

Table 6.6: Factors associated with moving house—Persons aged 15 and over, 2001 to 2019

	(A)	(B)
Male	–0.7	–0.5
<i>Age group (Reference category: 15–24)</i>		
25–34	–1.6	–1.5
35–44	–6.6	–5.5
45–54	–11.2	–9.3
55–64	–14.1	–11.6
65 and over	–17.8	–14.7
<i>Relationship in family (Reference category: Couple with dependent children)</i>		
Couple	2.8	2.3
Single parent	3.3	3.0
Single person	5.2	4.5
Non-dependent child	4.4	4.6
<i>Region (Reference category: Major urban)</i>		
Other urban	3.0	2.8
Other region	0.7	0.9
<i>Housing tenure type (Reference category: Private renter)</i>		
Home owner	–16.3	–15.9
Social housing	–11.4	–11.8
<i>Labour force status (Reference category: Not in the labour force)</i>		
Employed full-time	1.5	0.6
Employed part-time	ns	–0.7
Unemployed	1.4	ns
<i>Income tercile (Reference category: Bottom tercile)</i>		
Middle tercile	ns	0.9
Top tercile	1.7	2.7
Experienced 2 or more indicators of financial stress		1.8
In housing stress		1.3
In poor general health		ns
In poor mental health		0.8
Moderate or severe disability		ns
<i>Life events in the preceding 12 months or following 12 months</i>		
Birth of a child		2.9
Death of spouse or child		ns
Victim of physical violence (e.g., assault)		2.9
Victim of a property crime (e.g., theft, housebreaking)		ns
Retired from the workforce		4.3
Changed jobs (i.e., employers)		5.2
Promoted at work		1.3
Fired or made redundant by an employer		–1.7
Major improvement in financial situation (e.g., won lottery, received an inheritance)		2.6
Major worsening in financial situation (e.g., went bankrupt)		2.6
Weather-related disaster (e.g., flood, bushfire, cyclone) damaged or destroyed home		3.5
<i>'Big 5' personality traits</i>		
Extroversion		0.5
Agreeableness		–0.3
Conscientiousness		0.6
Emotional stability		–0.3
Openness to experience		ns
Year	–0.2	–0.2
Number of observations	246,594	196,069

Notes: The table presents mean marginal effects estimates (in percentage points) from a logit model of the probability of moving house over the next year. See the Technical Appendix for a brief explanation of this model. *ns* indicates the estimate is not significantly different from 0 at the 10% level.

probability of moving, and greater extroversion and greater conscientiousness associated with a lower probability of moving. Finally, consistent with the descriptive evidence, both Models (A) and (B) show the probability of moving declining by 0.2 percentage points per year, all else equal.

Table 6.7 presents estimation results from a logit model of the probability an individual moves house for work or study reasons in any given year. As well as considering the personal and household characteristics included in Model (A) in Table 6.6, variables are also included for occupation and industry (see Box 4.5, page 69) for those who are employed to examine whether particular occupations and industries are associated with moving for work.

In contrast to the findings for all moves, males are, all else equal, 0.5 percentage-points more likely to move for work or study than females. However, moves for work or study are, like moves for all reasons, decreasing with age. Single people, followed by non-dependent children, are the most likely to move for work or study, while couples with dependent children and single parents are the least likely, all other factors held constant.

In contrast to moves for all reasons, people living in non-urban areas are the most likely to move for work or study. However, in common with all moves, people living in major urban areas are the least likely to move for work or study. Patterns by housing tenure type are the same as for moves for all reasons, with private renters most likely to move for work or study and owner-occupiers the least likely.

The unemployed are significantly more likely to move for work or study than people in any of the other labour force states,

although the effect is quite small at 0.6 percentage points higher. Moves for work or study are more likely the higher is household income, although again the effects are quite small.

Among employed people, comparing across occupations shows that, all else equal, managers and professionals are the most likely to move for work, followed by community and personal service workers and sales workers. There are no statistically significant differences among the remaining occupations. Comparing across industries, those working in public administration and safety

are the most likely to move for work reasons, followed by those working in mining and accommodation and food services, with no significant differences across the remaining industries.

Finally, the estimate for the year variable shows that, other factors held constant, the probability of moving for work or study has declined by 0.1 percentage points per year since 2001. This is potentially quite important for its implications for the efficiency of operation of the labour market, since it suggests labour has become less mobile and therefore the matching of workers to jobs may have deteriorated.

#### Box 6.4: Personality measures in the HILDA Survey

Waves 5, 9, 13 and 17 of the HILDA Survey included a short version of Saucier's (1994) 'Big 5' personality test, from which personality scores are derived for extroversion, agreeableness, conscientiousness, emotional stability and openness to experience. Administered in the self-completion questionnaire, the personality test involved respondents indicating the extent to which each of 36 words described them. The scores were derived using a process called principal components analysis. See Summerfield et al. (2020) for more information on the derivation of the scores.





**Table 6.7: Factors associated with moving house for work-related or study-related reasons—Persons aged 15 and over, 2001 to 2019**

Male	0.5
<i>Age group (Reference category: 15–24)</i>	
25–34	–1.0
35–44	–2.2
45–54	–3.4
55–64	–5.0
65 and over	–9.5
<i>Relationship in family (Reference category: Couple with dependent children)</i>	
Couple	0.5
Single parent	ns
Single person	1.5
Non-dependent child	0.8
<i>Region (Reference category: Major urban)</i>	
Other urban	1.5
Other region	1.7
<i>Housing tenure type (Reference category: Private renter)</i>	
Home owner	–1.9
Social housing	–1.2
<i>Labour force status (Reference category: Not in the labour force)</i>	
Employed full-time	ns
Employed part-time	ns
Unemployed	0.6
<i>Income tercile (Reference category: Bottom tercile)</i>	
Middle tercile	0.4
Top tercile	0.7
<i>Occupation (Reference category: Labourers)</i>	
Managers	0.9
Professionals	0.8
Technicians and Trades Workers	ns
Community and Personal Service Workers	0.5
Clerical and Administrative Workers	ns
Sales Workers	0.5
Machinery Operators and Drivers	ns
<i>Industry (Reference category: Other services)</i>	
Agriculture, Forestry and Fishing	ns
Mining	0.7
Manufacturing	ns
Electricity, Gas, Water and Waste Services	ns
Construction	ns
Wholesale Trade	ns
Retail Trade	ns
Accommodation and Food Services	0.6
Transport, Postal and Warehousing	ns
Information Media and Telecommunications	ns
Financial and Insurance Services	ns
Rental, Hiring and Real Estate Services	ns
Professional, Scientific and Technical Services	ns
Administrative and Support Services	ns
Public Administration and Safety	1.3
Education and Training	ns
Health Care and Social Assistance	ns
Arts and Recreation Services	ns
Year	–0.1
Number of observations	245,441

Notes: The table presents mean marginal effects estimates (in percentage points) from a logit model of the probability of moving house for work or study over the next year. See the Technical Appendix for a brief explanation of this model. *ns* indicates the estimate is not significantly different from 0 at the 10% level.

# 7

## Psychological distress

Ferdi Botha



Mental ill-health is a major public health concern in Australia (see Productivity Commission (2020) for a detailed discussion). Understanding the factors that predict levels of psychological distress among Australians is important for the development of policies or programs that can support people in need of assistance.

Since 2007 the HILDA Survey has asked questions related to psychological distress every two years, with 2019 being the most recent wave such information was collected. This chapter examines how psychological distress has changed between 2007 and 2019 and looks at the factors that determine higher and lower levels of psychological distress among Australian adults.

### Box 7.1: Kessler-10 measure of psychological distress

The psychological distress measure used in this report is based on the Kessler-10 (K10) scale, developed by Kessler et al. (2002). Included in the self-completion questionnaire, respondents are asked the following: 'In the last four weeks, about how often did you feel ...':

- a. tired out for no good reasons?
- b. nervous?
- c. so nervous that nothing could calm you down?
- d. hopeless?
- e. restless or fidgety?
- f. so restless that you could not sit still?
- g. depressed?
- h. that everything was an effort?
- i. so sad that nothing could cheer you up?
- j. worthless?

For each question, possible responses are: (1) 'none of the time'; (2) 'a little of the time'; (3) 'some of the time'; (4) 'most of the time'; and (5) 'all the time'.

In the interviewer-administered version of the K10, items (c) and (f) are not asked when responses to items (b) and (e) are 'none of the time'. In the HILDA self-completion questionnaire, this is not possible. Therefore, responses to items (c) and (f) are set to a value of 1 if responses to items (b) and (e) were 'none of the time' (also see Wooden, 2009). The overall K10 score is then obtained by summing the responses to all items to get a score ranging from 10 (low psychological distress) to 50 (high psychological distress).

The K10 can also divide the population into four distinct groups based on the level of psychological distress, namely 'low' (K10 score: 10–15), 'moderate' (K10 score: 16–21), 'high' (K10 score: 22–29), and 'very high' (K10 score: 30–50). In this chapter, a person is deemed to be in psychological distress if their K10 score is 'high' or 'very high' (thus having a score of 22 or higher).

### Changes in psychological distress since 2007

Figure 7.1 plots the proportion of males and females in

psychological distress over the period 2007 to 2019. Regardless of the year considered, females always have higher levels of distress relative to males, a difference of between roughly two and four percentage points. The proportion of both

males and females in distress clearly shows an upward trend since 2013, with each analysis wave's proportion higher than that of the previous wave. Whereas in 2007 about 17.7% of females and 15.1% of males were classified as suffering from

psychological distress, by 2019 the proportions of females and males in distress were about 23.1% and 19.3%, respectively. The 2019 percentages for the four K10 risk categories (see Box 7.1, page 110) are also depicted in

Figure 7.2. Almost 60% of males and 55% of females fell in the 'low' risk category, and the proportion of females in the 'moderate', 'high' and 'very high' risk categories are higher than the proportion of males in those three categories.



Figure 7.1: Proportion of people aged 15 and over in psychological distress, by sex

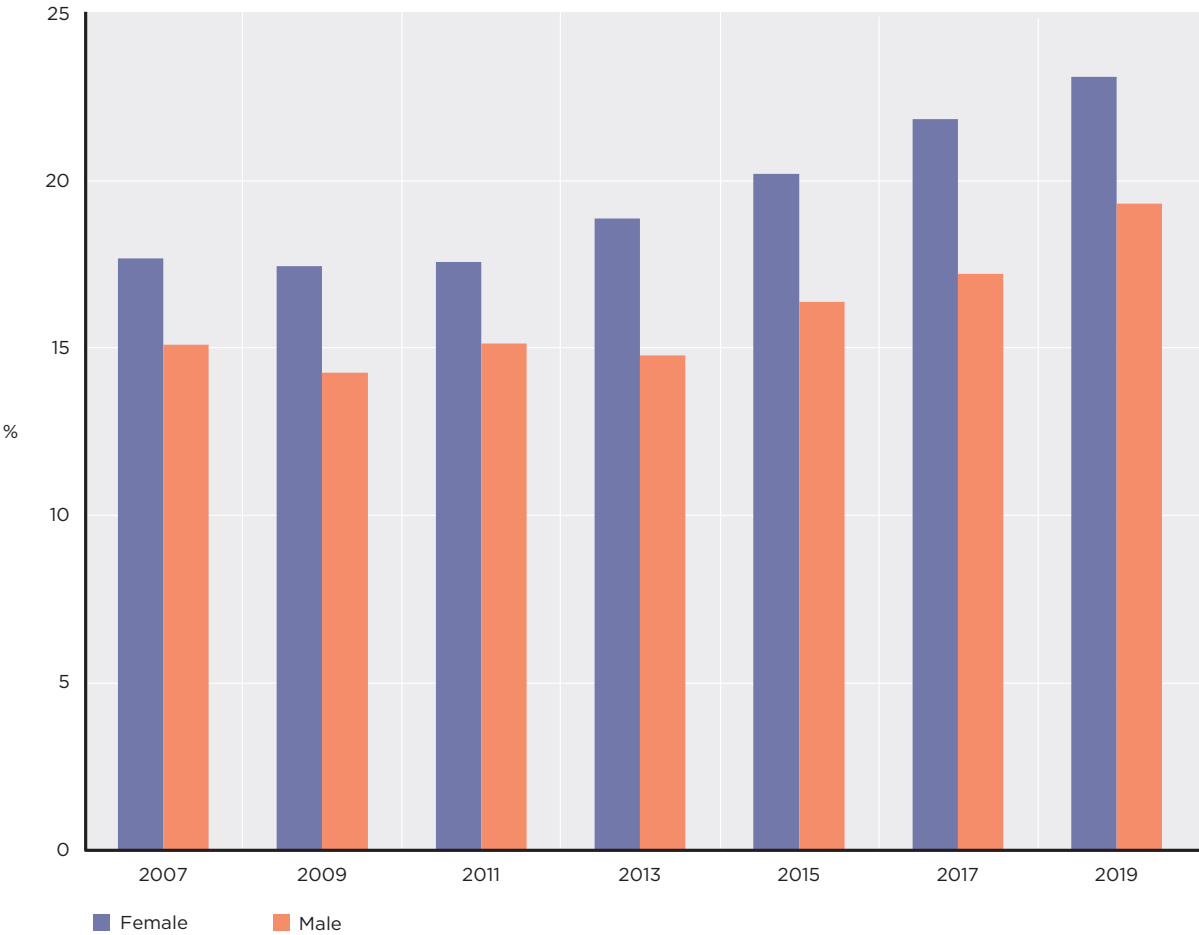
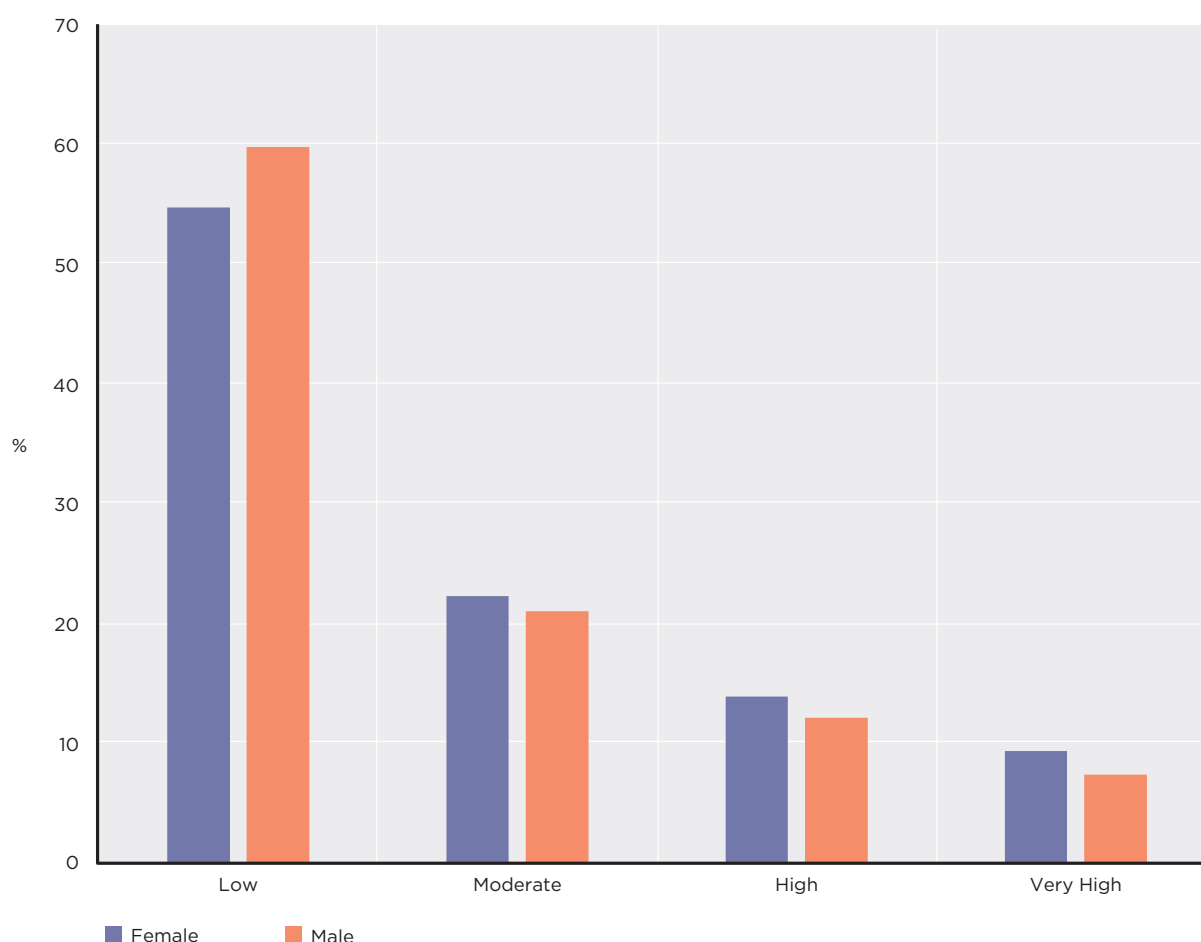


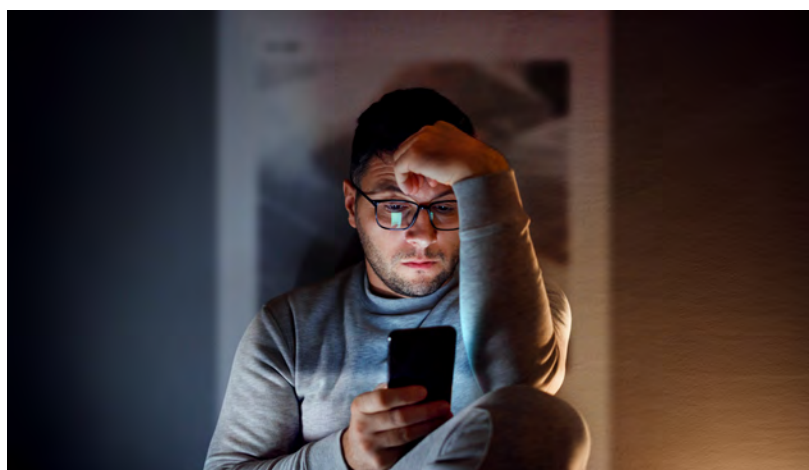
Figure 7.2: Proportion of people aged 15 and over in each K10 risk category, by sex—2019



Similarly, in Figure 7.3, the proportions of Australians in psychological distress over time are shown by age group. In all age groups there has been an upward trend in distress over time, although the change for those aged 65 and over is comparatively small.

Those aged 65 and over consistently had the lowest proportion in psychological distress, averaging around 12%. Those in the 15 to 24 age group consistently had the highest proportion in distress coupled with a rising trend in prevalence, with 21.2% in distress in 2007 compared to 30% in 2019; an increase of almost 9 percentage points, or 41.6%.

Another noteworthy trend is the increase in the prevalence of psychological distress among the



35 to 44 age group, which has experienced the largest relative increase in distress since 2007; an increase of just over 49%.

As for Figure 7.2, the prevalence of distress across the K10 risk categories is presented in Figure 7.4 for the 2019 wave. The results

in Figure 7.4 support those of Figure 7.3, in that people in older age groups are at lower risk of suffering from psychological distress, whereas the proportions of Australians in 'high' or 'very high' risk of distress are much higher among the younger age groups.





Figure 7.3: Proportion of people in psychological distress, by age group

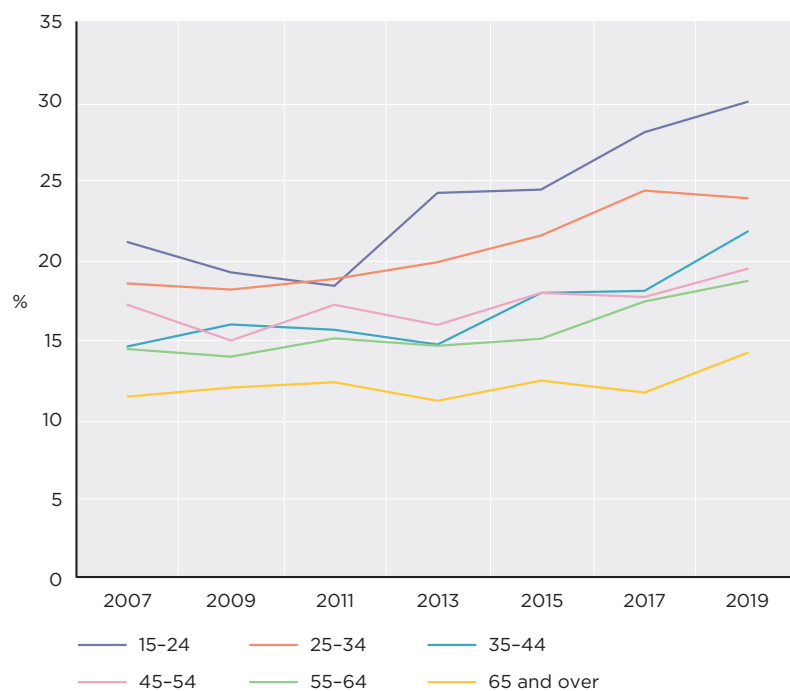
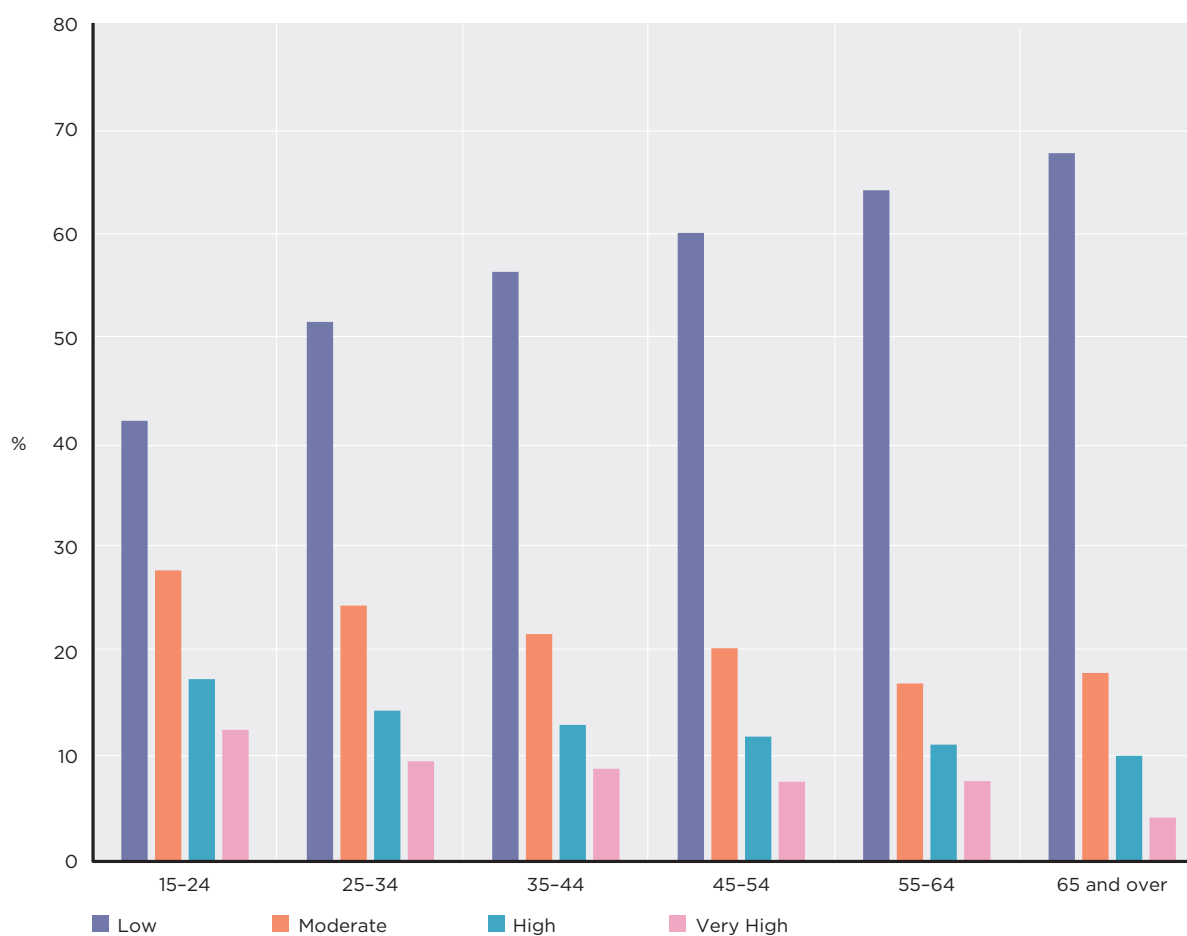


Figure 7.4: Proportion of people in each K10 risk category, by age group—2019



## Characteristics of people with high and low levels of psychological distress

This section examines the characteristics associated with higher and lower average levels of psychological distress among Australians. Table 7.1 reports the mean K10 psychological distress scores, ranging from 10 to 50, for females and males in 2019.

