Low-paid women's workforce participation decisions and pay equity

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The contents of this paper are the responsibility of the authors and the research has been conducted without the involvement of members of the Fair Work Commission (Commission).

This report uses confidentialised data from the Commission's Australian Workplace Relations Study (AWRS) 2014. The data collection for the AWRS was conducted by ORC International. The findings and views based on these data should not be attributed to the Commission.

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- Australian Chamber of Commerce and Industry (ACCI);
- Australian Industry Group (Ai Group);
- Australian Council of Trade Unions (ACTU);
- Department of Employment;
- Fair Work Ombudsman (FWO);
- Office for Women, Department of Prime Minister and Cabinet; and
- Workplace Gender Equality Agency (WGEA).

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The contents of this report, however, remain the responsibility of the authors.

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List of abbreviations

ABS	Australian Bureau of Statistics
AWRS	Australian Workplace Relations Study
Commission	Fair Work Commission
HILDA	Household, Income and Labour Dynamics in Australia
Melbourne Institute	Melbourne Institute of Applied Economic and Social Research

Executive summary

The Pay Equity Unit of the Fair Work Commission (Commission) has commissioned the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute) as part of its 2014–15 Work Program to provide a report on low-paid women's workforce participation decisions, determinants of these decisions, and the implications of these decisions for gender pay equity.

A key motivation for the project is to improve understanding of the factors that contribute to low-pay outcomes, and whether these differ between women and men. Employees face a range of barriers and constraints that affect employment decisions and outcomes, but these are likely to differ between men and women. Most notably, constraints associated with caring responsibilities are more prevalent and more acute for women than men, and these constraints are likely to have implications for labour market outcomes, and in particular gender pay equity. Recognising the potentially important role of constraints deriving from caring responsibilities, a particular focus of the analysis is on the role of work history, and especially movements into and out of employment and the labour force, in producing low earnings for low-paid women.

To these ends, three broad questions are investigated:

1. What are the characteristics of low-paid women, and how do they differ from high-paid women, or from low-paid and high-paid men? Namely, what are their personal characteristics, family characteristics and current job characteristics (including the method of setting pay in their current job), as well as their work histories and future work experiences?
2. What characteristics and circumstances impact on or constrain low-paid women's workforce participation decisions? How do their personal and family characteristics, as well as current job characteristics (including the method of setting pay) impact on their future decisions to work or not to work or how many hours to work?
3. What effect do past workforce participation decisions have on their pay and employment outcomes, and on pay equity? What role do other personal or family characteristics, as well as past job characteristics (including method of setting pay) play?

To investigate these questions, we present descriptive statistics on the personal, family and job characteristics of low-paid women, comparing them with higher-paid women, low-paid men, and higher-paid men. We also present similar descriptive statistics for unemployed and marginally attached women who are deemed likely to be low-paid were they to be employed.

The factors that impact on low-paid women's work decisions are investigated by estimating regression models of possible determinants of a variety of employment outcomes and behaviours. Included as explanatory factors in these models are low-pay status and variables capturing a range of socio-demographic characteristics, which are interacted with low-pay status to investigate whether effects associated with these characteristics differ for low-paid women. Specifically, for persons (initially) employed, models are estimated of the determinants of employer changes, exit(s) from employment, extended leave-taking and weekly hours of work; while for persons initially unemployed or marginally attached to the labour force, models are estimated of the determinants of exits from and entries into employment.

Finally, we investigate the effects on earnings of work histories and personal and family characteristics, and in particular their roles in determining low-pay status. Here we estimate models of the determinants of earnings and identify the extent to which differences in work histories and characteristics explain the earnings differentials between low-paid women and higher-paid women, and between low-paid women and low-paid men. We furthermore investigate the extent to which

differences in work histories and other characteristics contribute to the higher rate of low-paid employment among female employees compared with male employees.