Consistent with the results in Figures 7.1 to 7.4, younger age groups report higher levels of psychological distress. For instance, females (males) aged 15 to 24 report a mean distress score of 20.3 (17.6) compared to a score of 16.4 (15.9) among females (males) aged 55 to 64. People with lower educational attainment tend to report greater distress.

Mean distress scores are high among divorced and separated persons and relatively low among the married. Psychological distress is relatively high among those never married and not in a de facto relationship, which may in part be because this group is younger on average. People with children report slightly higher distress than those without children, and a greater frequency of social contact with family or friends (see Box 7.2, page 114) tends to be associated with lower average distress.

There are noteworthy differences in terms of health issues, where mean distress scores are higher among people with a moderate or severe disability (see Box 7.3, page 114) and those in poor general health (see Box 7.4, page 114). For instance, males with a disability have a mean score of 20 and males

### Box 7.2: HILDA Survey measure of frequency of social contact

In every wave of the HILDA Survey, a question has been included in the self-completion questionnaire ascertaining the frequency of in-person contact with friends or relatives not living with the respondent. The question reads

*In general, about how often do you get together socially with friends or relatives not living with you?*

Response options are *every day, several times a week, about once a week, 2 or 3 times a month, about once a month, one or twice every 3 months, less often than once every 3 months*. In this report, responses are combined into three categories: (1) At least weekly; (3) Less often than weekly but at least monthly; and (4) Less often than monthly.

### Box 7.3: Definition and classification of disability

The International Classification of Functioning, Disability and Health (ICF), produced by the World Health Organisation, defines disability as an umbrella term for impairments, activity limitations and participation restrictions. It denotes the negative aspects of the interaction between an individual's health conditions and the various contextual (environmental and personal) factors of that individual. In this report, a person is defined as having a disability if they have any long-term health condition, impairment or disability that restricts the individual in everyday activities and that has lasted, or is likely to last, for six months or more. This is an 'operational' definition of disability that is very similar to that used in many household surveys, such as the Australian Bureau of Statistics (ABS) Survey of Disability, Ageing and Carers.

Disability severity is typically defined in terms of restrictions in the core activities of self-care, communication and mobility. The HILDA Survey does not collect information in each wave on core-activity restrictions, but does collect information on the extent to which health conditions limit the amount of work an individual can do (on a 0 to 10 scale, where 0 equals 'not at all' and 10 equals 'unable to do any work'). In this report, we use a measure of disability severity based on this information, defining three levels of severity: no work restriction (0); moderate work restriction (1 to 7); and severe work restriction (8 to 10). The latter two categories are respectively referred to as 'moderate disability' and 'severe disability'.

### Box 7.4: SF-36 measures of health

The SF-36 Health Survey is a 36-item questionnaire that is intended to measure health outcomes (functioning and wellbeing) from a patient point of view. It was specifically developed as an instrument to be completed by patients or the general public rather than by medical practitioners, and is widely regarded as one of the most valid instruments of its type. See <<http://www.sf-36.org/>> for further details.

The SF-36 measures of general health and mental health are used in this report. The scores for both measures potentially range from 0 to 100. For some analyses in this report, indicator variables are created for poor general health and poor mental health. There are no universally accepted threshold scores for defining poor general and mental health, but for the purposes of this report, poor general health is defined as a score less than or equal to 37, on the basis that approximately 10% of the population is at or below this threshold. Similarly, poor mental health is defined as a score less than or equal to 52, on the basis that approximately 10% of the population is at or below this threshold.



Table 7.1: Mean psychological distress score—People aged 15 and over, 2019 (10–50 scale)

	Females	Males
<i>Age category</i>		
15–24	20.3	17.6
25–34	18.0	17.4
35–44	17.6	16.8
45–54	17.2	16.0
55–64	16.4	15.9
65 and over	15.4	15.0
<i>Educational attainment</i>		
Bachelor's degree or higher	16.1	15.5
Other post-school qualification	17.4	16.2
Completed high school	18.3	16.8
Less than high-school completion	18.4	17.8
<i>Marital status</i>		
Married	15.9	15.3
De facto relationship	17.9	16.5
Separated	18.7	18.8
Divorced	18.4	16.5
Widowed	16.4	16.2
Never married and not in de facto relationship	19.9	18.2
<i>Has children</i>		
No	17.2	16.3
Yes	17.9	16.8
<i>Frequency of social contact</i>		
Once every three months or longer	20.1	18.7
At least once a month	17.7	16.4
At least once a week	16.5	15.8
<i>Disability status</i>		
No disability	16.5	15.8
Moderate or severe disability	21.0	20.0
<i>SF-36 general health measure</i>		
In poor general health	24.4	22.8
Not in poor general health	16.4	15.7
<i>Labour force status</i>		
Unemployed	21.8	20.0
Employed	16.8	15.9
Not in the labour force	18.0	17.3
<i>Income quintile</i>		
Bottom	19.2	18.4
2nd	18.1	17.0
Middle	17.7	17.2
4th	17.1	16.1
Top	15.7	15.0
<i>Region of residence</i>		
Major urban	17.4	16.4
Other urban	17.4	16.7
Non-urban	17.4	16.1
<i>Indigenous status</i>		
Indigenous	21.0	18.1
Non-Indigenous	17.3	16.4
<i>Immigrant status</i>		
Australian-born	17.5	16.5
Immigrant from one of the main English-speaking countries	16.6	15.2
Immigrant from another country	17.6	16.9

Note: Values reported are mean levels of psychological distress on the 10–50 K-10 scale.

without a disability have a mean score of 15.8.

Average distress is lowest among the employed and highest among the unemployed, whereas higher levels of household equivalised income are related to lower levels of mean psychological distress. Differences in terms of region of residence are small, though males in non-urban areas have slightly lower distress than males in major or non-major urban areas.

Indigenous Australians report higher mean distress scores than non-Indigenous Australians, and distress is slightly higher among migrants from non-English-speaking nations.

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## What factors determine the probability of experiencing psychological distress?

In addition to the averages considered in the previous section, this subsection considers the factors that affect the likelihood of reporting being in psychological distress, that is, being at 'high' or 'very high' risk of psychological distress on the K10 scale. Table 7.2 reports the results from Probit regressions in the form of mean marginal effects, by sex. For indicator variables (such as educational attainment, disability status or number of children), these estimates are interpreted as the change in the probability of psychological distress if the characteristic is present compared to the reference category. In the case of metric variables (such as household equivalised income or general health), the estimates designate the effect of a one-unit increase in this variable on the probability of psychological distress.

The results are generally similar for males and females, in that the same characteristics are associated with the likelihood of psychological distress for both groups. Consistent with the descriptive results presented earlier, younger age groups are more likely to experience distress. Compared to those aged 15 to 24, women and men aged 55 to 64, for instance, are respectively 16.6 and 12.8 percentage points less likely to be in distress.

People with lower levels of education are more likely to be in distress compared to people with higher levels of education. Legally married Australians are less likely than other marital status groups (apart from widowers, for whom there is no significant difference) to be psychologically distressed, whereas individuals with children are less likely than those without children to report feeling distressed.

Social relationships are important in mitigating distress, as females and males who report seeing friends or family at least once a week are 10.3 and 8.3 percentage points, respectively, less likely to be in distress compared to those who see family or friends every three months at most.

Having a disability, as opposed to not having any disability, increases the probability of being in distress, and an improvement in SF-36 general health is related to a lower likelihood of psychological distress. Unemployed Australians are more likely to experience distress when compared to the

employed and those not in the labour force.

There is a negative association between income and the likelihood of distress, with each additional \$10,000 in household equivalised income related to a 0.3 and 0.4 percentage point reduction in the probability of distress among females and males, respectively.

People living in major urban and other non-major urban areas are more likely than those living in non-urban areas to be in distress. In terms of migrant status, both male and female migrants from non-English-speaking countries are on average 3.9 percentage points more likely to experience psychological distress as compared to Australian-born individuals.

The probability of distress is 1.8 percentage points higher among Indigenous females than among non-Indigenous females. In contrast to the descriptive results in Table 7.1 for males, however, there are no significant differences between Indigenous and non-Indigenous males in the likelihood of experiencing psychological distress.

The year indicators for females suggest that being in psychological distress was more likely in 2013, 2015, 2017 and 2019 compared to 2007. Relative to 2007, moreover, males were more likely to be distressed in 2015, 2017 and 2019. For example, in 2019 females and males were 4.3 and 3.2 percentage points more likely to be psychologically distressed than in 2007.





Table 7.2: Determinants of psychological distress among people aged 15 and over, 2007 to 2019

	Females	Males
<i>Age category (Reference category: 15–24)</i>		
25–34	–2.7	ns
35–44	–7.4	–4.4
45–54	–10.6	–8.9
55–64	–16.6	–12.8
65 and over	–21.5	–15.3
<i>Educational attainment (Reference category: Less than high-school completion)</i>		
Bachelor's degree or higher	–4.5	–1.9
Other post-school qualification	–1.1	–1.3
Completed high school	–2.1	–0.8
<i>Marital status (Reference category: Married)</i>		
De facto relationship	3.6	2.6
Separated	8.7	7.2
Divorced	7.1	5.8
Widowed	4.1	ns
Never married and not in de facto relationship	6.1	4.2
<i>Children</i>	–1.3	–1.1
<i>Frequency of social contact (Reference category: Once every three months or longer)</i>		
At least once a month	–6.8	–5.1
At least once a week	–10.3	–8.3
Moderate or severe disability	3.4	3.0
SF-36 general health (0–100 scale)	–0.6	–0.5
<i>Labour force status (Reference category: Unemployed)</i>		
Employed	–6.8	–4.7
Not in the labour force	–3.2	–2.6
Household equivalised income (\$'0,000) (December 2019 prices)	–0.3	–0.4
<i>Region of residence (Reference category: Non-urban)</i>		
Major urban	2.2	1.5
Other urban	1.3	1.6
<i>Immigrant status (Reference category: Australian-born)</i>		
Immigrant from one of the main English-speaking countries	ns	ns
Immigrant from another country	3.9	3.9
Indigenous	1.8	ns
<i>Year (Reference category: 2007)</i>		
2009	ns	ns
2011	ns	ns
2013	1.3	ns
2015	1.9	1.0
2017	3.3	1.8
2019	4.3	3.2
Number of observations	51,918	45,745

Notes: The table presents mean marginal effects estimates (in percentage points) from Probit regression models of the probability of being in psychological distress. See the Technical Appendix for a brief explanation of this model. *ns* indicates the estimate is not significantly different from 0 at the 10% level.

# 8

## Retirement

*Esperanza Vera-Toscano*

Retirement from the workforce is one of life's major events. Every four years since 2003, the HILDA Survey has incorporated a retirement 'module' focusing on this transition. This module has included questions on plans for retirement by those not yet retired, the transition process itself for those moving into retirement, and the experiences in retirement of those already retired. Since Wave 15 (2015), it has also included questions on the use of superannuation at the point of retirement. In this chapter, we draw on this information to examine the timing of retirement for those who are retired, the uses to which superannuation is put at the point of retirement, and the retirement plans of those aged 45 and over who have not yet retired.

### Trends in the age of retirement

Figure 8.1 presents cross-sectional estimates of the proportion of men and women who are retired in each year of the HILDA Survey averaged over four-year periods (except for the last period, 2017–2019, which spans only three years), disaggregated by age group. Strong downward trends in the proportion of people retired are evident, particularly among men and women aged 60 to 64 and among women aged 55 to 59. In the period 2001 to 2004, 46.5% of men aged 60 to 64 and 68.4% of women aged 60 to 64 were retired, while in the period 2017–2019 only 33% of men and 45.8% of women in this age range were retired. Among women aged 55 to 59, the proportion retired fell from 41.4% in the 2001 to 2004 period to 23.4% in the 2017 to 2019 period.

Contemporary trends in recent retirements are examined in Table 8.1, which presents statistics on the age at retirement of those who retired in the four years leading up to each of the waves in which the retirement module has been administered. The mean age at retirement of recent retirees steadily climbs for men from 61.6 years for those retiring in the four years up to 2003 to 66.6 for those retiring in the four years up to 2019. For women, the increase in the mean age at retirement of recent retirees is only evident from 2007, when the mean age at retirement of recent retirees was 60.9. The rise after 2007 is, however, more rapid, rising to 65.1 for retirees in the four years to 2019.

The increases in mean age at retirement have arisen via decreases in the proportions aged under 65 at the time of retirement and increases in the proportions aged 65 to 69 and 70 and over.

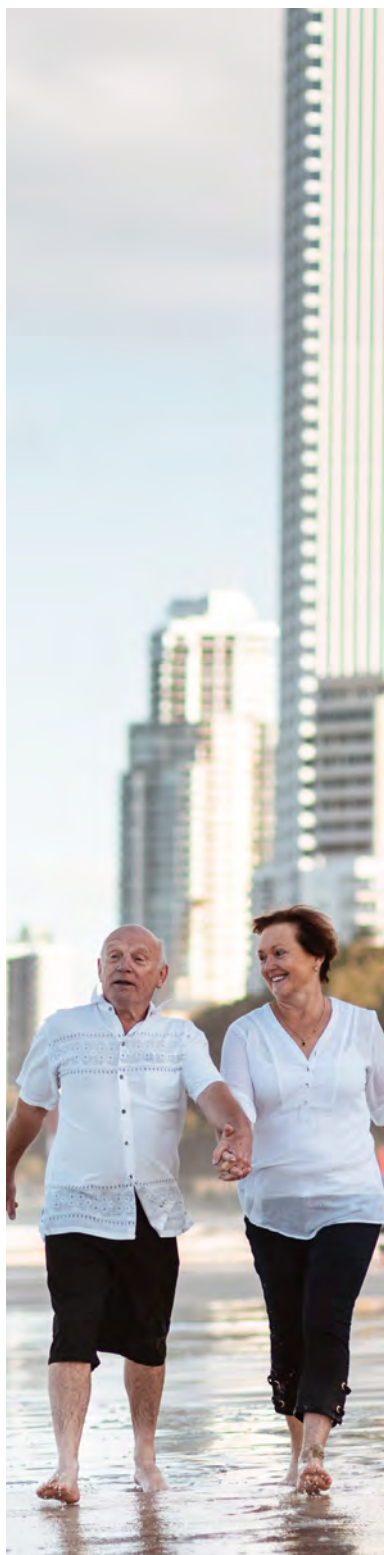


Figure 8.1: Percentage of individuals retired, by gender and age group

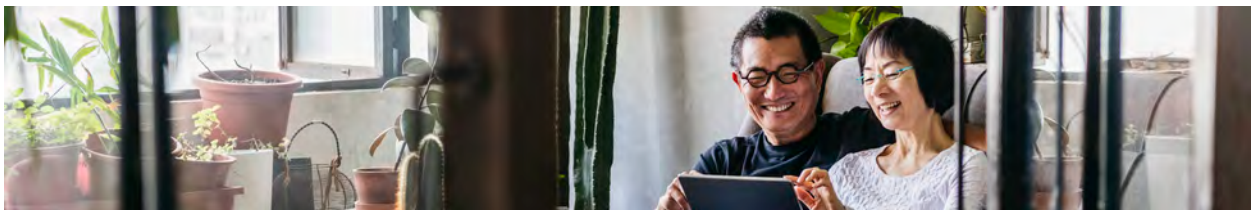
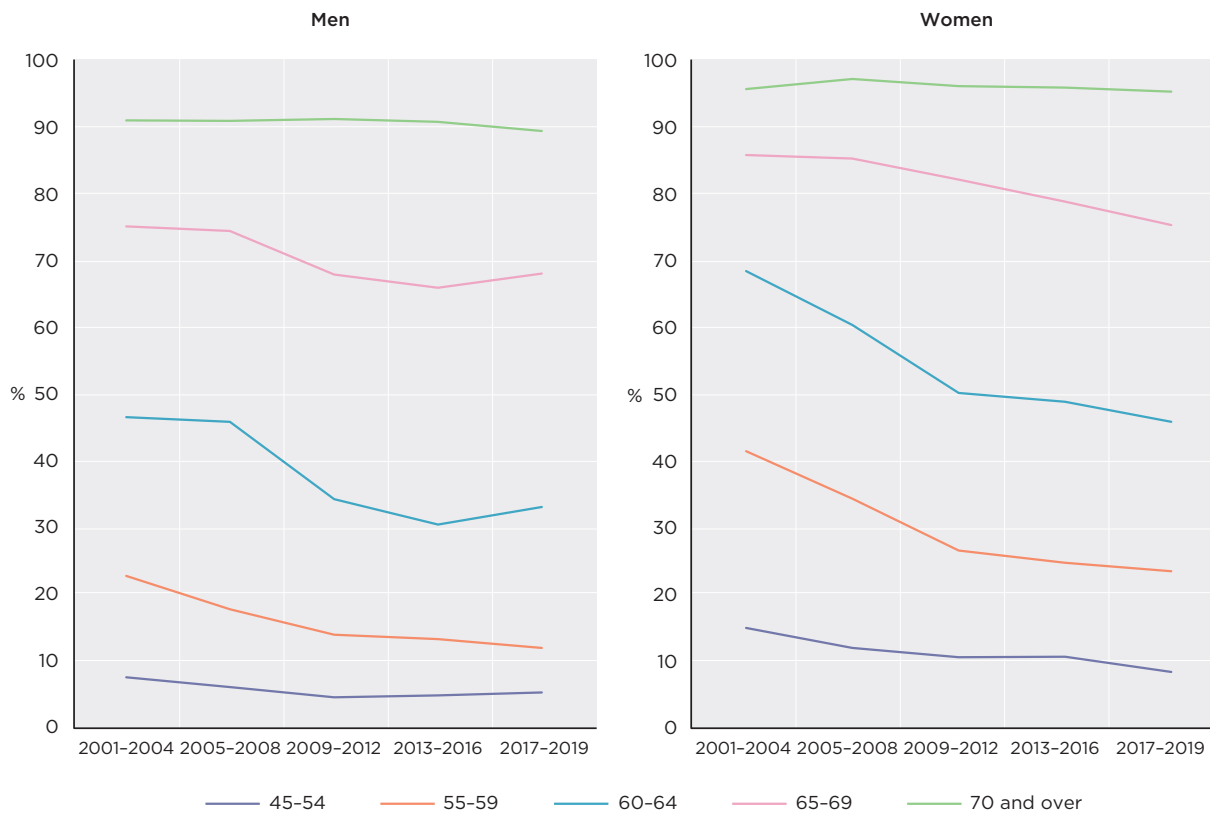


Table 8.1: Age of retirement of persons who retired within the last four years, 2003 to 2019

	2003	2007	2011	2015	2019
<i>Men</i>					
Mean age at retirement (years)	61.6	64.0	65.5	66.0	66.6
<i>Proportion retiring in each age range (%)</i>					
45-54	13.3	4.8	6.7	3.9	5.5
55-59	23.6	18.3	13.5	9.2	6.0
60-64	30.3	30.7	19.0	20.8	19.2
65-69	22.1	28.2	36.5	41.1	43.9
70 and over	10.7	18.0	24.3	25.0	25.5
<i>Women</i>					
Mean age at retirement (years)	61.0	60.9	62.4	63.7	65.1
<i>Proportion retiring in each age range (%)</i>					
45-54	16.3	19.8	12.2	8.5	7.7
55-59	25.6	19.8	18.4	13.5	8.5
60-64	29.9	28.4	32.6	29.8	27.8
65-69	15.8	21.6	27.1	35.0	33.5
70 and over	12.3	10.5	9.6	13.4	22.5

### Box 8.1: Retirement status in the HILDA Survey

Retirement status is simply based on whether an individual describes themselves as retired. It therefore has a degree of subjectivity in the sense that someone not in the labour force may nonetheless regard themselves as not retired, while another person in the same situation may consider themselves retired.

## Prevalence of transitions out of retirement

Retirement is typically perceived to be a one-time event: people retire once never to return to work again. However, as Table 8.2 shows, this is not entirely the case. The table presents, for each of five age groups and six sub-periods of the 2001 to 2019 period, the proportion of retired men and women who move out of retirement each year.

It shows that a significant number of retired persons return to the workforce each year, particularly in the 45 to 54 and 55 to 59 age ranges, in which on average, over 15% of retired

persons return to the workforce each year. Even in the 60 to 64 age group, at least 7.7% of retired men and 4.1% of retired women exited retirement in the last subperiod (2017–2019). Table 8.2 further shows that both men and women in the 55 to 59 age range were more likely to move out of retirement from the 2009 to 2012 period onwards.

## Factors impacting on the timing of retirement

The timing of retirement is likely to be determined by a number of factors, including financial

readiness for retirement, health, employment opportunities, individual preferences and the desire to coordinate with one's partner. In this section, we first explore the association between certain characteristics and the age at retirement for individuals aged 70 to 79 who are already retired—and for whom the age of retirement is therefore known. We then use contemporaneous data on people aged 45 and over who are not yet retired to examine the effects of various life events on the likelihood of moving into retirement. Finally, we draw on information directly obtained from respondents on the reasons for retirement.

Table 8.3 examines differences in retirement age by educational attainment (see Box 4.4, page 67), immigrant status (see Box 5.3, page 93), whether had ever had children, whether had ever been married and occupation

Table 8.2: Proportion of retired persons moving out of retirement each year, by age group, 2001 to 2019 (%)

	2001–2004	2005–2008	2009–2012	2013–2016	2017–2019
<i>Men</i>					
45–54	20.0	10.5	21.9	16.5	19.3
55–59	6.8	9.2	16.0	18.2	18.2
60–64	11.7	6.5	7.7	11.5	7.7
65–69	3.7	2.5	3.3	3.6	4.6
70 and over	2.7	0.7	1.6	1.0	1.0
<i>Women</i>					
45–54	27.4	20.8	22.2	23.0	19.7
55–59	10.4	6.1	11.4	10.5	10
60–64	7.3	4.2	6.8	6.8	4.1
65–69	4.5	2.4	1.9	2.4	2.1
70 and over	3.0	0.6	0.5	0.9	0.6







(see Box 4.5, page 69) in the last job prior to retirement. It presents, for men and women separately, coefficient estimates from regression models of the determinants of age at retirement.