Data and definitions

The analysis uses Waves 1 to 13 of the Household, Income and Labour Dynamics in Australia (HILDA) Survey, focusing on employees and persons marginally attached to the labour force or unemployed in Waves 4 to 13. Our analysis sample comprises 74 996 person-year-observations for 16 216 employees, and 12 375 person-year-observations for 6524 unemployed or marginally attached individuals. As an additional data set, we use 4881 observations from the Australian Workplace Relations Study (AWRS).

Employees are defined to be low-paid if their hourly wage in their main job is no more than two-thirds of the median hourly wage of all employees aged 21–64. The resulting hourly wage threshold for low-pay is very close to the *Manufacturing and Associated Industries and Occupations Award 2010* (and the *Metal, Engineering and Associated Industries Award 1998* before that) for workers in jobs of category C10, which has historically been used as a benchmark for low pay.

Characteristics of low-paid employees

We present descriptive statistics on the link between method of setting pay and low-pay status, as well as family characteristics, personal characteristics, employment characteristics and intrinsic job characteristics of men and women who are low-paid or higher-paid. The most important findings are:

- If men or women are paid the award rate, they are equally likely to be low-paid. If employees are covered by any method of setting pay other than the award rate, women are more likely to be low paid.
- The probability of low pay is very high for young employees (under 21 years of age) and decreases with age, suggesting that in many cases it is a transitory experience; nonetheless, a substantial subset of older employees (aged 55 years and over) is low-paid. Being low-paid and older is more common for women than for men.
- Women are much more likely to be the sole or primary carer of children and men are much more likely to be the sole or main income earner. This gender divide is even more pronounced among low-paid employees.
- On average, low-paid employees have relatively low educational attainment; a gender education gap in favour of women exists only among higher-paid employees.
- Low-paid men and women have less employment experience than higher-paid employees. However, being low-paid and having had substantial employment experience (more than ten years) is still not uncommon, particularly for women.
- Low-paid men and women have similarly low job tenure and occupation tenure compared with higher-paid employees. More frequent employer changes and occupational changes may partly explain the gender gap in the incidence of low-pay.
- Low-paid women are less likely to have experienced periods out of the labour force than higher-paid women, consistent with their lower likelihood of living with children. However, among women who had employment interruptions, low-paid women experienced longer

periods out of the labour force than higher-paid women, and the experience was also more recent.

- Low-paid men and women are very likely to be employed on a casual basis, to work in small firms, and to work in the retail or food services industries.
- Low-paid employees have a lower occupational status than higher-paid employees, work fewer hours per week, and are more likely to work on weekends, at night or irregular shifts.
- Low-paid women report higher levels of discrimination because of gender or parenting responsibilities than men of either pay status, but lower levels of discrimination than higher-paid women.
- An area of concern for low-paid employees in general, but particularly for women, is age discrimination, which is equally driven by women younger than 25 and by women 55 and older.
- Low-paid women are substantially less likely than higher-paid women to stay with their current employer—in any given year, on average 22 per cent of all low-paid women change their employer, and 11 per cent of low-paid women leave employment altogether.
- Low-paid women are slightly less likely than higher-paid women to take extended non-standard leave (i.e., 8 weeks or more, not including paid annual leave or paid sick leave) in any given year, and if they do, their leave is more likely to be unpaid. If employees take unpaid extended leave, they are more likely to subsequently change employers, than if they take only paid leave, especially if the employee is a low-paid woman.

Estimation results: low-paid women's work decisions

This report analyses four important work decisions or work outcomes:

i) whether an employed person stays with their employer, changes employers, or leaves employment; ii) whether an unemployed person commences employment, leaves the labour force, or remains unemployed; iii) whether or not an employed person takes extended leave (other than annual leave or sick leave); and iv) how many hours per week an employee works.

For all employment outcomes, we compare low-paid women with two groups of employees: low-paid men and higher-paid women. An extensive set of personal characteristics, family characteristics and job characteristics is controlled in the analysis.

We then examine whether family, personal, job and employer characteristics have different impacts for low-paid women, low-paid men and higher-paid women. The most important findings for each work decision or outcome examined are as follows.

1. Employment transitions of employees

- Low-paid women are more likely than low-paid men to leave employment and more likely to change employers. This behavioural difference cannot be explained by their different characteristics.
- Raw differences in behaviour between low-paid women and higher-paid women are much larger, but they largely disappear once we control for differences in their characteristics: low-paid women and higher-paid women behave differently because they have different characteristics.

- Having a partner and children is associated with a lower likelihood of exiting employment for low-paid men, but is associated with a higher likelihood of exiting employment for low-paid women. This behavioural difference is consistent with a traditional family model with a male breadwinner and a female caregiver.
- Employment is less stable for low-paid men with a history of unstable careers and 'non-standard' forms of employment (i.e., casual or fixed-term contracts as well as non-standard weekly or daily working schedules). For low-paid women, the association between current employment stability and past employment instability and non-standard employment is much weaker.
- The weaker connection between women's employment stability and non-standard forms of employment and employment instability in past careers can be interpreted as a reflection of the greater variation in women's work lives compared to men's.

2. Labour market transitions of the unemployed and marginally attached

- A woman with a low 'reservation wage' (the lowest wage at which a person is willing to work) is more likely than a man with a low reservation wage to leave the labour force or enter employment, and accordingly less likely to stay unemployed or marginally attached. This appears to be unrelated to differences in characteristics.
- Women with low reservation wages are equally likely as women with higher reservation wages to enter employment, leave the labour force, or stay unemployed/marginally attached, once we control for differences in family characteristics and personal characteristics. Hence, nearly all of the observed differences in behaviour in the raw data between low-reservation-wage women and higher-reservation-wage women is due to their different characteristics.

3. Extended non-standard leave-taking by employees

- Controlling for differences in observed characteristics, low-paid women and higher-paid women are about equally likely to take extended non-standard leave. Leave-taking is much more likely for women if they have children; for higher-paid women this is particularly the case if they have a child aged under 5 years and a partner; for low-paid women, this is observed for all children's ages.
- Low-paid men are less likely to take extended non-standard leave than low-paid women. The behavioural difference across gender cannot be explained by differences in characteristics.[1]
- For low-paid women, extended leave-taking is less likely if they have already accumulated many years out of the labour market. For men, employment breaks increase the probability of extended leave-taking. This could reflect the different reasons for extended leave-taking: for women, it is often because of caring responsibilities; for men, it is more often for reasons such as poor health.

[1] The HILDA data does not identify the reasons for leave taking, but women's leave taking is strongly associated with the presence of young children (aged 0–4 years) in the household, suggesting that a substantial part of women's extended leave is unpaid maternity leave. The behavioural differences across gender thus may be related to the male breadwinner, female carer model.

4. Weekly working hours of employees

- Low-paid women work on average forty minutes less per week than low-paid men; low-paid women work on average forty minutes more per week than higher-paid women.
- The differences in working times across the groups that are observed in the raw data are much larger: low-paid women average six fewer hours than low-paid men and seven fewer hours than higher-paid women. Nearly all the variation in weekly working hours across the three groups is therefore explained by differences in observed characteristics.
- Partner status and the presence of children have different effects on working time of low-paid men and low-paid women, and there are also differences in effects between low-paid women and higher-paid women. The pattern of differences is consistent with the male breadwinner model.