Other factors held constant, men with a bachelor's degree on average retired 1.5 years later than men who had not completed high school, while women with a bachelor's degree on average retired 4.7 years later than women who had not completed high school and women with other post-school qualifications on average retired 1.5 years later than those who had not completed high school.

Men and women exhibit contrasting differences in retirement age by immigrant status. Female immigrants from the main English-speaking countries (see Box 5.3, page 93) retired 2.3 years later than native-born women, while no significant differences are found between other female immigrants and native-born women. Yet, there are no significant differences between male immigrants and native-born men.

No significant differences in retirement age by whether one had children or not are evident, even for women, but men who had ever been married retired four years later than men who had never married, while women who

had ever been married retired 3.9 years earlier than women who had never been married.

The bottom panel of Table 8.3 examines differences by occupation of employment in the last job held prior to retirement (see Box 4.5, page 69). All estimates represent comparisons with those who were labourers. There are substantial differences in the estimated coefficients across occupations. For men, managers, sales workers and machinery operators and drivers on average retired the latest. For women, managers and community and personal service workers retired the latest, while technicians and trades workers retired the earliest.

**Table 8.3: Association between retirement age and characteristics—Retired persons aged 70 to 79**

	<i>Men</i>	<i>Women</i>
<i>Educational attainment (Reference category: Less than high-school completion)</i>		
Bachelor's degree or higher	1.5	4.7
Other post-school qualification	<i>ns</i>	1.5
Completed high school	<i>ns</i>	<i>ns</i>
<i>Immigrant status (Reference category: Australian-born)</i>		
Immigrant from one of the main English-speaking countries	<i>ns</i>	2.3
Immigrant from another country	<i>ns</i>	<i>ns</i>
Ever had children	<i>ns</i>	<i>ns</i>
Ever married	4.0	–3.9
<i>Occupation prior to retirement (Reference category: Labourers)</i>		
Managers	3.0	5.1
Professionals	1.3	2.3
Technicians and trades workers	<i>ns</i>	–3.8
Community and personal service workers	<i>ns</i>	3.5
Clerical and administrative workers	2.0	<i>ns</i>
Sales workers	2.3	<i>ns</i>
Machinery operators and drivers	1.9	<i>ns</i>
Constant	56.3	56.2
Number of observations	2,307	2,697

*Notes:* The table reports coefficient estimates from Ordinary Least Squares models of the determinants of retirement age. See the Technical Appendix for a brief explanation of these models. The data is drawn from Waves 3, 7, 11, 15 and 19. Estimation samples exclude those who did not report a retirement age or for whom the occupation prior to retirement was not known. The estimates for the constant indicate the predicted retirement age if all other explanatory variables are equal to zero. *ns* indicates the estimate is not significantly different from 0 at the 10% level.

The impacts of various life events on the likelihood of moving into retirement are examined in Table 8.4, which presents, for men and women separately, mean marginal effects estimates from a Probit model. (See the Technical Appendix for an explanation of Probit models.)

First considered is the role of age, which unsurprisingly is positively related to the probability of retiring. Each additional year of age on average increases the probability of retirement by 0.6 percentage points for men and 0.7 percentage points for women. Potential additional effects of reaching specific ages—specifically, 55, 60, 65 and 70—are also examined by including indicator variables (equal to 1 if the age was reached in the last year and 0 otherwise). For men, turning 60 on average increases the probability of retirement by 2.1 percentage

points (over and above the 0.6 percentage-point effect of ageing an additional year), and turning 65 increases the probability of retirement by 4.8 percentage points (again, on top of the 0.6 percentage-point effect of ageing). There are no significant (additional) effects of turning 55 or 70 for men. For women, turning 65 on average increases the probability of retirement by 3.2 percentage points (over and above the 0.7 percentage-point effect of ageing an additional year), but there are no significant effects of reaching the other ‘milestone’ ages.

Effects of health are captured by an indicator variable derived from the SF-36 measure of general health (see Box 7.4, page 114). This indicator is equal to 1 if the individual was in poor health in the previous year. To capture effects of the health of one’s partner, a further indicator variable is included that is equal

to 1 if the individual was partnered and the partner was in poor health in the previous year.

Poor general health in the previous year is associated with an average increase in the probability of retirement of 4.2% for men and 4.5% for women. In addition, experience of a serious personal injury or illness in the past 12 months is associated with an average 2.1 percentage-point increase in the probability of retirement for both men and women. No significant effects of partner general health are evident, and serious personal injury or illness to a close relative or family member (which would include one’s spouse) also has no significant effects on the retirement decision.

Death of one’s spouse or child in the last 12 months increases the probability of retirement by 3.5 percentage points for men and by 2.6 percentage points for women. Dismissal from one’s job

**Table 8.4: Impacts of various life events on the probability of entering retirement—Non-retired persons aged 45 and over, 2001 to 2019**

	<i>Men</i>	<i>Women</i>
Age (years)	0.6	0.7
Turned 55 in last year	<i>ns</i>	<i>ns</i>
Turned 60 in last year	2.1	<i>ns</i>
Turned 65 in last year	4.8	3.2
Turned 70 in last year	<i>ns</i>	<i>ns</i>
In poor general health in the year prior to the current year	4.2	4.5
Partner in poor general health in the year prior to the current year	<i>ns</i>	<i>ns</i>
<i>Life events in the last 12 months</i>		
Serious personal injury or illness to self	2.1	2.1
Serious personal injury or illness to a close relative/family member	<i>ns</i>	<i>ns</i>
Death of spouse or child	3.5	2.6
Fired or made redundant by employer	2.6	1.7
Major improvement in financial situation (e.g., won lottery, received an inheritance)	2.1	<i>ns</i>
Major worsening in financial situation (e.g., went bankrupt)	1.3	<i>ns</i>
Unemployment rate	<i>ns</i>	<i>ns</i>
Partner retired in the last year	5.7	9.7
Year	–0.1	–0.2
Number of observations	33,127	32,672

*Notes:* The table reports mean marginal effects estimates (in percentage-point terms) from Probit models of the probability of entering retirement. See the Technical Appendix for a brief explanation of these models. *ns* indicates the estimate is not significantly different from 0 at the 10% level.



in the last 12 months increases the probability of retirement by 2.6 percentage points for men and by 1.7 percentage points for women.

A major improvement in finances in the last 12 months (for example, due to winning the lottery or receiving an inheritance) increases the probability of retirement by 2.1 percentage points for men while no significant differences are found on women's probability of retirement. A major worsening of finances, such as bankruptcy, also tends to precipitate retirement for men, on average increasing the probability of retirement by 1.3 percentage points. However, such an event does not significantly impact on the female probability of retirement.

Retirement might be expected to become more likely when there

are fewer employment opportunities. The national unemployment rate is therefore included in the model as a measure of employment opportunities. However, no significant effect of this measure of labour market conditions is evident for men or women.

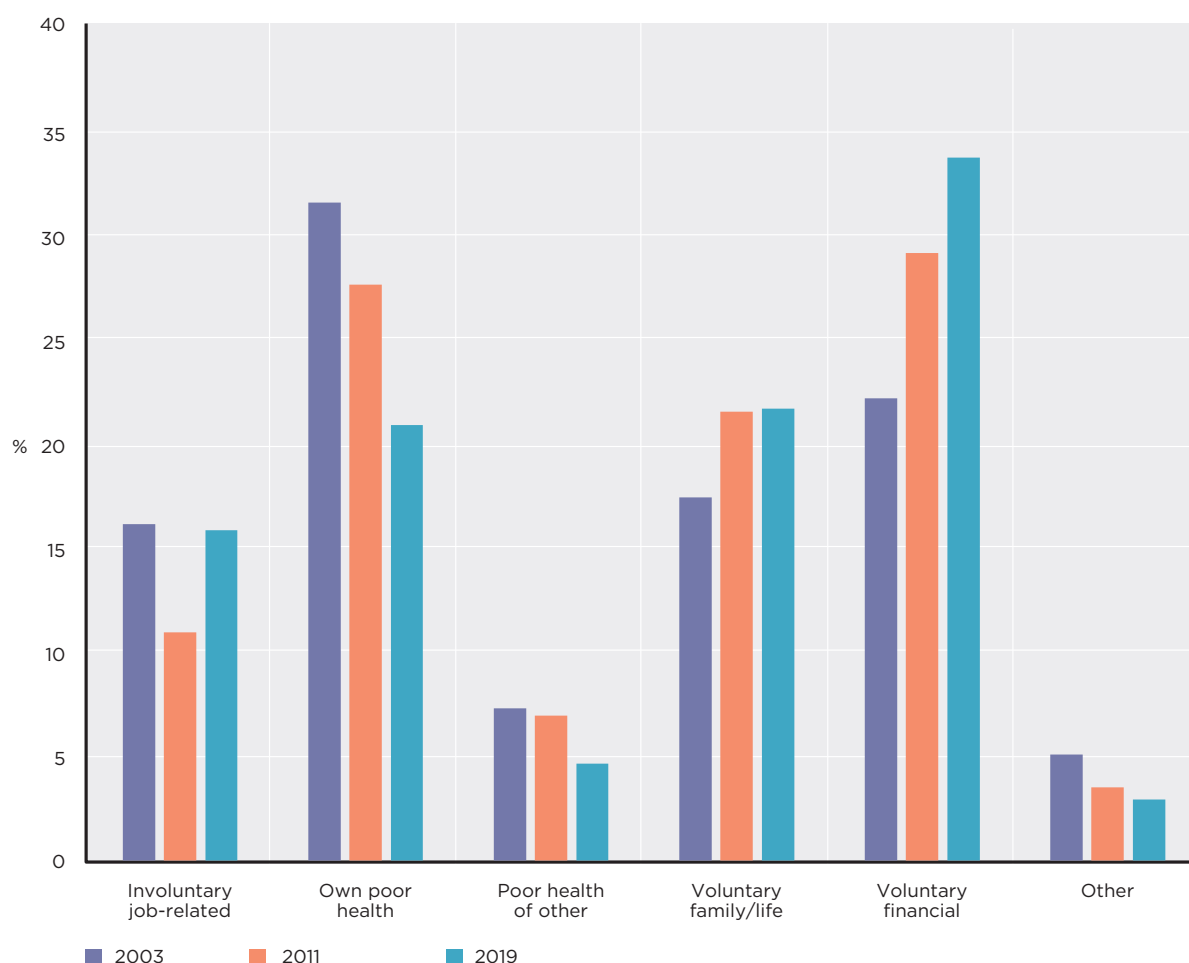
While there is no evidence that the general health of one's partner impacts on the retirement decision, there is strong evidence in Table 8.4 that couples tend to coordinate their retirement. The probability of retiring at some stage over the last year is on average increased by 5.7 percentage points for men and by 9.7 percentage points for women if the partner retired in the last year.

In each of the waves in which the special sequence of retirement questions has been administered,

retired persons have been asked their reasons for retirement. In these years, we can therefore directly examine the reasons for retirement as perceived (or at least as reported) by the retirees themselves.

Figure 8.2 summarises these responses, classifying retirement reasons into six categories (see Box 8.2, page 125) and presenting the proportion reporting each as the main reason for retirement. To allow comparisons across time, estimates for each year are for persons who had retired within the last four years so that there is minimal overlap in the retirements being examined. That is, 2003 estimates are for persons who had retired since 1999, 2011 estimates are for persons who had retired since 2007 and 2019 estimates are for persons who had retired since 2015.

Figure 8.2: Main reason for retirement of persons who retired within the preceding four years

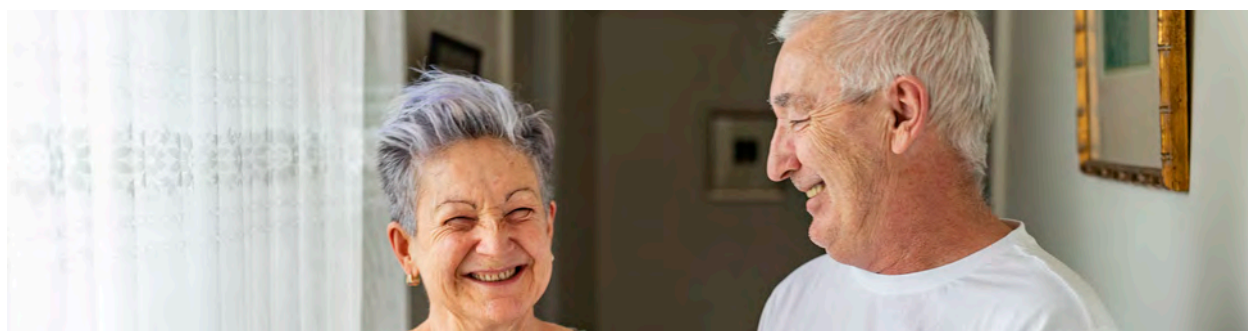


Consistent with the regression results obtained in Table 8.4, one's own poor health is one of the most commonly reported main reasons for retirement: of those who retired between 1999 and 2003, 31.7% identified poor health as the main reason. This proportion subsequently fell, applying to 20.9% of those retiring between 2015 and 2019, becoming the third-most

common reason for retirement during that period.

While poor health appears to be an important factor in many retirement decisions, more positive reasons for retirement, here labelled 'Voluntary—family/life reasons' and 'Voluntary—financial reasons', are in fact collectively more common and, moreover, they have grown over time. Of those who retired

between 1999 and 2003, 22.3% reported a main reason for retirement that falls in the 'Voluntary—financial reasons' category, and 17.5% reported a main reason that falls in the 'Voluntary—family/life reasons' category. Among those who retired between 2015 and 2019, these proportions had respectively grown to 33.8% and 21.8%.





### Box 8.2: Classification of reasons for retirement

In HILDA Survey waves containing the retirement module, retired respondents are asked for the reasons for retiring. They are presented with 18 potential reasons, although may also offer additional reasons not specified. Respondents who nominate more than one reason are then asked to identify the main reason. In Figure 8.2, the reasons have been classified into six categories as follows:

- (1) Involuntary—job-related reasons: Made redundant, dismissed or had no choice; Reached compulsory retirement age; Could not find another job; Pressure from employer or others at work.
- (2) Own poor health: Own ill health.
- (3) Poor health of another (for example, spouse): Ill health of spouse or partner; Ill health of other family member.
- (4) Voluntary—family/life reasons: Partner had just retired or was about to retire; Spouse or partner wanted me to retire; To spend more time with spouse or partner; To spend more time with other family members; To have more personal or leisure time; Fed up with working or work stresses, demands.
- (5) Voluntary—financial reasons: Became eligible for the old age pension; Offered reasonable financial terms to retire early or accept a voluntary redundancy; Superannuation rules made it financially advantageous to retire at that time; Could afford to retire or had enough income; Spouse's or partner's income enabled me to retire.
- (6) Other reason: To have children, start family or to care for children; Other reason.

## Retirement expectations of people not yet retired

In Waves 11, 15 and 19, the HILDA Survey has obtained information from people aged 45 and over who were not yet retired about their expectations for the (after-tax) income they will require in retirement in order to have a standard of living that they regard as satisfactory.<sup>1</sup>

Table 8.5 summarises responses to this question in each wave, presenting the mean, median and 10th, 25th, 75th and 90th percentiles of the distribution of

responses. All of the estimates have been adjusted to December 2019 prices to enable comparison between results for 2011, 2015 and 2019. In addition, results are presented separately for single people and partnered people because a single person is only asked about the income required for one person, whereas a partnered person is asked about the income required for the couple.

The median required income in 2019 was \$41,600 for single people and \$55,000 for couples. This income, in equivalised terms, is below the median household income in 2019 (\$51,538) for single people but above that value for couples. This result



Table 8.5: Expected annual income required in retirement—Non-retired persons aged 45 and over, 2011, 2015 and 2019 (\$, December 2019 prices)

	Single			Partnered		
	2011	2015	2019	2011	2015	2019
Mean	49,963	46,113	46,752	67,715	67,077	69,052
10 <sup>th</sup> percentile	23,286	22,296	24,000	30,271	32,158	31,200
25 <sup>th</sup> percentile	30,271	27,870	30,000	46,571	42,877	46,800
Median	40,750	41,805	41,600	58,214	55,740	55,000
75 <sup>th</sup> percentile	58,214	53,596	52,000	72,651	75,035	80,000
90 <sup>th</sup> percentile	69,857	64,316	65,000	116,428	107,193	100,000

<sup>1</sup> This information was also collected in Wave 7, but only from respondents who indicated that they had previously thought about how much money they would need in retirement.

suggests that couples seem to have higher expectations of their income requirements in retirement than the median for the overall population.

While between 2001 and 2015 expected income requirements decreased at most points of the distribution for both singles and couples, these increased again in 2019. Overall, there is a substantial variation across the

income distribution in reported income requirements in retirement. To better understand the factors that impact on individuals' assessments of their income needs, we estimate a regression model of the factors impacting on expected income requirements, the results of which are reported in Table 8.6.

The table shows that there is no (significant) systematic difference

between men and women in expected income requirements. Unsurprisingly, being partnered increases expected income requirements, since the income needs to support two people. On average, and holding other factors constant, partnered people estimate they require \$15,000 more per year than single people to achieve an acceptable standard of living.

**Table 8.6: Factors impacting on expected income required in retirement—Non-retired persons aged 45 and over, 2011, 2015 and 2019**

	<i>Estimate</i>
Male	<i>ns</i>
Partnered	15,001
<i>Age group (Reference category: 45–49)</i>	
50–54	–3,585
55–59	–8,544
60–64	–13,500
65 and over	–10,600
Rank in the income distribution (percentile)	370
<i>Region of residence (Reference category: Major urban)</i>	
Non-major urban	–5,131
Non-urban	–4,155
<i>Extent to which have thought about how much money will need in retirement (Reference category: Not at all)</i>	
A little	<i>ns</i>
A lot	8,123
<i>Year (Reference category: 2011)</i>	
2015	<i>ns</i>
2019	<i>ns</i>
Constant	31,184
Number of observations	11,006

*Notes:* The table reports coefficient estimates from an Ordinary Least Squares regression of the determinants of expected annual after-tax income in retirement (expressed at December 2015 prices). See the Technical Appendix for further details on Ordinary Least Squares regression models. *ns* indicates the estimate is not significantly different from 0 at the 10% level.



Current age is also an important factor in expected income requirements. People aged 45 to 49 have the highest expected income requirement, other things being equal, while people aged 60 to 64 (who are not yet retired) have the lowest expected requirements, on average requiring \$13,500 less per year than people aged 45 to 49. Location in the income distribution is also an important factor, each one-percentile (one-hundredth) increase in income rank increasing expected income requirements by \$370—thus, in moving from the bottom of the income distribution (the first percentile) to the top of the income distribution (the 100th percentile), income requirements increase by \$37,000 per year holding all else constant.

People living in major urban areas have the highest income requirements, other things being equal, while people living in non-major urban areas have the lowest income requirements, on average requiring \$5,131 less than people living in major urban areas. Respondents to the question on income requirements were also asked how much they had thought about their income needs in retirement, and it seems that giving a lot of thought to the matter results in a higher assessment of income needs in retirement. Those who had thought a lot about income requirements in retirement on average reported needing \$8,123 more per year than those who had not thought about it at all. Those who had given a little thought to the matter do not differ significantly from those who had not thought about it at all.

Despite the evidence in Table 8.6 that expected income requirements tended to decrease between 2011 and 2015, and increase again between 2015 and 2019, on average there is in fact



no significant difference between 2011, 2015 and 2019 once we control for other factors.

Last, in all waves of the HILDA Survey in which there has been a special focus on retirement (Waves 3, 7, 11, 15 and 19), individuals aged 45 and over who were not yet retired have been asked about both their expected and preferred retirement ages. Table 8.7 makes comparisons of expected and preferred retirement ages across men and women in each of four age groups and for 2003, 2011 and 2019. The top panel of the table presents the proportions not expecting to ever retire. It shows that in most cases men are more likely than women to expect to never retire. While there is

variation from year-to-year in the proportion expecting to never retire, there is no clear trend evident over the 2003 to 2019 period as a whole.

The second panel of the table reports the mean expected retirement age of those expecting to retire at some stage. The means for men are in most cases markedly higher than the means of their female counterparts (of the same age group), but clearly evident for both men and women, and in all age groups, is a trend increase in the mean expected age of retirement. For example, among those aged 50 to 54 in 2003 (and not yet retired), the mean expected age of retirement was 60.7 for women and 63 for men,



while among those aged 50 to 54 in 2019, the respective means were 64.6 and 66.1.

The third and fourth panels of Table 8.7 examine retirement preferences, respectively showing the proportion preferring to never retire and the mean preferred age of retirement of those who would like to retire. Consistent with differences between men and women in expectations, men are somewhat more likely to prefer to never retire. However, for both men and women, all age groups

other than the 45 to 49 group, and the 55 to 59 group for men only, show a trend decline in the proportion preferring to never retire. For example, in 2003, 7.1% of men aged 50 to 54 who were not yet retired reported preferring to never retire, while in 2019 only 3.4% of men in this age group who were not yet retired reported this preference. Similarly, 6.8% of women aged 55 to 59 in 2003 who were not yet retired reported preferring to never retire, while in 2019 only 3% reported this preference.

Among those preferring to retire, the mean preferred retirement age is in all cases lower than the mean expected retirement age. Nonetheless, the patterns are similar to those found for the mean expected retirement age. Mean preferred retirement ages are higher for men than women—although the differences are generally somewhat smaller than the differences in mean expected retirement ages—and mean preferred retirement ages have increased over time for all age groups of both men and women.

Table 8.7: Expected and preferred retirement ages of non-retired persons aged 45 to 64, 2003, 2011, 2019

	Men				Women			
	45-49	50-54	55-59	60-64	45-49	50-54	55-59	60-64
<i>Proportion not expecting to retire (%)</i>								
2003	5.6	8.9	9.6	12.8	4.5	8.4	7.7	13.7
2011	7.9	9.2	7.6	16.9	5.2	8.7	5.8	12.6
2019	6.4	9.3	12.7	8.2	7.3	6.4	6.0	6.2
<i>Persons expecting to retire: Mean age expect to retire (years)</i>								
2003	62.1	63	63.8	66.2	59.5	60.7	63.6	65.9
2011	64.3	64	64.9	66.6	61.8	62.5	64.3	65.8
2019	65.8	66.1	65.9	67.4	64.7	64.6	65.3	66.7
<i>Proportion preferring to never retire (%)</i>								
2003	3.3	7.1	8.4	14.2	4.3	8.1	6.8	18.1
2011	5.1	6.3	5.1	13.2	2.5	4.9	3.2	7.8
2019	3.0	3.4	8.5	3.4	4.5	3.7	3.0	4.9
<i>Persons preferring to retire: Mean age expect to retire (years)</i>								
2003	56.7	57.8	61.1	64.5	55.2	57.6	61.0	63.6
2011	57.0	58.8	62.2	65.1	56.5	58.5	61.5	64.7
2019	57.1	60.3	61.9	65.1	58.5	59.9	62.0	64.9





# 9

## Time stress

*Ferdi Botha*



Since 2001, the HILDA Survey has collected information on Australians' perceptions of time stress or time pressure, broadly defined as feeling that there is not enough time to do all the tasks one has to do. An understanding of time stress is important, in part because perceived lack of time, and hence greater time stress or time pressure, is often associated with greater stress and adverse health outcomes (see, for example, Hamermesh and Lee, 2007; Kleiner, 2014; Guirge et al., 2020).

This chapter considers trends in reported time stress over time and the factors associated with higher and lower levels of time stress. The chapter also investigates the potential impact of chronic time stress on individual health and wellbeing outcomes.

### Box 9.1: HILDA Survey measure of time stress

The measure of time stress is included annually in the self-completion questionnaire, where respondents are asked: 'How often do you feel rushed or pressed for time?' The response options are 'never', 'rarely', 'sometimes', 'often' and 'almost always'. A scale is constructed ranging from 1 ('never') to 5 ('almost always'), which indicates the level of time stress. In this chapter, a person is considered to be time stressed if the person 'often' or 'almost always' feels rushed or pressed for time.

### Changes in time stress from 2001 to 2019

Figure 9.1 shows the percentage of males and females who reported 'often' or 'almost always' feeling rushed or pressed for time over the period 2001 to 2019. Females consistently reported higher levels of time stress compared to males, with the proportion of females experiencing time pressure being about 7 to 8 percentage points higher than the proportion of males experiencing time pressure.

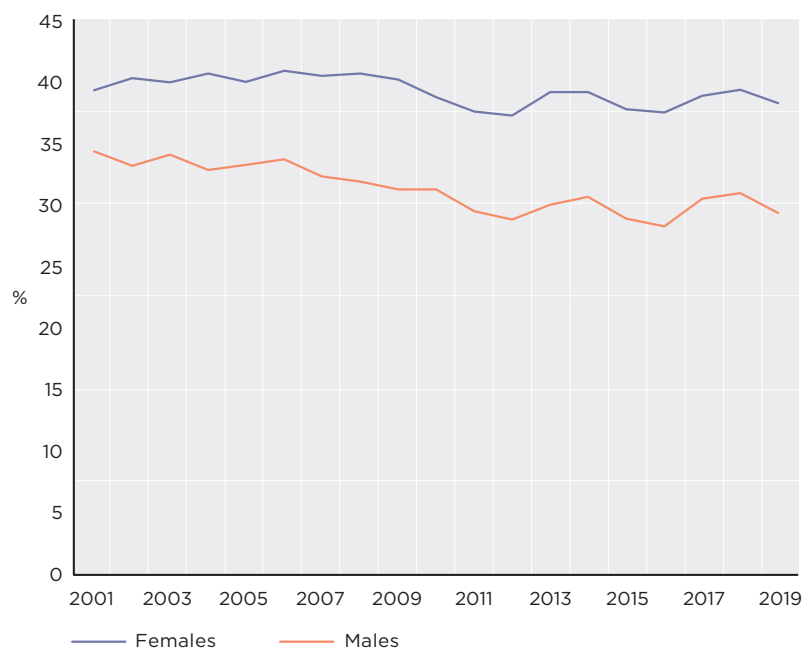
The percentage of Australians in time stress has declined slightly since 2001, but this decline has mostly been among males and the proportion of females in time stress has effectively remained constant during this time. In 2001, about 39% of females reported being in time stress; in 2019, this

was 38%. In contrast, roughly 34% of men experienced time stress in 2001, compared to 29% in 2019.

Figure 9.2 shows the percentage of Australians, by age group, reporting time stress since 2001. Those aged 65 and over experience the least time stress, averaging around 12% to 13% since 2001. The highest mean proportions of time stressed individuals are in the 35 to 44 age group, with almost half consistently being in time stress. People in the 25 to 34 and 45 to 54 age groups have the next highest proportions experiencing time stress, consistently over 40%.



Figure 9.1: Proportion of people aged 15 and over reporting time stress, by sex



## Who experiences high and low levels of time stress?

Figure 9.3 plots the proportion of Australians in 2019 reporting how often they feel rushed or pressed for time. Only 4% of males and 3% of females report 'never' feeling pressed for time, whereas about 26% of males and 19% of females report 'rarely' feeling pressed for time. The largest proportion of Australians—roughly 40%—'sometimes' feel rushed or pressed for time.

Among males, 23% and 6% are 'often' and 'almost always' pressed for time, respectively. Among females, however, 28% are 'often' rushed for time and almost 11% are 'almost always' rushed for time. Consistent with the observation in Figure 9.1, the proportion of Australians being chronically time stressed (i.e., 'often' or 'almost always' pressed for time) in 2019 was roughly 29% among males and 38% among females.

Table 9.1 reports average levels of subjective time pressure (on the 1–5 scale) for Wave 19 according to selected individual characteristics. Persons aged 35 to 44 have the highest mean time stress score (3.6 for women and 3.4 for men), followed by those aged 25 to 34 and 45 to 54.

Higher levels of educational attainment (see Box 4.4, page 67) tend to be associated with greater average time pressure. There is little variation in time pressure across marital status groups, although widowed men and women report substantially lower average time stress, which in part reflects the fact that the widowed also tend to be older.

Figure 9.2: Proportion of people reporting time stress, by age group

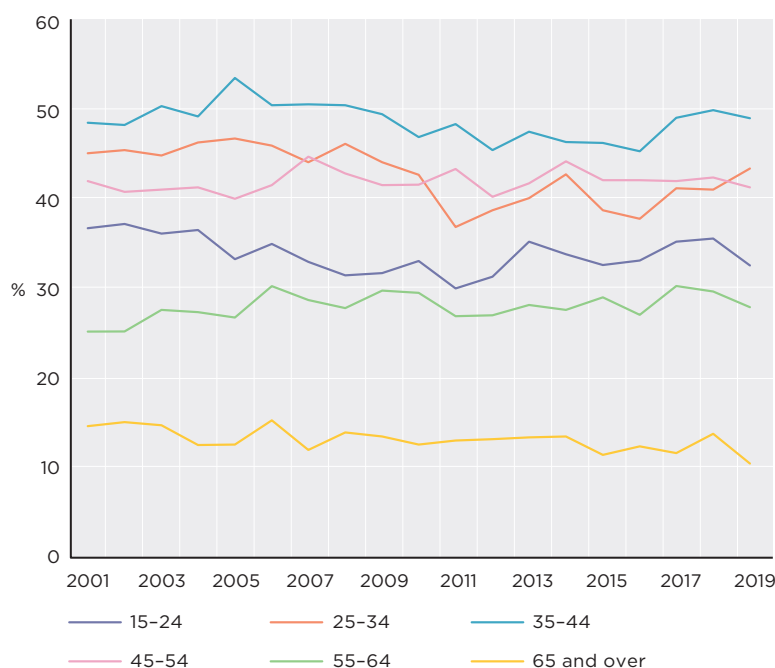


Figure 9.3: Distribution of reported frequency of time stress by people aged 15 and over, 2019

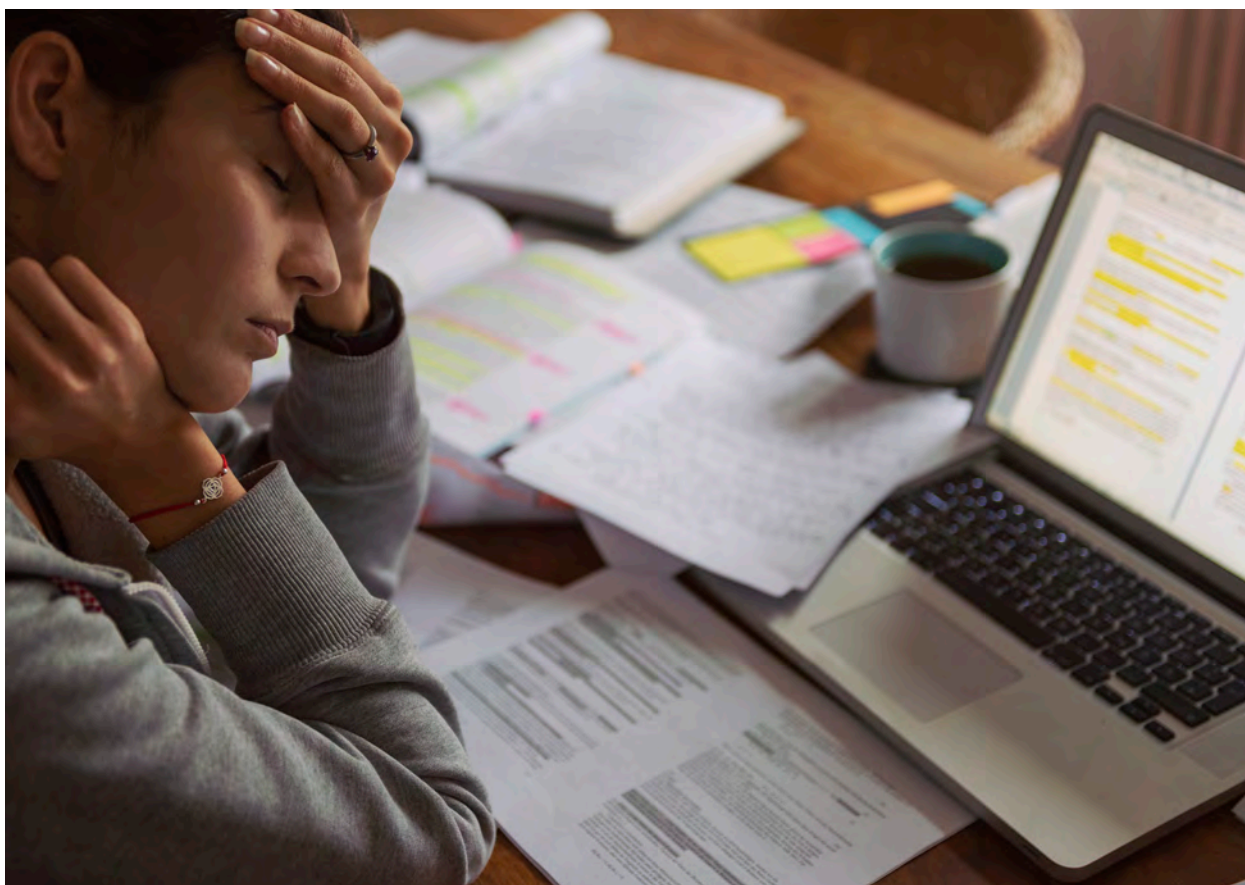
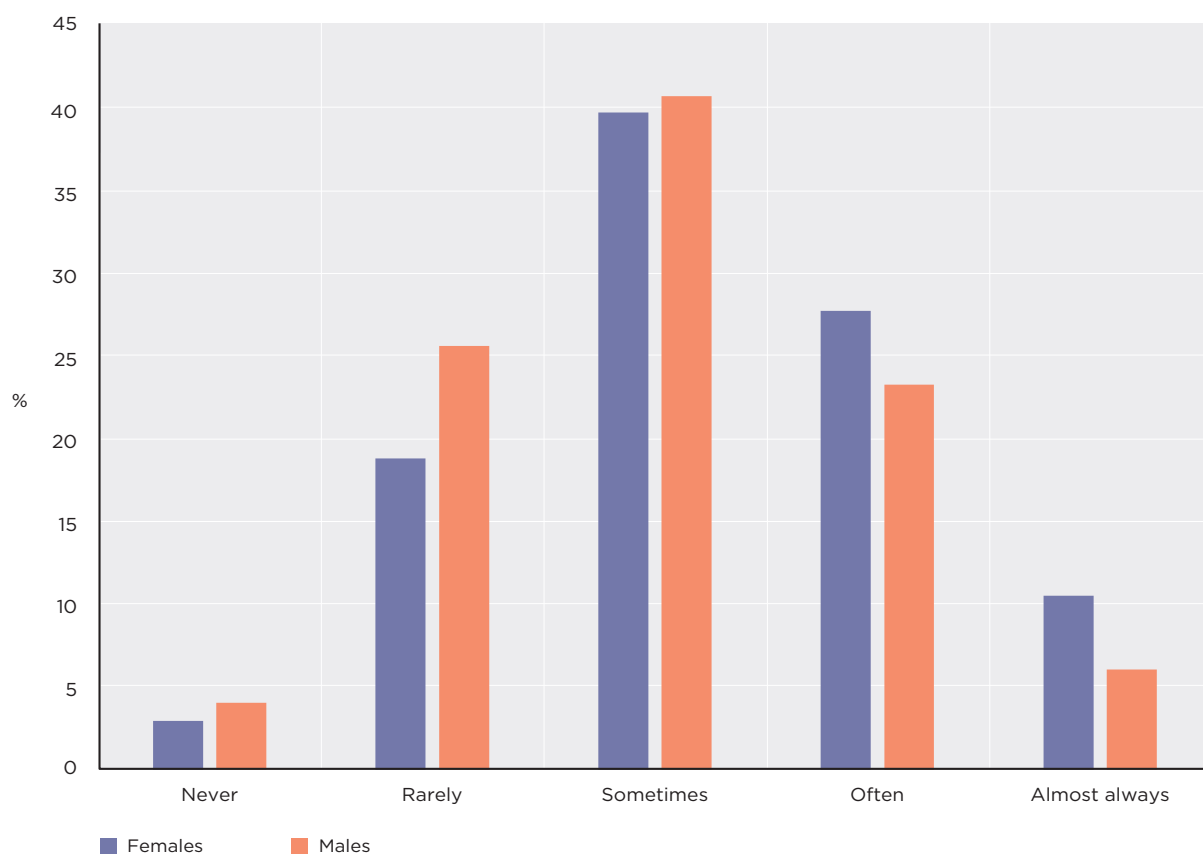


Table 9.1: Mean subjective time stress—People aged 15 and over, 2019 (1–5 scale)

	Females	Males
<i>Age category</i>		
15–24	3.3	3.0
25–34	3.5	3.2
35–44	3.6	3.4
45–54	3.5	3.1
55–64	3.1	2.9
65 and over	2.6	2.5
<i>Educational attainment</i>		
Bachelor's degree or higher	3.5	3.2
Other post-school qualification	3.3	3.0
Completed high school	3.3	3.0
Less than high school completion	2.9	2.9
<i>Marital status</i>		
Married	3.3	3.0
De facto relationship	3.4	3.2
Separated	3.3	3.0
Divorced	3.2	2.9
Widowed	2.5	2.4
Never married and not in de facto relationship	3.3	3.0
<i>Number of resident children younger than 15</i>		
No resident children	3.1	2.9
1 resident child	3.3	3.0
2 resident children	3.6	3.3
3 or more resident children	3.7	3.3
<i>SF-36 general health measure</i>		
In poor general health	3.3	3.1
Not in poor general health	3.3	3.1
<i>SF-36 mental health measure</i>		
In poor mental health	3.6	3.5
Not in poor mental health	3.2	3.0
<i>Labour force status</i>		
Unemployed	3.0	2.9
Employed	3.5	3.2
Not in the labour force	2.9	2.6
<i>Income quintile</i>		
Bottom	2.9	2.7
2nd	3.2	2.9
Middle	3.2	3.1
4th	3.4	3.1
Top	3.4	3.2
<i>Region of residence</i>		
Major urban	3.3	3.1
Other urban	3.1	2.9
Non-urban	3.2	3.0
<i>Indigenous status</i>		
Indigenous	3.3	2.8
Non-Indigenous	3.2	3.0
<i>Immigrant status</i>		
Australian-born	3.3	3.1
Immigrant from one of the main English-speaking countries	3.2	3.0
Immigrant from another country	3.2	2.9

Note: Values reported are mean levels of perceived time stress on the 1–5 scale.



As expected, people on average report more time pressure the more children residing with them. Women (men) with three or more resident children report a score of 3.7 (3.3), whereas women with no resident children report a score of 3.1 (2.9).

There are no differences in average time stress according to general health status (see Box 7.4, page 114). In terms of mental health status, however, females (males) classified as having poor mental health report an average time stress score of 3.6 (3.5), whereas females (males) not in poor mental health have an average time stress score of 3.2 (3.0).

Time stress is on average higher among the employed than the unemployed and those not in the labour force. People tend to report greater average time stress the higher the quintile of household equivalised income. Time pressure is slightly higher for those living in urban areas than for those in non-urban and non-major urban areas (see Box 3.5, page 26).

While mean time stress is slightly higher among Indigenous females (3.3) than among non-Indigenous females (3.2), time stress is slightly lower among Indigenous males (2.8) than among non-Indigenous males (3.0). Finally, Australian-born individuals report somewhat higher average time stress scores compared to immigrants from main English-speaking countries and other countries.

## Who is most likely to experience time stress?

Moving beyond the univariate relationships examined so far, this subsection investigates the characteristics that make it more or less likely to report chronic time stress. Table 9.2 reports the results from Probit regressions in the form of mean marginal effects. In the case of indicator variables (such as educational attainment, disability status or

number or children), these estimates are interpreted as the change in the probability of reporting time stress if the characteristic is present compared to the reference category. In the case of metric variables (such as household equivalised income or general health), the estimates designate the effect of a one-unit increase in this variable on the probability of experiencing time stress.

The findings in terms of age differ from the results shown in Figure 9.2 and Table 9.1 once controlling for a range of individual characteristics. Among men, for instance, those aged 35 to 44 are 4.4 percentage points less likely than those aged 15 to 24 to be time stressed. Women aged 35 to 44 are 1.9 percentage points less likely to be time stressed relative to females aged 15 to 24. Persons aged 65 and over are about 25 to 26 percentage points less likely to be time stressed relative to the 15 to 24 age group.

Higher levels of education are related to a higher probability of



reporting time stress, as women and men with at least a Bachelor's degree are 11.1 and 10 percentage points, respectively, more likely to report being time stressed than those who have not completed high school. There is some relationship between marital status and time pressure, with the widowed, for instance, being less likely than married persons to be time stressed. Better general health is associated with a lower probability of time pressure.

Compared to the unemployed, those not in the labour force are slightly more likely to report time stress. For the employed, however, the relationships are much stronger. Employed females are 21.4 percentage points more likely to be time stressed relative to unemployed females, and employed males are 16.5 percentage points more likely to be time stressed than unemployed males. This suggests that time allocated to employment is a major source of chronic time stress.

For both males and females each additional hour of weekly housework increases the probability of being time stressed by 0.2 percentage points. Greater

household income is associated with a greater likelihood of time stress, although the effect is small. Each additional \$10,000 of household equivalised income increases the probability of being in time stress by 0.05 percentage points. Australians living in non-urban areas have a lower likelihood of chronic time pressure when compared to those in major urban or other non-major urban areas.

The number of resident children younger than 15 is strongly related to feelings of time pressure, especially for females. Compared to females who have no resident children, females with two and three or more resident children are 15 and 24.5 percentage points, respectively, more likely to experience chronic time stress. Among males, time stress is 10.7 percentage points and 14.7 percentage points more likely among those with two and three or more resident children, relative to those without any children residing with them.

In terms of migration status, Australian-born individuals are slightly more likely to be time stressed compared to migrants from main English-speaking

and non-English-speaking countries. Indigenous females and males, respectively, are 6.1 and 4.1 percentage points less likely than non-Indigenous females and males to experience chronic time pressure.

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## Time stress and health and wellbeing outcomes

This section briefly examines how perceived levels of time stress relate to the individual outcomes of mental health, self-rated health, frequency of engaging in physical activity and overall satisfaction with life. The regression results are shown in Table 9.3. Compared to persons who do not report being stressed for time, those experiencing time stress on average report worse mental health, worse self-rated health, less physical activity and lower life satisfaction. These results underscore the importance of addressing issues related to time pressure, as the experience of time pressure is detrimental to the health and wellbeing of Australians.



Table 9.2: Predictors of time stress among people aged 15 and over, 2001 to 2019

	Females	Males
<i>Age group (Reference category: 15-24)</i>		
25-34	-1.9	-1.6
35-44	-1.9	-4.4
45-54	-8.3	-1.0
55-64	-15.1	-18.4
65 and over	-24.7	-26.1
<i>Educational attainment (Reference category: Less than high school completion)</i>		
Bachelor's degree or higher	11.1	10.0
Other post-school qualification	4.3	2.7
Completed high school	2.5	1.0
<i>Marital status (Reference category: Legally married)</i>		
De facto relationship	ns	1.3
Separated	3.6	ns
Divorced	1.6	ns
Widowed	-7.5	-4.3
Never married and not in de facto relationship	ns	-2.2
SF-36 general health (0-100 scale)	-0.4	-0.4
<i>Labour force status (Reference category: Unemployed)</i>		
Employed	21.4	16.5
Not in the labour force	3.3	ns
Weekly hours of housework	0.2	0.2
Household equivalised income (\$'0,000) (December 2019 prices)	0.5	0.5
<i>Region of residence (Reference category: Non-urban)</i>		
Major urban	5.1	1.4
Other urban	2.8	1.4
<i>Number of resident children under 15 (Reference category: None)</i>		
1 resident child	7.5	6.3
2 resident children	15.0	10.7
3 or more resident children	24.5	14.7
<i>Immigrant status (Reference category: Australian-born)</i>		
Immigrant from one of the main English-speaking countries	-2.1	-1.2
Immigrant from another country	-5.1	-3.5
Indigenous	-6.1	-4.1
Number of observations	124,678	110,177

Notes: The table presents mean marginal effects estimates (in percentage points) from Probit regression models of the determinants of experiencing time stress (reporting 'often' or 'almost always' feeling rushed or pressed for time). Year dummies are included but are not reported. See the Technical Appendix for a brief explanation of this model. *ns* indicates the estimate is not significantly different from 0 at the 10% level.

Table 9.3: Time stress and wellbeing outcomes of people aged 15 and over, 2001 to 2019

	SF-36 mental health (0-100 scale)	Self-rated health (1-5 scale)	Physical activity (1-6 scale)	Life satisfaction (0-10 scale)
Time stressed	-4.578	-0.079	-0.085	-0.215
Number of observations	256,432	254,308	256,579	257,442

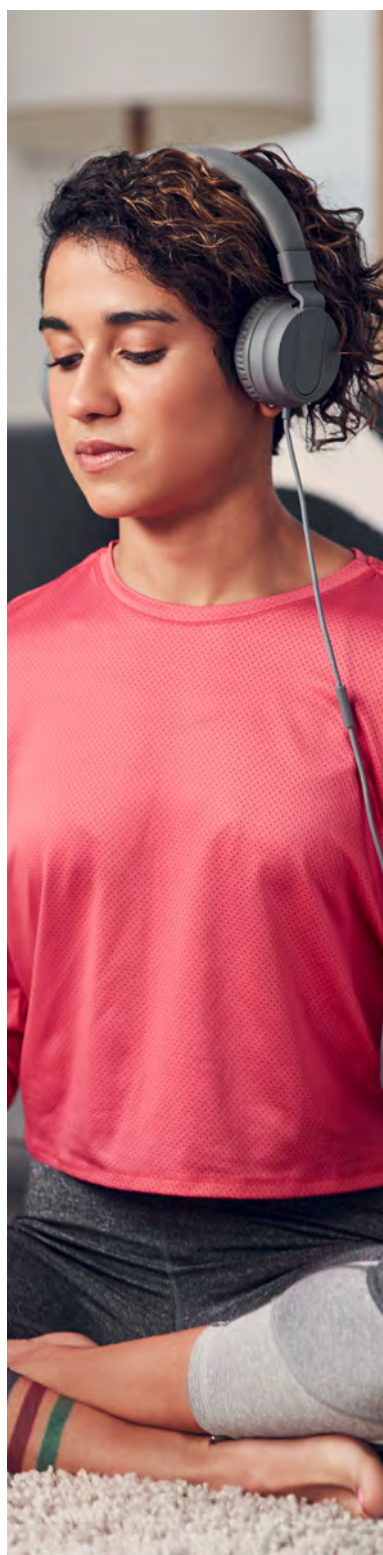
Notes: The table presents the results from fixed-effects regression models of the effect of time stress (reporting 'often' or 'almost always' feeling rushed or pressed for time) on mental health (SF-36 measure on a 0-100 scale), self-rated health (ranging from poor to excellent on a 1-5 scale), frequency of physical activity (ranging from 'not at all' to 'every day' on a 1-6 scale) and life satisfaction (ranging from completely dissatisfied to completely satisfied on a 0-10 scale). All models additionally control for age, education, marital status, household equivalised annual income and employment status.