Estimation results: work decisions and pay equity

The analysis of low-paid women's work decisions and work outcomes shows that they are more likely than otherwise similar men to experience breaks in employment, changes in employer, and extended periods of leave. They also have different work outcomes than higher-paid women. We examine the extent these different work outcomes in the past explain why low-paid women receive less pay than higher-paid women do, and why women are more likely than men to be low-paid. To do this, we decompose the earnings gap between low-paid women and higher-paid women, and the gender gap in the incidence of low pay, into parts that can be attributed to different personal characteristics, including one's labour market history. The main findings are:

- Low-paid women earn on average less than half of what higher-paid women earn. Different earnings histories play a non-negligible, but small role in explaining why this is the case: about 10 per cent of this gap is due to differences in recent and long-term labour market histories and thus work transitions. More important are differences in personal characteristics such as age and educational attainment.
- There is no substantive earnings gap between low-paid women and low-paid men.
- Female employees are more likely than male employees to be low-paid—16.4 per cent of all male employees and 21 per cent of female employees are low-paid. The difference between men and women in the incidence of being low-paid is strongly connected to their respective employment histories. If men's and women's employment biographies were more similar to each other, the gap would be halved. The most important factor is time spent out of the labour force.
- Analysis by method of setting pay shows that the higher prevalence of low-paid employment for women holds only for non-award wage employees. Among employees paid award wages, the incidence of low pay is nearly identical for women and men, and there is essentially no gap to decompose. That said, if award-reliant women had the same characteristics as award-reliant men, the proportion of award-reliant women who are low paid would be higher than is currently the case. However, this may reflect the industries and occupations in which women are relatively concentrated, as well as other unobserved factors, such as overtime worked and the undesirability of the work itself. Further research is required to explain this result.

Conclusion

This analysis shows that work transitions and employment outcomes for low-paid women and higher-paid women are similar once other characteristics are taken into account. As a result, only a small fraction of the earnings gap between low-paid women and higher-paid women is due to individual labour market histories: past work transitions do not explain why low-paid women earn less than other women.

It also confirms that low-paid men and low-paid women have similar characteristics, and receive similar pay, despite experiencing different work transitions and employment outcomes. This has been found before for a large number of countries (for Australia, for example Barón and Cobb-Clark, 2010 and Kee, 2006). Among employees at the lower end of the wage distribution, there is a high degree of gender pay equity, and institutional wage setting plays a key role in that result (Gregory, 1999).

However, another crucial question is what determines the likelihood of being at the lower end of the wage distribution in the first place. This analysis shows that the reasons *why* women are low-paid are different from the reasons for men. Constraints that affect men's and women's movements in and out of employment, to stay with an employer or not, to take extended leave etc. are heavily driven by their household context, and the roles men and women adopt in the family determine their employment outcomes. This inequity in the household is very closely linked to inequity in the labour market, and plays an important role in explaining the gender gap in the incidence of low pay.

1 Introduction

According to Healy and Richardson (2006) and McGuinness et al. (2007), in the early years of this century approximately 10 per cent of all adult Australian employees were paid wages below or close to the then Federal Minimum Wage. Describing the characteristics of the low paid, both of these studies find that low-paid workers are younger, more often single and have lower educational attainment than other adult employees, and are more likely to work in casual jobs in the retail and hospitality industries. Significantly, these studies also find that low-paid employees are more likely to be secondary earners, suggesting that the causes and consequences of low-paid work may have a gendered dimension, and that low-paid employment of women deserves some more detailed investigation.

The Pay Equity Unit of the Fair Work Commission (Commission) has commissioned the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute) as part of its 2014–15 Work Program to provide a report on low-paid women's workforce participation decisions, determinants of these decisions, and the implications of these decisions for gender pay equity. This was prompted by a previous report on gender pay differentials among low-paid employees (Austen et al. (2008)), which identified scope for further research on the relationship between women's labour force transitions and their wages in comparison to men's.