# 10

## Self-control

*Ferdi Botha and Sarah C. Dahmann*



Exerting self-control allows people to regulate their behaviour, override impulses and achieve long-term goals. Self-control is therefore central to many behaviours and research has demonstrated its importance for a wide range of life outcomes, such as health, educational attainment, financial and subjective wellbeing (see Cobb-Clark et al., 2019 for more details and related literature).

The Brief Self-Control Scale was administered for the first time in Wave 19 of the HILDA Survey and provides an opportunity to gain insights into Australians' levels of self-control. This chapter first considers how self-control varies according to characteristics among the Australian population. Second, the chapter investigates how these characteristics jointly predict self-control. Finally, the chapter explores some of the potential benefits of having higher self-control, in particular with respect to health and health behaviours, finances, and overall wellbeing.

### Who has higher and lower self-control?

Figure 10.1 shows the entire distributions of self-control for males and females. Females tend to have higher self-control relative to males, as the distribution for females is almost consistently to the right (indicating higher self-control) of that for males. On average, Australians have a level of self-control of 3.5 on the 1–5 scale, and most Australians report a self-control score between about 2.5 and 4.5.

Table 10.1 presents average levels of self-control by selected respondent characteristics and for males and females. Patterns of self-control across individual characteristics are broadly similar for males and females. As also alluded to in Figure 10.1, females (3.5) have slightly higher mean self-control than males (3.4). Self-control also increases with respondents' age, with older age groups having higher average

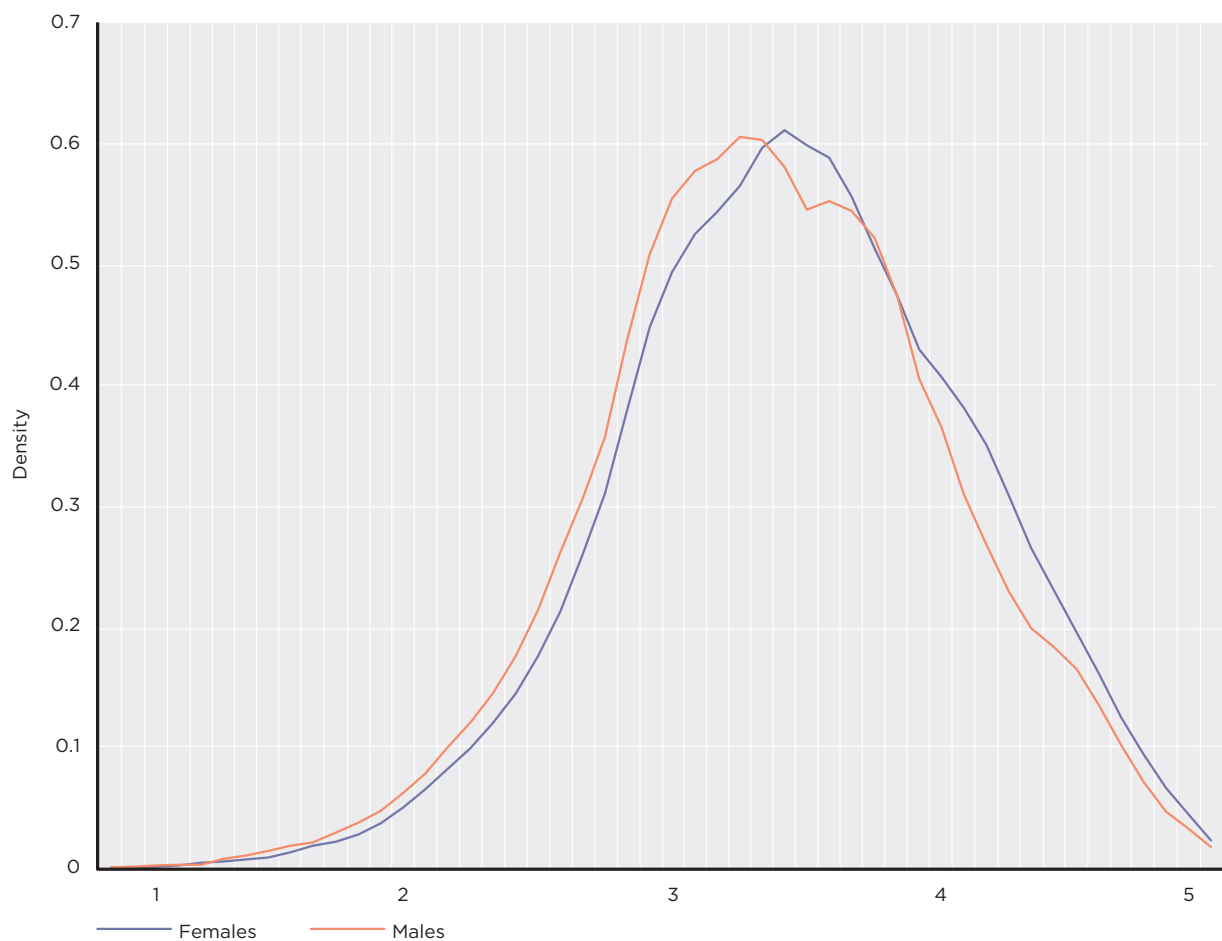
levels of self-control than younger age groups. For example, mean self-control is lowest for people aged 15 to 24 (3.2) and highest for those aged 65 and over (3.7). This difference corresponds to those aged 65 and over answering consistently one point higher to every second item of the self-control question battery.

Differences with respect to educational attainment (see Box 4.4, page 67) are less pronounced, although self-control tends to be greater the higher the level of education obtained. The unemployed have lower mean self-control than the employed and those not in the labour force. There are no clear differences in self-control across the quintiles of household equivalised annual income.

There are some differences in average self-control by marital status. Married (3.6) and widowed (3.7) persons have the highest mean self-control, whereas the never married have the lowest mean self-control



Figure 10.1: Distribution of self-control, by sex—People aged 15 and over, 2019



Note: Kernel-density estimations.

(3.2). These may in part reflect the age gradient, as the widowed, for example, are likely to be older than those never married nor currently in a de facto relationship. The level of self-

control does not vary by whether people have children or not. Immigrants from non-English-speaking countries report higher levels of self-control than both immigrants from English-

speaking countries and Australian-born people. Non-Indigenous persons have slightly higher levels of self-control relative to Indigenous persons, particularly among males.



Table 10.1: Mean self-control by individual characteristics—People aged 15 and over, 2019 (1–5 scale)

	Overall	Females	Males
<i>Gender</i>			
Female	3.5	–	–
Male	3.4	–	–
<i>Age group</i>			
15–24	3.2	3.2	3.2
25–34	3.3	3.4	3.3
35–44	3.4	3.5	3.4
45–54	3.5	3.5	3.5
55–64	3.6	3.6	3.5
65 and over	3.7	3.8	3.7
<i>Educational attainment</i>			
Bachelor's degree or higher	3.6	3.6	3.5
Other post-school qualification	3.5	3.5	3.5
Completed high school	3.4	3.4	3.3
Less than high-school completion	3.4	3.5	3.3
<i>Labour force status</i>			
Employed	3.4	3.5	3.4
Unemployed	3.2	3.3	3.1
Not in the labour force	3.5	3.6	3.5
<i>Income quintile</i>			
Bottom	3.5	3.5	3.4
2nd	3.5	3.5	3.4
Middle	3.4	3.5	3.4
4th	3.4	3.5	3.4
Top	3.5	3.6	3.5
<i>Marital status</i>			
Legally married	3.6	3.6	3.6
De facto	3.4	3.4	3.4
Separated	3.4	3.5	3.4
Divorced	3.6	3.6	3.5
Widowed	3.7	3.7	3.7
Never married and not in de facto relationship	3.2	3.3	3.2
<i>Has children</i>			
No children	3.5	3.5	3.4
Children	3.4	3.5	3.4
<i>Immigrant status</i>			
Australian-born	3.4	3.5	3.4
Immigrant from one of the main English-speaking countries	3.5	3.5	3.5
Immigrant from another country	3.6	3.6	3.5
<i>Indigenous status</i>			
Non-indigenous	3.5	3.5	3.4
Indigenous	3.3	3.5	3.2



## Predictors of self-control

Observing that self-control levels differ between some groups, this section investigates the characteristics that jointly predict self-control in a multivariate setting.

Table 10.2 reports the regression results, also reported separately for males and females. For most variables, which are indicators, the displayed coefficient is interpreted as the change in self-control (ranging from 1 to 5) for that specific category relative to the omitted reference category. The only exception is household equivalised income, which is a continuous variable. In this case, the coefficient is interpreted as the change in self-control for a \$10,000 increase in annual income. The findings are generally consistent between females and males.

Consistent with the descriptive results in Table 10.1, self-control mostly increases with people's age. For instance, those aged 65 and older have self-control scores that are roughly 0.40 (females) and 0.36 (males) points higher than those aged 15 to 24. Self-control also increases with the highest level of education attained, such that those with a Bachelor's degree have higher levels of self-control (0.10 higher for females and 0.11 for males) than those who did not complete high school. However, the direction of this association is unclear, as greater educational attainment may also be a consequence rather than a determinant of self-control (see Cobb-Clark et al., 2019). Employed females and males both report 0.11 points greater self-control than unemployed, whereas employed males also have 0.09 points higher self-control than males who are currently not in the labour force.

### Box 10.1: The Tangney et al. (2004) measure of self-control

To measure self-control, the self-completion questionnaire contained the Tangney et al. (2004) Brief Self-Control Scale item battery. Respondents were asked how well each of the following 13 statements describe them, with responses ranging from 1 ('not at all') to 5 ('very well'):

- a. *I am good at resisting temptation*
- b. *I have a hard time breaking bad habits*
- c. *I am lazy*
- d. *I say inappropriate things*
- e. *I do certain things that are bad for me, if they are fun*
- f. *I refuse things that are bad for me*
- g. *I wish I had more self-discipline*
- h. *People would say I have iron self-discipline*
- i. *Pleasure and fun sometimes keep me from getting work done*
- j. *I have trouble concentrating*
- k. *I can work effectively towards long-term goals*
- l. *Sometimes I cannot stop myself from doing something even if I know it is wrong*
- m. *I often act without thinking through all the alternatives*

The self-control score is calculated as an average across the 13 items as follows:  

$$[a + (6 - b) + (6 - c) + (6 - d) + (6 - e) + f + (6 - g) + h + (6 - i) + (6 - j) + k + (6 - l) + (6 - m)]/13$$
 The score ranges from 1 (no self-control) to 5 (full self-control).



Conditional on education and employment status, the relationship with income is very modest: every additional \$10,000 in household equivalised income increases people's self-control by up to only 0.005 points on the 1–5 scale.

Married people have significantly higher self-control relative to those in de facto relationships, the separated, and those never married nor in a de facto relationship. Married men also have higher self-control than divorced men and lower self-control than widowed men, whereas there are no such associations for women. Because of the joint inclusion of all variables, these estimates reflect the association of marital status when the age gradient in self-control is already accounted for. Therefore, we expect the differences to be less pronounced

than in the unconditional means reported in Table 10.1. Having children significantly increases females' self-control but not that of males; although the coefficient for females is small.

There are no significant self-control differences between immigrants from main English-speaking countries and Australian-born persons, whereas immigrants from countries other than the main English-speaking countries have between 0.11 (males) and 0.15 (females) points higher self-control than those born in Australia. In contrast to the descriptive results in Table 10.1, Indigenous status is associated with higher (0.07 points) self-control for females when conditioning on other characteristics, while there is no evidence of a significant association between self-control and Indigenous status for males.

Table 10.2: Predictors of self-control among people aged 15 and over, 2019

	Females	Males
<i>Age (Reference category: 15–24)</i>		
25–34	ns	–0.057
35–44	ns	ns
45–54	0.129	0.072
55–64	0.237	0.155
65 and over	0.395	0.358
<i>Educational attainment (Reference category: Less than high-school completion)</i>		
Bachelor's degree or higher	0.099	0.112
Other post-school qualification	0.039	0.049
Completed high school	ns	ns
<i>Labour force status (Reference category: Employed)</i>		
Unemployed	–0.105	–0.107
Not in the labour force	ns	–0.093
Household equivalised income (\$'0,000, December 2019 prices)	0.004	0.005
<i>Marital status (Reference category: Legally married)</i>		
De facto	–0.104	–0.106
Separated	–0.101	–0.137
Divorced	ns	–0.105
Widowed	ns	0.100
Never married and not in de facto relationship	–0.176	–0.170
Children	0.038	ns
<i>Immigrant status (Reference category: Australian-born)</i>		
Immigrant from one of the main English-speaking countries	ns	ns
Immigrant from another country	0.153	0.111
Indigenous	0.065	ns
Number of observations	8,169	7,282

Notes: The table presents Ordinary Least Squares estimates from regression models of the predictors of self-control, controlling for a constant (not displayed). See the Technical Appendix for an explanation of these models. *ns* indicates the estimate is not significantly different from 0 at the 10% level.



## What are the benefits of higher self-control?

This section considers some of the potential benefits of self-control. Table 10.3 shows the associations of self-control with a range of behaviours and life outcomes, derived from separate regressions for each outcome variable and by sex. Most outcomes are indicator variables. Therefore, the displayed coefficient is interpreted as the change in the probability associated with a 1-point-increase in self-control on its scale from 1 to 5. The only exception is



satisfaction with life, which is measured on a scale from 0 to 10, such that the coefficient indicates the change on that scale associated with a one-unit increase in self-control. To assess the relative size of effects, the average outcome is displayed in addition. For all indicator variables, this corresponds to the prevalence of the outcome or behaviour in the population.

Self-control has been linked to a range of desirable behaviours and outcomes, as it allows people to override short-term impulses in order to act in their longer-term interest. We start by investigating health outcomes and behaviours, where unhealthy choices often yield immediate pleasure; however, they may compromise longer-term health. As expected, among females (males) a 1-point higher level of self-control (on the 1–5 scale) is associated with a 10.5

### Box 10.2: Body Mass Index (BMI)

BMI is a crude measure of body fat. It is calculated by dividing weight (in kilograms) by height (in metres) squared. Height and weight have been collected by the HILDA Survey every wave since Wave 6. A person is classified as 'underweight' if BMI is less than 18.5, 'normal weight' if BMI is at least 18.5 but less than 25, 'overweight' if BMI is at least 25 but less than 30 and 'obese' if BMI is 30 or higher. BMI takes no account of body composition (for example, muscle mass), and is therefore not regarded as a reliable measure of body fat for individuals, but it is regarded as a useful measure for population groups.

(8.3) percentage point reduction in the probability of being obese (see Box 10.2, above), a 7.0 (8.1) percentage point reduction in the probability of being a smoker, and a 9.1 (9.9) percentage point reduction in the likelihood of engaging in regular excessive alcohol consumption.

Accumulating savings requires people to forgo current consumption to be prepared for an emergency in the future. The results show that a 1-point increase in self-control is associated with a 7.3 percentage-point higher

probability of both females and males being able to easily raise \$3,000 for an emergency exclusively from savings.

Finally, an increase of one point on the self-control scale is associated with more than half a point increase in life satisfaction (on a 1–10 scale) among both females and males. This result suggests that greater self-control is not only beneficial for specific behaviours, such as in the areas of health or finance, but that it is also positively associated with Australians' wellbeing more generally.

**Table 10.3: Relationship between self-control and health behaviours and other life outcomes—Persons aged 15 and over, 2019**

	<i>Obese</i>	<i>Smoker</i>	<i>Excessive alcohol consumption</i>	<i>Emergency savings</i>	<i>Life satisfaction</i>
<i>Females</i>					
Average outcome	28.4	14.4	21.2	39.8	7.982
Self-control	–10.5	–7.0	–9.1	7.3	0.552
Number of observations	7,834	8,116	8,061	8,102	8,167
<i>Males</i>					
Average outcome	25.4	18.2	34.3	42.8	7.959
Self-control	–8.3	–8.1	–9.9	7.3	0.534
Number of observations	7,123	7,218	7,173	7,220	7,279

*Notes:* The table presents the average outcome together with the mean marginal effects estimates (in percentage-point terms) from Probit regression models (for obese, smoking, alcohol consumption and emergency savings) or coefficients from Ordinary Least Squares regression models (for life satisfaction) for the effects of the self-control measure. See the Technical Appendix for an explanation of these models. In terms of the outcomes, 'obese' is an indicator for whether a person's body mass index (BMI) is greater than or equal to 30 and thus classified as being obese (see Box 10.2, above); 'smoker' denotes an indicator for whether a person was a smoker at the time of interview; 'excessive alcohol consumption' is an indicator for an individual exceeding the sex-specific threshold (5 for females and 7 for males) of standard alcoholic drinks per occasion at least once a month in the past year; 'emergency savings' denotes whether a person can easily raise \$3,000 for an emergency exclusively from savings; 'life satisfaction' measures an individual's self-reported satisfaction with their life as a whole, ranging from 0 (completely dissatisfied) to 10 (completely satisfied). All regressions control for age, educational attainment, employment status, household equivalised income, marital status, children, country of birth, Indigenous origin and a constant (not displayed).



# 11

## Attitudes towards marriage, parenting and work

*Esperanza Vera-Toscano*

The HILDA Survey collects information that enables tracking of community attitudes to marriage, parenting and work, providing objective evidence on the extent to which attitudes are shifting. Specifically, in Waves 1, 5, 8, 11, 15 and 19, a list of statements about parenting and work—12 statements in Wave 1 and 17 statements in subsequent waves—was presented to respondents in the self-completion questionnaire. Respondents were asked to indicate the extent to which they agreed with each statement on a scale of 1 (strongly disagree) to 7 (strongly agree). In addition, in Waves 5, 8, 11, 15 and 19, the self-completion questionnaire contained a set of 10 statements about marriage and children, for each of which the respondent was likewise asked to indicate extent of agreement (see Box 11.1, page 146).



Because the HILDA data are longitudinal, not only can changes in overall community attitudes over time be tracked, but also changes in individuals' attitudes, allowing us to see who has changed their attitudes, and more generally how attitudes change as people age and move into different lifecycle stages. For example, it is generally thought that older people tend to be more conservative or traditional than younger people. What is less clear is the extent to which this empirical regularity is an effect of ageing and moving into different lifecycle stages, as opposed to an effect of fixed differences in attitudes across birth cohorts—that is, it may be that people born in earlier years were always more conservative—even when they were young—than people born more recently. Longitudinal data such as provided by HILDA can help resolve this uncertainty.

Table 11.1 presents mean responses to each of the statements on marriage and children in each year in which they have been administered. The higher the number, the greater the average level of agreement with the statement. Since the available response options range

from 1 (strong disagreement) to 7 (strong agreement), a mean score in excess of 4 indicates that on average people agree with the statement, while a mean score less than 4 indicates that on average people disagree with the statement. Agreement with statements *a*, *c*, *d*, *f* and *h* reflects a less traditional attitude, while agreement with the remaining statements reflects a more traditional attitude.

While there are exceptions, the direction of movement of attitudes between 2005 and 2019 is quite clear: attitudes have become more non-traditional over this period. Most strikingly, there has been a profound shift towards the view that homosexual couples should have the same rights as heterosexual couples. Between 2005 and 2019, the mean agreement score for this item increased from 4.1 to 5.6 for females and from 3.3 to 5.2 for males.

Possibly somewhat at odds with the general trend towards less traditional views is that agreement with the statement that children should start to live independently when they turn about 18 to 20 years old has

Table 11.1: Attitudes to marriage and children (mean extent of agreement with each statement)—Persons aged 15 and over, 2005 to 2019 (1–7 scale)

	2005	2008	2011	2015	2019	Change 2005 to 2019
<i>Males</i>						
It is alright for an unmarried couple to live together even if they have no intention of marrying	5.0	5.3	5.4	5.6	5.7	0.7
Marriage is a lifetime relationship and should never be ended	4.7	4.6	4.5	4.2	4.0	–0.7
Marriage is an outdated institution	2.7	2.8	2.8	2.9	3.0	0.3
It is alright for a couple with an unhappy marriage to get a divorce even if they have children	4.9	5.0	5.1	5.2	5.4	0.5
Children will usually grow up happier if they have a home with both a father and a mother	5.8	5.6	5.6	5.2	5.1	–0.7
It is alright for a woman to have a child as a single parent even if she doesn't want to have a stable relationship with a man	3.5	3.8	3.9	4.3	4.7	1.2
When children turn about 18–20 years old they should start to live independently	4.2	4.3	4.4	4.3	4.3	0.1
Homosexual couples should have the same rights as heterosexual couples do	3.3	3.8	4.1	4.8	5.2	1.9
<i>Females</i>						
It is alright for an unmarried couple to live together even if they have no intention of marrying	5.0	5.2	5.3	5.5	5.8	0.8
Marriage is a lifetime relationship and should never be ended	4.4	4.3	4.2	3.8	3.5	–0.9
Marriage is an outdated institution	2.5	2.6	2.5	2.6	2.8	0.3
It is alright for a couple with an unhappy marriage to get a divorce even if they have children	5.2	5.3	5.4	5.6	5.8	0.6
Children will usually grow up happier if they have a home with both a father and a mother	5.1	5.0	4.9	4.4	4.2	–0.9
It is alright for a woman to have a child as a single parent even if she doesn't want to have a stable relationship with a man	3.7	4.0	4.2	4.6	5.0	1.3
When children turn about 18–20 years old they should start to live independently	3.9	4.0	4.1	4.0	3.9	0.0
Homosexual couples should have the same rights as heterosexual couples do	4.1	4.4	4.8	5.3	5.6	1.5

Note: The table presents mean responses to each statement on a 1 to 7 Likert scale, where 1 is 'strongly disagree' and 7 is 'strongly agree'.

remained largely unchanged. There is, however, some ambiguity in whether agreement reflects a more traditional view, since respondents may not interpret 'living independently' as not requiring parental financial support.

Tables 11.2 and 11.3 present mean responses to each of the statements on parenting and paid work, for males and females, respectively. The estimates are interpreted in the same way as for Table 11.1. Agreement with statements *a*, *c*, *d*, *f*, *j*, *k*, *l* and *n* reflects a more traditional attitude, while the remaining statements reflect a less traditional attitude.



Here again, the broad trend towards less traditional attitudes is evident. The largest changes over the 2005 to 2019 period are increases in agreement with the assertion that a working mother can have as good a relationship with her children as a non-working woman (0.7 for both males and females),

followed closely by increases in the agreement with the assertion that as long as the care is good, it is fine for children under 3 years of age to be placed in child care all day for 5 days a week (0.6 for males and 0.7 for females).

This less traditional trend is further confirmed by decreases in agreement with the statements

that: (1) mothers who do not really need the money should not work; (2) a pre-school child will likely suffer if their mother works full-time; and (3) it is better for everyone involved if the man earns the money and the woman takes care of the home and children (in all cases a 0.7 to 0.8 decline).

Table 11.2: Attitudes to parenting and work (mean extent of agreement with each statement)—Males aged 15 and over, 2001 to 2019 (1–7 scale)

	2001	2005	2008	2011	2015	2019	Change 2001 to 2019	Change 2005 to 2019
Many working mothers seem to care more about being successful at work than meeting the needs of their children	3.8	3.7	3.5	3.5	3.4	3.3	–0.5	–0.4
If both partners in a couple work, they should share equally in the housework and care of children	6.0	5.8	5.7	5.7	5.7	5.8	–0.2	0.0
Whatever career a woman may have, her most important role in life is still that of being a mother	5.6	5.3	5.2	5.2	5.2	5.0	–0.6	–0.3
Mothers who don't really need the money shouldn't work	4.0	3.8	3.7	3.6	3.3	3.1	–0.9	–0.7
Children do just as well if the mother earns the money and the father cares for the home and children	4.9	4.9	5.0	5.0	5.2	5.4	0.5	0.5
It is better for everyone involved if the man earns the money and the woman takes care of the home and children	4.1	3.9	3.7	3.7	3.4	3.1	–1.0	–0.8
As long as the care is good, it is fine for children under 3 years of age to be placed in child care all day for 5 days a week	2.9	3.1	3.2	3.4	3.5	3.7	0.8	0.6
A working mother can establish just as good a relationship with her children as a mother who does not work for pay	3.9	4.0	4.1	4.4	4.6	4.7	0.8	0.7
A father should be as heavily involved in the care of his children as the mother	5.8	5.6	5.6	5.6	5.7	5.8	0.0	0.2
It is not good for a relationship if the woman earns more than the man	–	2.7	2.7	2.7	2.5	2.3	–	–0.4
On the whole, men make better political leaders than women do	–	3.4	3.3	3.6	3	2.7	–	–0.7
A pre-school child is likely to suffer if their mother works full-time	–	4.2	4.1	4.0	3.7	3.4	–	–0.8
Children often suffer because their fathers concentrate too much on their work	–	4.6	4.5	4.4	4.3	4.0	–	–0.6
If parents divorce it is usually better for the child to stay with the mother than with the father.	–	3.6	3.6	3.6	3.4	3.2	–	–0.4

Note: The table presents mean responses to each statement on a 1 to 7 Likert scale, where 1 is 'strongly disagree' and 7 is 'strongly agree'.





Table 11.3: Attitudes to parenting and work (mean extent of agreement with each statement)—Females aged 15 and over, 2001 to 2019 (1–7 scale)

	2001	2005	2008	2011	2015	2019	Change 2001 to 2019	Change 2005 to 2019
Many working mothers seem to care more about being successful at work than meeting the needs of their children	3.5	3.3	3.3	3.1	3.0	2.9	–0.6	–0.4
If both partners in a couple work, they should share equally in the housework and care of children	6.3	6.2	6.2	6.2	6.2	6.2	–0.1	0.0
Whatever career a woman may have, her most important role in life is still that of being a mother	5.8	5.6	5.5	5.5	5.4	5.1	–0.7	–0.5
Mothers who don't really need the money shouldn't work	3.8	3.5	3.5	3.3	3.0	2.7	–1.1	–0.8
Children do just as well if the mother earns the money and the father cares for the home and children	5.2	5.3	5.3	5.4	5.5	5.6	0.4	0.3
It is better for everyone involved if the man earns the money and the woman takes care of the home and children	3.7	3.5	3.4	3.3	3.0	2.7	–1.0	–0.8
As long as the care is good, it is fine for children under 3 years of age to be placed in child care all day for 5 days a week	3.1	3.1	3.2	3.4	3.7	3.8	0.7	0.7
A working mother can establish just as good a relationship with her children as a mother who does not work for pay	4.5	4.6	4.6	4.9	5.1	5.3	0.8	0.7
A father should be as heavily involved in the care of his children as the mother	6.0	5.8	5.8	5.8	5.9	6.0	0.0	0.2
It is not good for a relationship if the woman earns more than the man	–	2.7	2.6	2.5	2.3	2.1	–	–0.6
On the whole, men make better political leaders than women do	–	2.6	2.5	2.6	2.2	2.0	–	–0.6
A pre-school child is likely to suffer if their mother works full-time	–	3.9	3.9	3.7	3.4	3.1	–	–0.8
Children often suffer because their fathers concentrate too much on their work	–	4.4	4.3	4.2	3.9	3.7	–	–0.7
If parents divorce it is usually better for the child to stay with the mother than with the father.	–	4.0	3.9	3.9	3.6	3.4	–	–0.6

Note: The table presents mean responses to each statement on a 1 to 7 Likert scale, where 1 is 'strongly disagree' and 7 is 'strongly agree'.

The responses to the statements presented in Tables 11.1 to 11.3 can be aggregated to provide an overall summary measure of the extent to which a person holds traditional views on marriage and children, and on parenting and paid work (see Box 11.1, page 146). The summary measure is essentially the mean response of the individual, but with the scale reversed (that is, 1 replaced with 7, 2 replaced with 6, and so on) for statements in favour of a more non-traditional attitude. Separate summary measures are produced for the two broad subject areas (marriage and children, and parenting and work).

Table 11.4 shows that in 2005, the mean extent of agreement with



the traditional viewpoint for parenting and work was 3.4 for females and 3.6 for males, compared with respective means of 4.1 and 4.4 for marriage and children. This result indicates that both males and females are already less traditional in relation

to parenting and work than in relation to marriage and children. Nonetheless, males consistently have somewhat more traditional views than females on both marriage and children and parenting and work. The mean changes in attitudes over the

period from 2005 and 2019 are slightly larger for females for both subject areas, with a mean decline of 0.8 for marriage and children (compared to a decline of 0.7 for males) and 0.5 for parenting and work (compared to a decline of 0.4 for females).

#### Box 11.1: Summary measures of the extent to which one has traditional views on marriage and children and on parenting and paid work

A measure of the extent to which one has 'traditional' views on marriage and children can be derived from the extent of agreement, on a 7-point Likert scale (where 1 is strongly disagree and 7 is strongly agree), with the following eight statements:

- a. *It is alright for an unmarried couple to live together even if they have no intention of marrying*
- b. *Marriage is a lifetime relationship and should never be ended*
- c. *Marriage is an outdated institution*
- d. *It is alright for a couple with an unhappy marriage to get a divorce even if they have children*
- e. *Children will usually grow up happier if they have a home with both a father and a mother*
- f. *It is alright for a woman to have a child as a single parent even if she doesn't want to have a stable relationship with a man*
- g. *When children turn about 18-20 years old they should start to live independently*
- h. *Homosexual couples should have the same rights as heterosexual couples do*

The score for the extent to which views about marriage and children are 'traditional' is calculated as an average across the eight items as follows:  $[(8 - a) + b + (8 - c) + (8 - d) + e + (8 - f) + g + (8 - h)]/8$ . The score potentially ranges from 1 to 7.

A measure of the extent to which one has traditional views on parenting and work can be derived based on the extent of agreement with the following 14 statements:

- a. *Many working mothers seem to care more about being successful at work than meeting the needs of their children*
- b. *If both partners in a couple work, they should share equally in the housework and care of children*
- c. *Whatever career a woman may have, her most important role in life is still that of being a mother*
- d. *Mothers who don't really need the money shouldn't work*
- e. *Children do just as well if the mother earns the money and the father cares for the home and children*
- f. *It is better for everyone involved if the man earns the money and the woman takes care of the home and children*
- g. *As long as the care is good, it is fine for children under 3 years of age to be placed in child care all day for 5 days a week*
- h. *A working mother can establish just as good a relationship with her children as a mother who does not work for pay*
- i. *A father should be as heavily involved in the care of his children as the mother*
- j. *It is not good for a relationship if the woman earns more than the man*
- k. *On the whole, men make better political leaders than women do*
- l. *A pre-school child is likely to suffer if their mother works full-time*
- m. *Children often suffer because their fathers concentrate too much on their work*
- n. *If parents divorce it is usually better for the child to stay with the mother than with the father*

The total score for the extent to which views about parenting and work are 'traditional' is calculated as  $[a + (8 - b) + c + d + (8 - e) + f + (8 - g) + (8 - h) + (8 - i) + j + k + l + (8 - m) + n]/14$ . Again, the score potentially ranges from 1 to 7.

The marriage and children items were first introduced in 2005. Items a to i of parenting and work were first administered in Wave 1, while additional items j to n were first administered in Wave 5. All items have subsequently been administered in Waves 8, 11, 15 and 19. It is therefore possible to construct the two summary measures in Waves 5, 8, 11, 15 and 19.



Table 11.4: Mean extent to which traditional attitudes are held towards marriage and children, and towards parenting and work—Persons aged 15 and over, 2005 to 2019 (1–7 scale)

	2005	2008	2011	2015	2019	Change 2005 to 2019
<i>Males</i>						
Marriage and children	4.4	4.2	4.2	3.9	3.7	–0.7
Parenting and work	3.6	3.5	3.5	3.3	3.2	–0.4
<i>Females</i>						
Marriage and children	4.1	4.0	3.9	3.6	3.3	–0.8
Parenting and work	3.4	3.4	3.3	3.1	2.9	–0.5

Notes: Attitudes are measured by the summary measures described in Box 11.1. A smaller number indicates a less traditional attitude.

Table 11.5 compares mean attitudes across age groups. The upper panel examines attitudes to marriage and children. It reveals a consistent pattern of more traditional views among older people, although attitudes are on average quite similar across the 15 to 54 age range. It is only in the 55 to 64 and 65 and over age groups where significantly more traditional views arise. The extent of this age ‘gradient’ has, moreover, diminished somewhat between 2005 and 2019, since the two oldest age groups experienced the largest decline in the summary measure of traditional views for both males and females.



Table 11.5: Mean extent to which traditional attitudes are held towards marriage and children, by sex and age group, 2005 to 2019 (1–7 scale)

	<i>Males</i>						<i>Females</i>					
	2005	2008	2011	2015	2019	Change 2005 to 2019	2005	2008	2011	2015	2019	Change 2005 to 2019
<i>Marriage and children</i>												
15–24	4.2	4.0	4.0	3.6	3.5	–0.7	3.9	3.7	3.7	3.3	3.1	–0.8
25–34	4.2	4.2	4.1	3.8	3.5	–0.7	3.8	3.8	3.8	3.5	3.2	–0.6
35–44	4.2	4.0	4.0	3.8	3.6	–0.6	4.0	3.8	3.7	3.4	3.3	–0.7
45–54	4.3	4.2	4.0	3.8	3.6	–0.7	4.0	3.9	3.7	3.5	3.1	–0.9
55–64	4.6	4.4	4.2	3.9	3.7	–0.9	4.4	4.1	3.9	3.6	3.4	–1.0
65 and over	5.0	4.8	4.7	4.3	4.1	–0.9	4.8	4.7	4.4	4.1	3.8	–1.0
<i>Parenting and work</i>												
15–24	3.5	3.4	3.4	3.2	3.1	–0.4	3.1	3.1	3.1	2.8	2.6	–0.5
25–34	3.4	3.4	3.5	3.2	3.1	–0.3	3.2	3.2	3.2	3.0	2.7	–0.5
35–44	3.5	3.4	3.4	3.2	3.1	–0.4	3.3	3.3	3.2	3.0	2.9	–0.4
45–54	3.6	3.5	3.4	3.4	3.1	–0.5	3.3	3.4	3.3	3.1	2.9	–0.4
55–64	3.7	3.7	3.5	3.4	3.3	–0.4	3.6	3.5	3.3	3.2	3.0	–0.6
65 and over	4.0	4.0	3.9	3.7	3.5	–0.5	3.9	3.9	3.7	3.5	3.4	–0.5

Notes: Attitudes are measured by the summary measures described in Box 11.1, page 146. A smaller number indicates a less traditional attitude.





The lower panel of Table 11.5 presents analogous information to the upper panel but this time for attitudes to parenting and work. Here we see a similar pattern of people in the older age groups tending to be more traditional. As was the case for attitudes to marriage and children, all age groups have experienced declines in the extent to which traditional views are held. In this case, the extent of the mean decline between 2005 and 2019 has been almost the same across all age groups.

Similar information to Table 11.5 is presented in Table 11.6, but instead of examining attitudes across age groups, the table

makes comparisons across birth cohorts. This allows us to assess more precisely how individuals' attitudes have changed—as opposed to the changes evident in Table 11.5, which simply reflect movement into higher age groups of people who already had less traditional views.

The mean changes are indeed in most cases smaller by birth cohort than by age group, indicating that changes at the individual level have been smaller than the aggregate change. That is, part of the change evident within age groups, particularly the older age groups, simply reflects

younger birth cohorts who already had less traditional views moving into those age groups.

However, while the birth cohort analysis provides a good indication of how individuals' attitudes have changed, it is susceptible to changing composition of the birth cohorts. In particular among older cohorts, whose composition is altered by deaths and most/less traditional members of these older cohorts may be disproportionately likely to die between 2005 and 2019. This creates an upward/downward bias in these cross-sectional estimates of the extent of actual change in attitudes among members of these cohorts.



Table 11.6: Mean extent to which traditional attitudes are held, by sex and birth cohort, 2005 to 2019 (1–7 scale)

	Males						Females					
	2005	2008	2011	2015	2019	Change 2005 to 2019	2005	2008	2011	2015	2019	Change 2005 to 2019
<i>Marriage and children</i>												
1995–1999	–	–	3.9	3.7	3.4	–	–	–	3.7	3.3	3.0	–
1990–1994	4.3	4.0	4.0	3.5	3.4	–0.9	4.1	3.6	3.7	3.3	3.1	–1.0
1985–1989	4.2	4.0	4.0	3.8	3.5	–0.7	3.8	3.7	3.7	3.5	3.3	–0.5
1980–1984	4.2	4.1	4.1	3.8	3.6	–0.6	3.9	3.9	3.8	3.5	3.3	–0.6
1975–1979	4.3	4.2	4.2	3.9	3.7	–0.6	3.8	3.7	3.7	3.6	3.2	–0.6
1970–1974	4.2	4.2	4.0	3.8	3.6	–0.6	3.9	3.8	3.7	3.3	3.1	–0.8
1965–1969	4.2	4.0	3.9	3.8	3.6	–0.6	3.9	3.7	3.7	3.5	3.1	–0.8
1960–1964	4.2	4.1	4.0	3.8	3.7	–0.5	3.9	3.8	3.7	3.4	3.3	–0.6
1955–1959	4.3	4.2	4.1	3.8	3.8	–0.5	3.9	3.9	3.8	3.6	3.4	–0.5
1950–1954	4.3	4.3	4.2	4.0	3.8	–0.5	4.0	4.0	3.9	3.6	3.5	–0.5
1945–1949	4.5	4.5	4.3	4.1	4.0	–0.5	4.3	4.2	4.0	3.9	3.7	–0.6
1940–1944	4.7	4.6	4.5	4.2	4.3	–0.4	4.5	4.4	4.2	4.0	4.0	–0.5
Before 1940	5.0	4.8	4.8	4.6	4.5	–0.5	4.8	4.8	4.6	4.4	4.1	–0.7
<i>Parenting and work</i>												
1995–1999	–	–	3.3	3.2	3.1	–	–	–	3.1	2.8	2.6	–
1990–1994	3.3	3.4	3.5	3.1	3.1	–0.2	3.2	3.1	3.1	2.9	2.6	–0.6
1985–1989	3.5	3.4	3.5	3.2	3.0	–0.5	3.2	3.2	3.1	3.0	2.8	–0.4
1980–1984	3.5	3.4	3.4	3.2	3.1	–0.4	3.1	3.1	3.2	3.0	2.8	–0.3
1975–1979	3.5	3.4	3.5	3.3	3.0	–0.5	3.1	3.2	3.2	3.0	2.9	–0.2
1970–1974	3.4	3.4	3.4	3.2	3.1	–0.3	3.2	3.3	3.2	3.0	2.9	–0.3
1965–1969	3.5	3.5	3.4	3.3	3.2	–0.3	3.3	3.2	3.2	3.1	2.9	–0.4
1960–1964	3.5	3.5	3.5	3.4	3.2	–0.3	3.3	3.4	3.3	3.1	3.0	–0.3
1955–1959	3.5	3.5	3.4	3.4	3.3	–0.2	3.3	3.4	3.3	3.2	3.1	–0.2
1950–1954	3.6	3.6	3.5	3.5	3.3	–0.3	3.3	3.4	3.3	3.2	3.1	–0.2
1945–1949	3.7	3.7	3.6	3.5	3.4	–0.3	3.6	3.6	3.4	3.3	3.3	–0.3
1940–1944	3.9	3.8	3.8	3.6	3.6	–0.3	3.7	3.6	3.5	3.5	3.5	–0.2
Before 1940	4.0	4.1	4.0	3.8	3.8	–0.2	4.0	3.9	3.8	3.7	3.6	–0.4

Notes: Attitudes are measured by the summary measures described in Box 11.1, page 146. A smaller number indicates a less traditional attitude.

The longitudinal structure of the HILDA Survey allows us to examine how each individual's attitudes have changed. We can then follow those individuals still alive between 2005 and 2019 and disentangle the effect that inevitable deaths among the older cohorts may have had on these attitudes' changes. Table 11.7 presents results, restricting attention to the summary measures of attitudes.

Results are consistent with the findings presented in Table 11.6.



Table 11.7: Mean individual-level changes in attitudes to marriage and children and to parenting and work between 2005 and 2019, by sex and age group in 2005

	<i>Marriage and children</i>		<i>Parenting and work</i>	
	<i>Males</i>	<i>Females</i>	<i>Males</i>	<i>Females</i>
15–24 (born 1981–1990)	–0.84	–0.84	–0.59	–0.41
25–34 (born 1971–1980)	–0.62	–0.70	–0.36	–0.33
35–44 (born 1961–1970)	–0.54	–0.77	–0.26	–0.34
45–54 (born 1951–1960)	–0.52	–0.70	–0.21	–0.30
55–64 (born 1941–1950)	–0.46	–0.63	–0.21	–0.17
65 and over (born before 1941)	–0.40	–0.61	–0.10	–0.11
All ages (born before 1991)	–0.58	–0.72	–0.31	–0.29

*Notes:* Attitudes are measured by the summary measures described in Box 11.1, page 146. A smaller number indicates a less traditional attitude.

However, there are some differences for the older cohort (those born before 1941). The decline in traditional attitudes to parenting and work among men born before 1941 obtained from longitudinal analysis of individuals is, at 0.10, somewhat smaller than the 0.2 decline obtained for the same cohort from the cross-sectional comparisons undertaken in Table 11.6.

This decline is even smaller for women (0.11 obtained from the longitudinal analysis compared with 0.4 obtained from the cross-sectional analysis). This suggests that the most traditional members of these cohorts were disproportionately likely to die between 2005 and 2015, creating an upward bias in cross-sectional estimates of the extent of actual change in attitudes among members of these cohorts.



## Attitudes to the rights of homosexual couples

As indicated in Table 11.1, the most profound shift in attitudes on marriage and children is on the rights of homosexual couples. Table 11.8 examines this shift in attitudes over the 2005 to 2015 period in more detail. The table presents the mean extent of

agreement with the statement that homosexual couples should have the same rights as heterosexual couples in 2005, 2008, 2011, 2015 and 2019, disaggregated by age group and by birth cohort.

The broad impression from the table is that all age groups and all birth cohorts have shifted in their attitude to the rights of homosexual couples. The shift in

attitude is consequently very broad-based, a consequence of which is that differences by sex, age and birth cohort have remained relatively stable between 2005 and 2019. Males have consistently lower levels of agreement than females and older age groups, or older birth cohorts, consistently have lower levels of agreement than younger age groups or birth cohorts.

Table 11.8: Extent of agreement with the view that homosexual couples should have the same rights as heterosexual couples, by age group and by birth cohort, 2005 to 2019 (1-7 scale)

	Males						Females					
	2005	2008	2011	2015	2019	Change 2005 to 2019	2005	2008	2011	2015	2019	Change 2005 to 2019
<i>Age Group</i>												
15-24	3.7	4.2	4.7	5.6	5.7	2.0	4.9	5.3	5.6	6.0	6.1	1.2
25-34	3.8	4.1	4.4	5.2	5.6	1.8	4.7	5.0	5.3	5.6	6.0	1.3
35-44	3.5	4.0	4.2	5.0	5.4	1.9	4.1	4.5	4.9	5.5	5.6	1.5
45-54	3.3	3.7	3.9	4.6	5.0	1.7	4.0	4.3	4.7	5.3	5.7	1.7
55-64	3.0	3.4	3.7	4.5	5.0	2.0	3.4	4.1	4.4	5.0	5.3	1.9
65 and over	2.6	2.9	3.1	3.9	4.4	1.8	2.9	3.3	3.5	4.3	4.9	2.0
<i>Birth cohort</i>												
1995-1999	–	–	5.2	5.5	5.8	–	–	–	5.9	5.9	6.2	–
1990-1994	3.8	4.3	4.6	5.7	5.6	1.8	4.6	5.6	5.7	6.1	6.1	1.5
1985-1989	3.7	4.1	4.4	5.2	5.6	1.9	5.0	5.3	5.3	5.6	6.0	1.0
1980-1984	3.5	4.3	4.5	5.1	5.5	2.0	4.8	5.1	5.3	5.5	5.6	0.8
1975-1979	3.7	4.0	4.3	5.0	5.3	1.6	4.9	5.0	5.2	5.3	5.6	0.7
1970-1974	3.9	4.0	4.4	4.8	5.1	1.2	4.4	4.4	5.0	5.6	5.7	1.3
1965-1969	3.5	4.0	4.2	4.8	5.0	1.5	4.2	4.5	4.8	5.3	5.6	1.4
1960-1964	3.4	3.8	3.9	4.6	5.0	1.6	4.1	4.4	4.8	5.3	5.5	1.4
1955-1959	3.3	3.7	4.0	4.7	4.9	1.6	4.1	4.2	4.5	5.0	5.3	1.2
1950-1954	3.3	3.6	3.8	4.3	4.8	1.5	4.0	4.3	4.5	4.9	5.2	1.2
1945-1949	3.0	3.1	3.5	4.1	4.5	1.5	3.5	4.0	4.2	4.6	4.8	1.3
1940-1944	2.8	3.2	3.2	4.1	4.1	1.3	3.1	3.7	3.7	4.4	4.6	1.5
Before 1940	2.6	2.9	3.0	3.5	4.0	1.4	2.9	3.2	3.3	4.0	4.6	1.7

Note: The table presents mean responses to the statement on a 1 to 7 Likert scale, where 1 is 'strongly disagree' and 7 is 'strongly agree'.

## Who changed their attitudes most?

Table 11.9 reports results from regression models of changes in individuals' attitudes between 2005 and 2019 as a function of the individuals' characteristics in 2005 and various life events that occurred between 2005 and 2019. Three models are estimated. The first two models are for attitudes to marriage and children and attitudes to parenting and work, with the outcome variables being the change between 2005 and 2019 in the summary measures described in Box 11.1, page 146. Since these measures are higher the more traditional the attitude,





a negative estimate in the table translates to a decrease in the extent to which views are traditional. The third model is for the change in attitude to homosexual couples' rights, where the outcome variable is the change in extent of agreement with the statement 'Homosexual couples should have the same rights as heterosexual couples do' (which is measured on a 1 (strongly disagree) to 7 (strongly agree) scale). Consequently, in the third model, a positive number indicates an increase in agreement with the view that homosexual couples should have the same rights as heterosexual couples.

Considering first the two models examining summary measures of attitudes, the estimates for the constants (second-last row) indicate large mean decreases in the extent to which traditional views are held for the 'reference group' (female, aged under 25, and so on)—0.835 for the marriage and children measure, and 0.426 for the parenting and work measure. These estimates are larger than any of the estimates for the explanatory variables included in Table 11.9. Consequently, a positive coefficient estimate for an explanatory variable indicates a smaller change towards more progressive views than the reference group (rather than a change towards more traditional views).

The estimates for the 'male' indicator variable indicate that, other things being equal, males had a smaller move to more progressive views on marriage and children than females, but did not significantly differ from females in their change in attitudes to parenting and work. Examining differences by age, the positive estimates for all the age groups imply that the reference category, those aged under 25 in 2005, had the largest change



towards more progressive views on both marriage and children and parenting and work. Those aged 25 to 34 in 2005 also exhibited relatively greater shifts towards progressive views than older age groups.

Immigrants from countries other than the main English-speaking countries and Indigenous persons (see Box 5.3, page 93) had smaller changes in attitudes to marriage and children than other people, but Indigenous persons did not have significantly different changes in attitudes to parenting and work, while immigrants from countries other than the main English-speaking countries actually had a bigger move towards progressive attitudes to parenting and work than others, all else being equal.

Comparing across family types, individuals in couple families with dependent children had the largest shift towards more progressive attitudes to marriage and children, whereas couples without children and single parents had a smaller move to more progressive views on marriage and children than the individuals in other family types. In addition, single parents had the largest shift towards more progressive attitudes to parenting and work, while no significant differences were found for the other family types.

The only significant difference by level of educational attainment (see Box 4.4, page 67) is that those with the highest qualification of high school completion had a greater move



away from traditional attitudes to marriage and children than those in other educational attainment groups. Moreover, those with other post-school qualifications had a smaller move to more progressive views on marriage and children than those with less than high school completed. No significant differences are found by region of residence (see Box 3.5, page 26).

In Waves 4, 7, 10, 14 and 18, HILDA Survey respondents were asked to rate the importance of religion in their life on a scale of 0 to 10, with 0 being 'One of the least important things in my life' and 10 being 'The most important thing in my life'. An indicator variable is included in the regression models that is equal to 1 if a rating of 8 or higher was reported by the

respondent in Wave 4 (the wave immediately prior to the beginning of the period over which changes in attitudes are examined), and is otherwise equal to 0.

The coefficient estimate for this indicator variable is positive for the model of attitudes to marriage and children, implying that attitudes changed less for people for whom religion is very important. There was, however, no significant difference in the change in attitudes to parenting and work for people for whom religion is important compared with other people.

Estimates for the variables for income quintiles (see Box 3.2, page 23, for explanation of the income measure) show that people in the top two quintiles in

2005 became relatively more progressive in their attitudes to marriage and children, as well as to parenting and work than lower-income people.

In terms of major life events between 2005 and 2019, getting married is associated with less movement away from traditional views to marriage and children, while unsurprisingly, an income increase between 2005 and 2019 is associated with relatively more progressive attitudes to marriage and children, as well as to parenting and work. Finally, moving from a non-urban area to an urban area is associated with a move towards more progressive attitudes to marriage and children, although no significant results are found for parenting and work.



Table 11.9: Characteristics and life events associated with changes in attitudes between 2005 and 2019—  
Persons aged 15 and over

	<i>Marriage and children</i>	<i>Parenting and work</i>	<i>Homosexual couples' rights</i>
<i>Characteristics in 2005</i>			
Male	0.144	ns	0.163
<i>Age group in 2005 (Reference category: 15–24)</i>			
25–34	0.200	0.148	–0.170
35–44	0.225	0.219	–0.175
45–54	0.221	0.256	ns
55–64	0.186	0.292	ns
65 and over	0.172	0.313	ns
<i>Place of birth and Indigenous status (Reference category: Non-Indigenous native-born)</i>			
Immigrant from one of the main English-speaking countries	ns	ns	–0.228
Immigrant from another country	0.063	ns	–0.333
Indigenous	0.279	ns	–0.564
<i>Family type (Reference category: Other)</i>			
Couple	0.087	ns	–0.323
Couple with dependent children	–0.099	ns	ns
Single parent	0.152	–0.101	ns
<i>Educational attainment (Reference category: Less than high school completion)</i>			
Bachelor's degree or higher	ns	ns	–0.324
Other post-school qualification	0.100	ns	–0.157
Completed high school	–0.068	ns	ns
<i>Region of residence (Reference category: Major urban)</i>			
Non-major urban	ns	ns	ns
Non-urban	ns	ns	ns
Religion important	0.081	ns	ns
<i>Income quintile (Reference category: Bottom)</i>			
2nd	ns	–0.054	0.240
Middle	–0.099	–0.062	0.398
4th	–0.089	–0.180	0.435
Top	–0.170	–0.176	0.636
<i>Life events between 2005 and 2019</i>			
Obtained a bachelor's degree	ns	ns	ns
Had first child	ns	ns	–0.264
Got married (for first time)	0.109	ns	0.226
Separated from spouse	ns	0.055	–0.160
Income quintile higher in 2019 than in 2005	–0.059	–0.066	ns
Income quintile lower in 2019 than in 2005	ns	0.083	–0.154
Moved from a non-urban area to an urban area	ns	ns	ns
Moved from an urban area to a non-urban area	ns	ns	ns
Constant	–0.835	–0.426	1.507
Number of observations	6,691	6,543	6,800

*Notes:* The table reports coefficient estimates from Ordinary Least Squares models of the determinants of the change in the dependent variable indicated by the column heading between 2005 and 2019. For 'marriage and children' and 'parenting and work', the dependent variable is the change in the summary measure reported in Box 11.1, page 146. For 'homosexual couples' rights', the dependent variable is the change in the extent of agreement with the statement 'Homosexual couples should have the same rights as heterosexual couples do'. See the Technical Appendix for more information about Ordinary Least Squares models. *ns* indicates the estimate is not significantly different from 0 at the 10% level.

The last column of Table 11.9 presents coefficient estimates for the change in attitude to homosexual couples' rights. Consistent with the two preceding models, the negative coefficient estimates for changes in attitude to homosexual couples' rights are all considerably smaller in magnitude than the estimated constant, which is 1.507. Consequently, a negative coefficient estimate for an explanatory variable implies a smaller increase in agreement with the statement (all else equal), not a decrease in agreement with the statement.

The table shows that changes in attitude to homosexual couples' rights were bigger for males than females, holding other factors constant. Being male is associated with a 0.163 bigger increase in agreement than being female, all else equal. Notably, males experienced a smaller increase than females in the progressiveness of their views on marriage and family more generally, despite attitude to the rights of homosexual couples being one component of the overall measure of attitudes to marriage and children.

Individuals aged 25 to 44 has the smallest change in attitude to homosexual couples' right compared with other age groups, with no significant differences found for the older age groups. This is in contrast to the finding for the broader measure of attitudes to marriage and children, where the two youngest age groups exhibited bigger shifts in attitudes. Estimates by place of birth and Indigenous status indicate that non-Indigenous native-born Australians had the largest shift in attitude to homosexual couples' rights, followed by immigrants from one of the main English-speaking countries, immigrants

from another country and Indigenous persons. Couples without children had the smallest change in attitude to homosexual couples' rights, with no significant differences found for other initial (2005) family type.

Other factors held constant, those with a university degree had the smallest change in attitude to homosexual couples' rights. There are no significant differences by region of residence, but those in the bottom two income quintiles had substantially smaller changes in

attitude to homosexual couples' rights than those in the top three income quintiles.

Significant effects are evident for several of the life events between 2005 and 2019. Having a first child reduces the change in attitude, other things being equal. Getting married is associated with a considerably larger increase in agreement than someone who did not marry, while experiencing separation from one's spouse is associated with a somewhat smaller increase in agreement.





# References



- Australian Bureau of Statistics (ABS) (2001) *Australian Standard Classification of Education (ASCED) 2001*, ABS Catalogue No. 1272.0, ABS, Canberra.
- Australian Bureau of Statistics (ABS) (2006) *ANZSCO—Australian and New Zealand Standard Classification of Occupations*, 1st ed., 2006, Catalogue No. 1220.0, ABS, Canberra.
- Australian Bureau of Statistics (ABS) (2008) *Australian and New Zealand Standard Industrial Classification (ANZSIC)*, 2006 (Revision 1.0), Catalogue No. 1292.0, ABS, Canberra.
- Australian Bureau of Statistics (ABS) (2011) *Australian Standard Geographical Classification (ASGC)*, July 2011, Catalogue No. 1216.0, ABS, Canberra.
- Australian Bureau of Statistics (ABS) (2014) *Education Variables, June 2014*, Catalogue No. 1246.0, ABS, Canberra.
- Australian Bureau of Statistics (ABS) (2018) *Labour Statistics: Concepts, Sources and Methods, Feb 2018*, Catalogue No. 6102.0.55.001, ABS, Canberra.
- Cobb-Clark, D.A., Dahmann, S.C., Kamhöfer, D.A. and Schildberg-Hörisch, H. (2019) 'Self-control: Determinants, life outcomes and intergenerational implications' IZA Discussion Paper No. 12488.
- Creighton, B. and Stewart, A. (2010) *Labour Law*, 5th ed., Federation Press, Annandale, NSW.
- Davidson, P., Bradbury, B., Hill, T. and Wong, M. (2020) 'Poverty in Australia 2020: Part 1, Overview', ACOSS/UNSW Poverty and Inequality Partnership Report No. 3, ACOSS, Sydney.
- Dudel, C. and Klüsener, S. (2021) 'Male-female fertility differentials across 17 high-income countries: Insights from a new data resource', *European Journal of Population*, vol. 37, pp. 417–41.
- Guirge, L.M., Whillans, A.V. and West, C. (2020) 'Why time poverty matters for individuals, organisations and nations', *Perspective*, vol. 4, pp. 993–1003.
- Hagenaars, A., De Vos, K. and Zaidi, A. (1994) *Poverty Statistics in the Late 1980s*, Eurostat, Luxembourg.
- Hamermesh, D.S. and Lee, J. (2007) 'Stressed out on four continents: Time crunch or yuppie kvetch?', *Review of Economics and Statistics*, vol. 89, no. 2, pp. 374–83.
- Hayes, C. (2009) 'HILDA standard errors: Users' guide', HILDA Project Technical Paper Series No. 2/08, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.
- Hayes, C. and Watson, N. (2009) 'HILDA imputation methods', HILDA Project Technical Paper Series No. 2/09, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.
- Hsiao, C. (2003) *Analysis of Panel Data*, Cambridge University Press, New York.
- Kessler, R.C., Andrews, G., Colpe, L.J., Hiripi, E., Mroczek, D.K., Normand, S.L.T., Walters, E.E. and Zaslavsky, A.M. (2002) 'Short screening scales to monitor population prevalences and trends in non-specific psychological distress', *Psychological Medicine*, vol. 32, pp. 959–76.
- Kleiner, S. (2014) 'Subjective time pressure: General or domain specific?', *Social Science Research*, vol. 47, pp. 108–20.
- OECD (2019) 'Income poverty of households in Australia: Evidence from the HILDA Survey', Economics Department Working Papers No. 1539, OECD Publishing, Paris.
- Productivity Commission. (2020) 'Mental Health', Report No. 95, Canberra.
- Saucier, G. (1994) 'Mini-markers: A brief version of Goldberg's unipolar big-five markers', *Journal of Personality Assessment*, vol. 63, no. 3, pp. 506–16.
- Summerfield, M., Garrard, B., Hahn, M., Jin, Y., Kamath, R., Macalalad, N., Watson, N., Wilkins, R. and Wooden, M. (2020) 'HILDA user manual – Release 19', Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.
- Sun, C. (2010) 'HILDA expenditure imputation', HILDA Project Technical Paper Series No. 1/10, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.
- Tangney, J.P., Baumeister, R.F. and Boone, A.L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, vol. 72, no. 2, pp. 271–324.
- United Nations (2011) *Canberra Group Handbook on Household Income Statistics*, 2nd ed., United Nations, New York and Geneva.
- Watson, N. (2004a) 'Income and wealth imputation for Waves 1 and 2', HILDA Project Technical Paper Series No. 3/04, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.
- Watson, N. (2004b) 'Wave 2 weighting', HILDA Project Technical Paper Series No. 4/04, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.
- Watson, N. and Fry, T. (2002) 'The Household, Income and Labour Dynamics in Australia (HILDA) Survey: Wave 1 weighting', HILDA Project Technical Paper Series No. 3/02, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.
- Watson, N. and Wooden, M. (2002) 'The Household, Income and Labour Dynamics in Australia (HILDA) Survey: Wave 1 survey methodology', HILDA Project Technical Paper Series No. 1/02, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.



Wilkins, R. (2014) 'Derived income variables in the HILDA Survey data: The HILDA Survey "income model"', HILDA Project Technical Paper Series, No. 1/14, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.

Wilkins, R. (2016) *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 14*, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.

Wilkins, R., Vera-Toscano, E. and Botha, F. (2020) *The Household, Income and Labour Dynamics in Australia Survey: Selected Findings from Waves 1 to 18*, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.

Wilkins, R. and Wooden, M. (2011) 'Measuring minimum award wage reliance in Australia: The HILDA Survey experience', Melbourne Institute Working Paper Series, No. 11/11, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.

Wooden, M. (2009) 'Use of the Kessler Psychological Distress scale in the HILDA Survey', HILDA Project Discussion Paper Series No. 2/09, February 2009, Melbourne Institute: Applied Economic & Social Research, The University of Melbourne.

Yates, J. and Gabriel, M. (2006) 'Housing affordability in Australia', Research Paper 3 for National Research Venture 3, *Housing Affordability for Lower Income Australians*, <<http://www.ahuri.edu.au/nrv/nrv3/>>





# Technical Appendix

## A. Overview of statistical methods and terms used in the report

### Adjustments for inflation

All dollar figures presented in this report are expressed at December 2019 prices to remove the effects of inflation (the general rise in prices of goods and services) and thereby make estimates for different years more comparable. This is achieved using the Australian Bureau of Statistics (ABS) Consumer Price Index (CPI), which is produced on a quarterly basis (ABS Catalogue Number 6401.0). To convert a dollar value to December 2019 prices, the value is multiplied by the ratio of the CPI for the December quarter of 2019 (116.2) to the value of the CPI in the quarter to which the value relates. For example, to convert a wage measured in the third quarter of 2001 (when the CPI was 74.7) to December 2019 prices, the wage is multiplied by 1.56 (116.2/74.7). The interpretation of this adjustment is that prices on average rose by 56% between the September quarter of 2001 and the December quarter of 2019, which means that the amount of money required to buy a given bundle of goods and services had on average increased by 56%. We therefore need to increase the wage measured in the September quarter of 2001 by 56% to make it comparable with a wage measured in the December quarter of 2019. Note that for dollar values measured over an annual time-frame, such as income, the average value of the CPI over the relevant year is used for the denominator.

### Balanced panel

A longitudinal household survey is known as a household panel study. A **balanced** panel restricts the sample to individuals who have responded to the survey in all waves of the period under study. For example, a balanced panel for Waves 1 to 10 of the HILDA Survey consists of individuals who have responded in all 10 waves.

### Correlation coefficient

Often referred to as the Pearson correlation coefficient, the correlation coefficient is a statistical measure of how two variables are associated with each other. It is equal to the covariance of the two variables relative to the product of their standard deviations, having a minimum possible value of -1 (perfectly negatively correlated) and a maximum possible value of 1 (perfectly positively correlated). Positive values indicate that when one variable increases, the other variable also tends to increase. Negative values indicate that when one variable increases, the other variable tends to decrease. If the correlation coefficient is 0, there is no (linear) association between the two variables. Note that the correlation coefficient does not tell us about the extent and nature of any *causal* relationship between the two variables.

### Gini coefficient

The Gini coefficient is a measure of dispersion often used as a measure of inequality of income and wealth. It ranges between 0 and 1, a low value indicating a more equal distribution and a high value indicating a more unequal distribution. Zero corresponds to perfect equality (everyone having exactly the same) and 1 corresponds to perfect inequality (where one person has everything and everyone else has nothing).

### Indicator variable

Used in regression analysis, an indicator (or dummy) variable is equal to 1 if a particular characteristic or event is present, and equal to 0 otherwise. In Ordinary Least Squares regression, the coefficient on an indicator variable is interpreted as the mean effect on the dependent variable of the presence of the characteristic/event, holding all else constant.

### Mean marginal effects

Qualitative dependent variable models, such as Probit and Logit, are 'non-linear', meaning that the effects of explanatory variables on the probability of an outcome depend upon the value of that explanatory variable at which the effects are evaluated, and indeed also depend on the values of the other explanatory variables at which they are evaluated. For example, in the Logit model of the probability of experiencing financial stress presented in Chapter 3, the effects of income will depend on the values of the other explanatory variables. This makes it difficult to interpret coefficient estimates. We therefore report 'mean marginal effects' estimates, which provide a straightforward way of ascertaining the effects of explanatory variables that are analogous to those obtained in linear regression models—that is, the effect on the dependent variable of a one-unit increase in the explanatory variable. Specifically, continuing with the example above, the mean marginal effect estimate for income, which is measured in thousands of dollars, is the mean effect on the probability of experiencing financial stress, evaluated over all members of the sample, of increasing income by \$1,000.

### Mean, median and mode

The mean, median and mode are all measures of central tendency. The mean is the statistical term used for what is more commonly known as the average—the sum of the values of a data series divided by the number of data points.

The median is the middle data point in data sorted from lowest to highest value; 50% of the data points will lie below the median and 50% will lie above it. The mode is simply the most frequently occurring value of a data series.

#### Percentiles, deciles and quintiles

Percentiles, deciles, quintiles and terciles all identify 'locations' in the distribution of a variable, such as income, when it is ordered from lowest to highest. There are 100 percentiles, 10 deciles, five quintiles and three terciles for any given distribution. For example, the first (or bottom) percentile of the income distribution identifies the income below which are the lowest 1% of incomes (and above which are the highest 99% of incomes), the first decile identifies the income below which are the lowest 10% of incomes, the first quintile identifies the income below which are the lowest 20% of incomes, and the first tercile identifies the income below which are the lowest third of incomes. It is also common to refer to the percentile, decile, quintile or tercile to which an observation 'belongs'. For example, people with an income greater than the income at the 19th percentile but less than the income at the 20th percentile are said to belong to (or be located in) the 20th percentile. (Such individuals would also belong to the second decile, the first quintile and the first tercile.)

#### Regression models

In statistical analysis, a regression model is used to identify associations between a 'dependent' variable (such as earnings) and one or more 'independent' or 'explanatory' variables (such as measures of educational attainment and work experience). In particular, it shows how the typical value of the dependent variable changes when any one of the independent variables is varied and all other independent variables are held fixed. Most commonly, regression models estimate how the mean value of the dependent variable depends on the explanatory variables—for example, mean (or 'expected') earnings given a particular level of education and work experience. Different types of regression models are used depending on factors such as the nature of the variables and data, and the 'purpose' of the regression model. The following types of models are often estimated using HILDA Survey data:

- **Ordinary Least Squares** models estimate linear associations between a dependent variable (such as earnings) and one or more independent (or explanatory) variables (such as age and educational attainment). The method finds the linear combination of the explanatory variables that minimises the sum of the squared distances between the observed values of the dependent variable and the values predicted by the regression model.
- **Probit and Logit** models are used to estimate the effects of factors, such as age and educational attainment, on a 'qualitative' or categorical dependent variable, such as labour force status. (The variable 'labour force status' is qualitative because it is not naturally 'quantitative' or numerical, such as is the case with income.) The standard models examine 'binary' dependent variables, which are variables with only two distinct values, and estimates obtained from these models are interpreted as the effects on the *probability* the variable takes one of those values. For example, a model might be estimated on the probability an individual is employed (as opposed to not employed). Multinomial Probit and Logit models examine variables that take on more than two distinct values, such as the models of the method of setting pay estimated in Chapter 3. The interpretation of estimates in these models is the same as in the binary models.
- **Fixed-effects** models are often applied to panel data such as the HILDA Survey data. They involve accounting for the effects of all characteristics of sample members that do not change over time. For example, if we are interested in how life events impact on life satisfaction, a fixed-effects model is useful because we can control for (remove the effects of) fixed individual traits such as optimism and pessimism. This is achieved by examining how the outcome of interest changes at the individual level in response to changes in explanatory variables (such as income). For example, a fixed-effects model will find a positive effect of income on life satisfaction if individuals who experience increases in income from one year to the next tend to exhibit increases in life satisfaction over the same period, and individuals who experience decreases in income from one year to the next tend to exhibit decreases in life satisfaction over that period.
- **Random-effects** models are also often applied to panel data. They differ from fixed-effects models by allowing estimation of the effects of characteristics that typically do not change over time (such as sex). This is made possible by assumptions about the distribution and nature of unobserved fixed individual traits, such as intrinsic motivation. The models are relatively complicated. For more information on random-effects models, see, for example, Hsiao (2003).

#### Relative standard error

The standard error of an estimate is a measure of the precision with which the estimate is estimated. For example, assuming statistical independence of the values in the sample, the standard error of the mean of a variable (such as income) is the standard deviation of the variable divided by the square root of the sample size, and there is a 95% probability that the true mean lies within 1.96 standard deviations of the estimated mean. The relative standard error of an estimate is the ratio of the standard error to the value of the estimate. In this report, we have marked with an asterisk (\*) estimates that have a relative standard error greater than 25%. Note that a relative standard error that is less than 25% implies there is a greater than 95% probability the true quantity lies within 50% of the estimated value.

#### Standard deviation

The standard deviation is a measure of variability or 'dispersion' of a variable. It is equal to the square root of the mean squared difference of a variable from its mean value.

#### Statistical significance

In the context of statistical analysis of survey data, a finding is statistically significant if it is unlikely to be simply due to sampling variability—that is, if it is unlikely to be due to random factors causing specific characteristics of the survey sample to differ from the characteristics of the population. A common standard is to regard a difference between two estimates as statistically significant if the probability that they are different is at least 95%. However, 90% and 99% standards are also commonly used. The 90% standard is adopted for regression results presented in this report. Note that a statistically significant difference does not mean the difference is necessarily large or significant in the common meaning of the word.



## B. Population inferences from the HILDA Survey data

As discussed in Watson and Wooden (2002), the reference population for Wave 1 of the HILDA Survey was all members of private dwellings in Australia, with the main exception being the exclusion of people living in remote and sparsely populated areas. These coverage rules were broadly in line with those adopted by the Australian Bureau of Statistics in its supplements to the Monthly Population Survey. Households were selected using a multi-staged approach designed to ensure representativeness of the reference population. First, a stratified random sample of 488 1996 Census Collection Districts (CDs), each of which contains approximately 200 to 250 households, was selected from across Australia. Within each of these areas, depending on the expected response and occupancy rates of the area, a random sample of 22 to 34 dwellings was selected. Within each dwelling, up to three households were randomly selected. The frame of CDs was stratified by state and territory and, within the five most populous states, by metropolitan and non-metropolitan regions. Nonetheless, despite the region-based stratification, Wave 1 of the HILDA Survey was an equal-probability sample; in particular, the smaller states and territories were not over-sampled. This reflects the focus of the HILDA Survey on producing nationwide population estimates.

All members of the selected households were defined as members of the sample, although individual interviews were (and continue to be) only conducted with those aged 15 years and over. Since Wave 1, interviews have been sought with all members of Wave-1 responding households, which has meant following all individuals of these households wherever they go in Australia (including remote and sparsely populated areas). Individuals who move overseas are, however, not interviewed while they are living overseas. Note that, to ensure completeness of household information, any individuals who become part of an existing (permanent) sample member's household are also interviewed, but—aside from important exceptions explained below—these individuals are only interviewed as long as they remain in the same household as the permanent sample member.

The HILDA Survey is designed to have an indefinite life, which is primarily achieved by adding to the sample any children born to or adopted by sample members. The HILDA Survey aims to remain representative of the Australian population, but its original design as a longitudinal study meant that it would not be representative of immigrants who arrived after the initial (Wave 1) selection of the sample. To date, two approaches have been taken to address this source of declining representativeness. First, immigrants who join the household of an existing sample member automatically become permanent sample members. Second, in Wave 11, a general sample top-up (of 4,096 individuals) was conducted, which allowed immigrants who had arrived between 2001 and 2011 to enter the HILDA Survey sample.

Non-response is an issue for all household surveys, and *attrition* (that is, people dropping out due to refusal to participate or our inability to locate them) is a further particular issue in all panel surveys. Because of attrition, and despite sample additions owing to changes in household composition, panels may slowly become less representative of the populations from which they are drawn, although as a result of the 'split-off' method, this does not necessarily occur.





To overcome the effects of survey non-response (including attrition), the HILDA Survey data managers analyse the sample each year and produce *weights* to adjust for differences between the characteristics of the panel sample and the characteristics of the Australian population.<sup>1</sup> That is, adjustments are made for non-randomness in the sample selection process that causes some groups to be relatively under-represented and others to be relatively over-represented. For example, non-response to Wave 1 of the survey was slightly higher in Sydney than it was in the rest of Australia, so that slightly greater weight needs to be given to Sydneysiders in data analysis in order for estimates to be representative of the Australian population as a whole.

The population weights provided with the data allow us to make inferences about the Australian population from the HILDA Survey data. A population weight for a household can be interpreted as the number of households in the Australian population that the household represents. For example, one household (Household A) may have a population weight of 1,000, meaning it represents 1,000 households, while another household (Household B) may have a population weight of 1,200, thereby representing 200 more households than Household A. Consequently, in analysis that uses the population weights, Household B will be given 1.2 times (1,200/1,000) the weight of Household A. To estimate the mean (average) of, say, income of the households represented by Households A and B, we would multiply Household A's income by 1,000, multiply Household B's income by 1,200, add the two together and then divide by 2,200.

The sum of the population weights is equal to the estimated population of Australia that is 'in scope', by which is meant 'they had a chance of being selected into the HILDA sample' and which therefore excludes those that HILDA explicitly has not attempted to sample—namely, some people in very remote regions in Wave 1, people resident in non-private dwellings in 2001 and non-resident visitors.<sup>2</sup> In Wave 18, the household population weights sum to 9.5 million and the 'person' population weights sum to 24.4 million.

As the length of the panel grows, the variety of weights that might be needed also grows. Most obviously, separate cross-sectional weights are required for every wave, but more important is the range of longitudinal weights that might be required. Longitudinal (multi-year) weights are used to retain representativeness over multiple waves. In principle, a set of weights will exist for every combination of waves that could be examined—Waves 1 and 2, Waves 5 to 9, Waves 2, 5 and 7, and so on. The longitudinal weights supplied with the data allow population inferences for analysis using any two waves (that is, any pair of waves) and analysis of any 'balanced panel' of a contiguous set of waves, such as Waves 1 to 6 or Waves 4 to 7. Longitudinal weights are also provided to allow analysis of 'rotating' content. For example, to facilitate longitudinal analysis of wealth, longitudinal weights are provided for Waves 2, 6, 10, 14 and 18. In this report, cross-sectional weights are always used when cross-sectional results are reported and the appropriate longitudinal weights are used when longitudinal results are reported. Thus, all statistics presented in this report should be interpreted as estimates for the in-scope Australian population. That is, all results are 'population-weighted' to be representative of the Australian community.

A further issue that arises for population inferences is missing data for a household, which may arise because a member of a household did not respond or because a respondent did not report a piece of information. This is particularly important for components of financial data such as income, where failure to report a single component by a single respondent (for example, dividend income) will mean that a measure of household income is not available. To overcome this problem, the HILDA data managers *impute* values for various data items. For individuals and households with missing data, imputations are undertaken by drawing on responses from individuals and households with similar characteristics, and also by drawing on their own responses in waves other than the wave in which the data are missing. Full details on the imputation methods are available in Watson (2004a), Hayes and Watson (2009) and Sun (2010). In this report, imputed values are used in all cases where relevant data are missing and an imputed value is available. This largely applies only to income, expenditure and wealth variables.

The population weights and imputations allow inferences to be made from the HILDA Survey about the characteristics and outcomes of the Australian population. However, estimates based on the HILDA Survey, like all sample survey estimates, are subject to sampling error. Because of the complex sample design of the HILDA Survey, the reliability of inferences cannot be determined by constructing standard errors on the basis of random sampling, even allowing for differences in probability of selection into the sample reflected by the population weights. The original sample was selected via a process that involved stratification by region and geographic 'ordering' and 'clustering' of selection into the sample within each stratum. Standard errors (measures of reliability of estimates) need to take into account these non-random features of sample selection, which can be achieved by using *replicate weights*. Replicate weights are supplied with the unit record files available to approved researchers for cross-sectional analysis and for longitudinal analysis of all balanced panels that commence with Wave 1 (for example, Waves 1 to 4 or Waves 1 to 8). Full details on the sampling method for the HILDA Survey are available in Watson and Wooden (2002), while details on the construction, use and interpretation of the replicate weights are available in Hayes (2009).

In this report, standard errors of statistics are not reported. Instead, for tabulated results of descriptive statistics, estimates that have a relative standard error of more than 25% are marked with an asterisk (\*). For regression model parameter estimates, estimates that are not statistically significantly different from 0 at the 10% level are not reported, with *ns* (not significant) appearing in place of the estimate.

<sup>1</sup> Further details on how the weights are derived are provided in Watson and Fry (2002), Watson (2004b) and Summerfield et al. (2020).

<sup>2</sup> In principle, the in-scope population in Waves 2 to 10 excludes most immigrants arriving in Australia after 2001, and the in-scope population in Waves 12 to 19 excludes most immigrants arriving after 2011. However, owing to a lack of suitable external benchmarks for this population subgroup, these immigrants are in practice included in the in-scope population. Consequently, in all waves, the HILDA Survey weights sum to the total Australian population inclusive of new immigrants.

## C. Fieldwork process and outcomes

### Sample

The HILDA Survey commenced, in 2001, with a nationally representative sample of Australian households (residing in private dwellings). Of the 11,693 households selected for inclusion in the sample in 2001, 7,682 households agreed to participate, resulting in a household response rate of 66%. The 19,914 residents of those households form the basis of the 'main sample' that is interviewed in each subsequent year (or survey wave), but with interviews only conducted with people aged 15 years or older. As noted in Section B of this Technical Appendix, interviews are also conducted with any other person who joins a household in which an original sample member is living. These individuals are only interviewed as long as they remain living with an original sample member, unless they are an immigrant who migrated to Australia after 2001 or they have a child with an original sample member, in which case they become a 'permanent' sample member. People who are known to have died are removed from the sample (but their existing data are retained). We also do not pursue interviews with people who have moved overseas, people who have requested to no longer be contacted or people we have not been able to contact for three successive survey waves. In 2011 an entirely new 'top-up' sample was added. This resulted in the addition of 2,153 households and 5,451 people (including children aged under 15). The household response rate for the top-up sample was 69%.

### Data collection

The annual interviews for the main sample commence towards the end of July each year and conclude by mid-February of the following year. The interviewer workforce comprised 182 interviewers in Wave 19, 151 of whom undertook interviews in person, with the remaining 31 being dedicated telephone interviewers. Most interviews are undertaken in person, usually in the home of the sample member. Some interviews, however, are undertaken by telephone, usually because the cost of sending an interviewer to the location of that sample member is prohibitive or because the sample member prefers a telephone interview. In Wave 19, 1,680 interviews (or 9.6% of the total completed) were undertaken by telephone.

### Response

Table A1 and Figure A1 summarise key aspects of the HILDA sample for the period examined in this report (Waves 1 to 19).<sup>3</sup> Table A1 presents the number of households, respondents and children under 15 years of age in each wave. In Wave 19, interviews were obtained with a total of 17,462 people, of which 13,748 were from the original sample and 3,714 were from the top-up sample. Of the original 13,969 respondents in 2001, 7,142, or 60.7% of those still in scope (that is, alive and in Australia), were still participating at Wave 19.

Note that—the top-up sample aside—the total number of respondents in each wave is greater than the number of Wave 1 respondents interviewed in that wave, for three main reasons. First, some non-respondents in Wave 1 are successfully interviewed in later waves. Second, interviews are sought in later waves with all people in sample households who turn 15 years of age. Third, additional people are added to the panel as a result of changes in household composition. For example, if a household member 'splits off' from their original household (for example, children leave home to set up their own place, or a couple separates), the entire new household joins the panel. Inclusion of 'split-offs' is the main way in which panel surveys, including the HILDA Survey, maintain sample representativeness over the years.



<sup>3</sup> More detailed data on the sample make-up, and in particular response rates, can be found in Summerfield et al. (2020).

Table A1: HILDA Survey sample sizes

	<i>Households</i>	<i>People interviewed</i>	<i>Children under 15</i>
Wave 1	7,682	13,969	4,787
Wave 2	7,245	13,041	4,276
Wave 3	7,096	12,728	4,089
Wave 4	6,987	12,408	3,888
Wave 5	7,125	12,759	3,896
Wave 6	7,139	12,905	3,756
Wave 7	7,063	12,789	3,691
Wave 8	7,066	12,785	3,574
Wave 9	7,234	13,301	3,625
Wave 10	7,317	13,526	3,600
Wave 11 (original sample)	7,390	13,603	3,601
Wave 12 (original sample)	7,420	13,536	3,608
Wave 13 (original sample)	7,463	13,608	3,680
Wave 14 (original sample)	7,441	13,633	3,625
Wave 15 (original sample)	7,546	13,753	3,653
Wave 16 (original sample)	7,635	13,834	3,765
Wave 17 (original sample)	7,660	13,791	3,820
Wave 18 (original sample)	7,615	13,723	3,830
Wave 19 (original sample)	7,633	13,748	3,855
Wave 11 (top-up sample)	2,153	4,009	1,180
Wave 12 (top-up sample)	2,117	3,939	1,090
Wave 13 (top-up sample)	2,092	3,892	1,055
Wave 14 (top-up sample)	2,097	3,878	1,045
Wave 15 (top-up sample)	2,085	3,852	1,037
Wave 16 (top-up sample)	2,115	3,859	1,054
Wave 17 (top-up sample)	2,082	3,779	1,025
Wave 18 (top-up sample)	2,023	3,711	1,011
Wave 19 (top-up sample)	2,031	3,714	993

Figure A1 reports re-interview rates (percentage of previous-wave respondents still in scope who were interviewed in the current wave) and response rates among new entrants to the sample for both the original sample and the top-up sample. As can be seen, re-interview rates for the original sample are high, exceeding 95% for the first time in Wave 8, and remaining above that level ever since. In Wave 19, the re-interview rate was 96.9% for the original sample and 96.2% for the top-up sample. We expect much lower response rates among new individuals joining the sample. Nevertheless, response rates for this group have averaged approximately 75% to 80% for much of the period since Wave 4. In Wave 19, the rate was 81.8% for the original sample and 74.4% for the top-up sample.

Within the top-up sample, the re-interview rate in Wave 19 was 96.2%. The comparable rate within the original sample is the rate recorded in Wave 9, which was 96.3%.

All people who are interviewed are also asked to complete a separate paper-based questionnaire. Of the 17,462 people who were interviewed in Wave 19, 16,150 (91.9%) returned this self-completion questionnaire.

More detailed information on interview response rates across demographic groups is presented in Tables A2 and A3. Table A2 examines Wave 1 respondents, presenting the proportion of the sample responding in all 19 waves and the proportion responding in Wave 19, disaggregated by characteristics in Wave 1 (that is, in 2001). Table A3 presents analogous information for the Wave 11 top-up sample.



Figure A1: HILDA Survey response rates, Waves 2 to 19 (2002 to 2019)

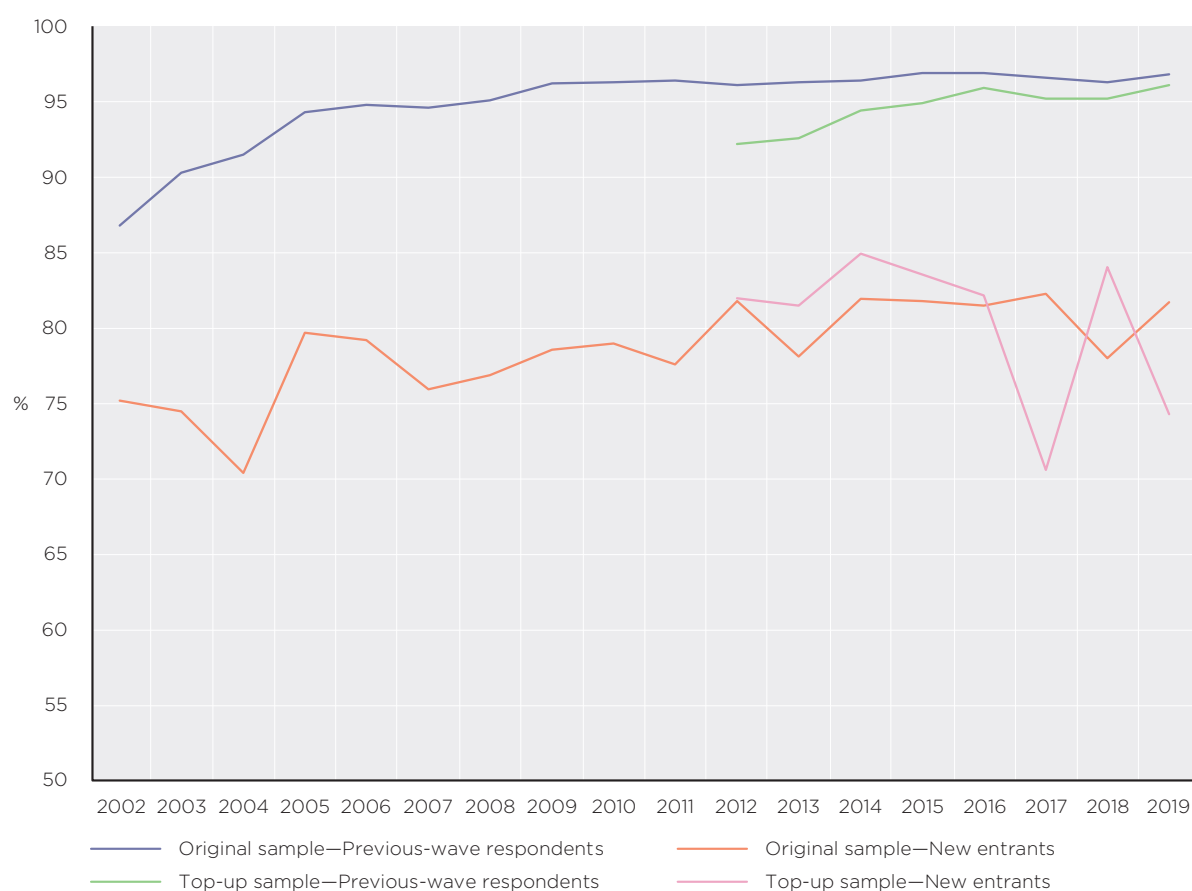




Table A2: Percentage of Wave 1 respondents re-interviewed by selected Wave 1 characteristics (%)

<i>Wave 1 characteristics</i>	<i>Interviewed in all waves</i>	<i>Interviewed in Wave 19</i>	<i>Wave 1 characteristics</i>	<i>Interviewed in all waves</i>	<i>Interviewed in Wave 19</i>
<i>Area</i>			<i>Indigenous status</i>		
Sydney	47.3	58.8	Indigenous	35.8	62.1
Rest of New South Wales	51.1	61.2	Non-Indigenous	49.8	60.6
Melbourne	47.8	60.7	<i>Education attainment</i>		
Rest of Victoria	47.5	58.1	Year 11 or below	44.0	55.6
Brisbane	53.7	63.5	Year 12	49.0	60.3
Rest of Queensland	50.6	60.3	Certificate 3 or 4	48.5	60.1
Adelaide	52.1	61.5	Diploma	55.2	65.1
Rest of South Australia	48.5	63.3	Degree or higher	60.9	70.7
Perth	47.8	57.0	<i>Dwelling type</i>		
Rest of Western Australia	44.8	59.4	House	50.1	61.2
Tasmania	54.1	67.1	Semi-detached	48.0	60.1
Northern Territory	62.9	78.1	Flat, unit, apartment	44.8	55.5
Australian Capital Territory	54.2	66.5	Other	47.8	59.6
<i>Sex</i>			<i>Labour force status</i>		
Male	47.7	59.0	Employed full-time	50.8	61.8
Female	51.1	62.1	Employed part-time	53.3	64.6
<i>Age group (years)</i>			Unemployed	39.3	53.4
15-19	36.3	54.2	Not in the labour force	46.3	57.1
20-24	38.7	54.0	<i>Employment status in main job<sup>a</sup></i>		
25-34	46.5	59.4	Employee	51.8	62.9
35-44	52.9	63.2	Employer	49.8	61.6
45-54	56.9	66.5	Own account worker	51.5	61.0
55-64	57.9	66.3	Contributing family worker	46.7	65.1
65-74	48.1	54.8	<i>Occupation<sup>a</sup></i>		
75 and over	18.1	22.0	Managers/administrators	52.8	64.7
<i>Marital status</i>			Professionals	60.7	71.3
Married	52.5	62.0	Associate professionals	51.7	61.4
De facto	47.2	59.7	Tradespersons	44.4	57.6
Separated	50.4	62.3	Advanced clerical/service	49.8	58.6
Divorced	57.0	67.3	Intermediate clerical/sales/service	52.6	64.2
Widowed	50.7	54.9	Intermediate production/transport	46.9	54.9
Single	41.5	56.9	Elementary clerical/sales/service	50.3	62.4
<i>Country of birth</i>			Labourers	42.8	54.2
Australia	51.2	62.3	<i>All Wave 1 respondents</i>		
Overseas				49.5	60.7
Main English-speaking	51.6	60.8	<i>Total number responding</i>		
Other	38.9	51.9		5,618	7,142

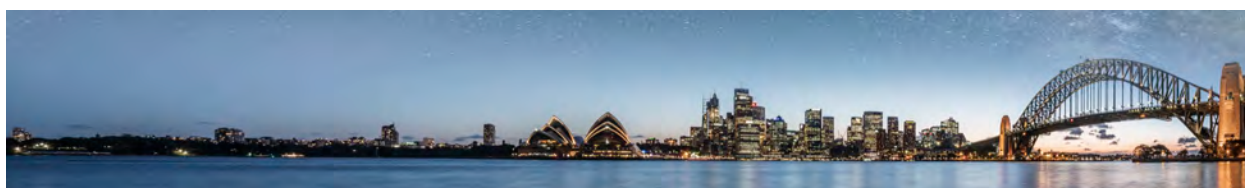
Notes: Estimates are for the sample and are therefore not population-weighted. <sup>a</sup> Employed people only.



Table A3: Percentage of Wave 11 top-up respondents re-interviewed by selected Wave 11 characteristics (%)

<i>Wave 11 characteristics</i>	<i>Interviewed in all waves</i>	<i>Interviewed in Wave 19</i>	<i>Wave 11 characteristics</i>	<i>Interviewed in all waves</i>	<i>Interviewed in Wave 19</i>
<i>Area</i>			<i>Indigenous status</i>		
Sydney	66.6	70.9	Indigenous	70.0	73.6
Rest of New South Wales	71.9	76.6	Non-Indigenous	68.8	74.0
Melbourne	71.8	76.4	<i>Education attainment</i>		
Rest of Victoria	70.4	75.1	Year 11 or below	64.3	70.5
Brisbane	66.8	74.0	Year 12	69.2	73.8
Rest of Queensland	69.5	77.4	Certificate 3 or 4	71.3	77.4
Adelaide	69.9	71.2	Diploma	70.5	76.0
Rest of South Australia	74.5	78.4	Degree or higher	71.0	74.5
Perth	60.3	68.3	<i>Dwelling type</i>		
Rest of Western Australia	58.3	67.0	House	68.9	74.5
Tasmania	75.2	80.0	Semi-detached	66.5	71.4
Northern Territory	66.7	79.2	Flat, unit, apartment	70.5	73.0
Australian Capital Territory	72.6	75.0	Other	100.0	100.0
<i>Sex</i>			<i>Labour force status</i>		
Male	68.2	73.7	Employed full-time	68.4	74.9
Female	69.4	74.3	Employed part-time	68.1	71.7
<i>Age group (years)</i>			Unemployed	76.9	81.2
15-19	61.0	68.0	Not in the labour force	68.9	73.5
20-24	66.4	73.9	<i>Employment status in main job<sup>a</sup></i>		
25-34	72.4	77.4	Employee	68.6	74.1
35-44	69.3	74.4	Employer	61.2	72.0
45-54	68.2	72.8	Own account worker	67.4	71.9
55-64	72.4	78.1	Contributing family worker	60.0	70.0
65-74	75.1	78.7	<i>Occupation<sup>a</sup></i>		
75 and over	52.4	55.0	Managers	66.0	73.9
<i>Marital status</i>			Professionals	70.9	76.2
Married	70.7	75.1	Technicians and trades workers	64.3	69.6
De facto	68.2	75.4	Community and personal service workers	69.0	71.2
Separated	78.6	80.8	Clerical and administrative workers	67.2	74.6
Divorced	69.2	75.0	Sales workers	68.2	73.0
Widowed	61.4	64.1	Machinery operators and drivers	71.1	76.9
Single	65.1	71.6	Labourers	71.4	75.3
<i>Country of birth</i>					
Australia	69.9	75.3			
Overseas			All Wave 11 top-up respondents	68.8	74.0
Main English-speaking	68.2	75.3	Total number responding	2,469	2,711
Other	65.2	68.2			

Notes: Estimates are for the sample and are therefore not population-weighted. <sup>a</sup> Employed persons only.



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Karen Yaxley





Commenced in 2001, the Household, Income and Labour Dynamics in Australia (HILDA) Survey is a nationally representative household-based panel study, providing longitudinal data on the economic wellbeing, employment, health and family life of Australians.

The study is funded by the Australian Government Department of Social Services and is managed by the Melbourne Institute at the University of Melbourne. Roy Morgan Research has conducted the fieldwork since 2009, prior to which The Nielsen Company was the fieldwork provider.