A key motivation for the project is to improve understanding of the factors responsible for low-pay outcomes, and whether these differ between women and men. Employees face a range of barriers and constraints that affect employment decisions and outcomes, but these are likely to differ between men and women. Most notably, constraints associated with caring responsibilities are more prevalent and more acute for women than men, and these constraints are likely to have implications for labour market outcomes, and in particular gender pay equity. Recognising the potentially important role of constraints deriving from caring responsibilities, a particular focus of the analysis is on the role of work history, and especially movements into and out of employment and the labour force, in producing low earnings for low-paid women.[2]

To these ends, three broad questions are investigated:

1. What are the characteristics of low-paid women, and how do they differ from high-paid women, or from low-paid and high-paid men? Namely, what are their personal characteristics, family characteristics and current job characteristics (including the method of setting pay in their current job), as well as their work histories and future work experiences?
2. What characteristics and circumstances impact on or constrain low-paid women's workforce participation decisions? How do their personal and family characteristics, as well as current job characteristics (including the method of setting pay) impact on their future decisions to work or not to work or how many hours to work?
3. What effect do past workforce participation decisions have on their pay and employment outcomes, and on pay equity? What role do other personal or family characteristics, as well as past job characteristics (including method of setting pay) play?

[2] The broader context for this report is the persistent 'gender pay gap' in Australia. Existing research has found that only part of this gap can be explained by variables for observed educational attainment and work experience, implying other factors, such as discrimination, contribute to the gap. Layton et al. (2014) survey the literature on the gender pay gap in Australia and provide a summary of its potential sources.

To investigate these questions, we begin by presenting descriptive statistics on the personal, family and job characteristics of low-paid women, comparing them with higher-paid women, low-paid men, and higher-paid men. We also present similar descriptive statistics for unemployed and marginally attached women who, on the basis of the wages at which they are prepared to work (their 'reservation' wages), are deemed likely to be low-paid were they to be employed. (The rationale for this approach is explained in Section 4.) Similar to the approach for employed low-paid women, these 'potentially' low-paid women are compared with other unemployed and marginally attached women, with 'potentially' low-paid men, and with other unemployed and marginally attached men. We then describe employment transitions of low-paid women and potentially low-paid women, again comparing them with low-paid men and higher-paid women and men.

The factors that impact on low-paid women's work decisions are investigated by estimating regression models of the determinants of a variety of employment outcomes and behaviours. Included as explanatory factors in these models are low-paid status and variables capturing a range of socio-demographic characteristics, which are interacted with low-paid status to investigate whether effects associated with these characteristics differ for low-paid women. Specifically, for persons (initially) employed, models are estimated of the determinants of employer changes, exit from employment, extended leave-taking and weekly hours of work; while for persons initially unemployed or marginally attached to the labour force, models are estimated of the determinants of exit from the labour force and entry into employment.

Finally, we investigate the effects on earnings of work histories and personal and family characteristics, and in particular their roles in determining low-pay status. Here we estimate models of the determinants of earnings and, using decomposition analysis, identify the extent to which differences in work histories and characteristics explain the earnings differentials between low-paid women and higher-paid women, and between low-paid women and low-paid men. We furthermore investigate, also using decomposition analysis, the extent to which differences in work histories and observed characteristics contribute to the higher rate of low-paid employment among female employees compared with male employees.

The plan of the report is as follows. In the next section, we briefly review the literature on low-paid employment, gender earnings differentials and the role of work histories in determining earnings. In Section 3 we describe the data sources, sample selection and the definition of 'low-pay' employed in the report. Section 4 presents descriptive information on the relationship between low pay and method of setting pay, the personal and family characteristics of low-paid women, and the characteristics of the jobs in which low-paid women work. Estimation results from models of the determinants of work decisions and outcomes are presented in Section 5, while the roles of work histories and personal and family characteristics in determining low-pay status are examined in Section 6. Section 7 concludes.

2 Previous literature

The literature reviewed in this section focuses on findings based on Australian data, but placed in the context of the international literature. We review literature on the characteristics of typical low-paid workers, as well as studies that analyse whether low pay is a mostly transitory experience or a persistent labour market state. Particular attention is paid to the link between gender and pay, and the role that labour market institutions play in closing the gender pay gap, especially for low-paid workers. We also review studies of the role of family and caring responsibilities and their impact on part-time work and career breaks in explaining the gender pay gap and gender differentials in the experience of low pay.[3]

In a research report commissioned by the Australian Fair Pay Commission in 2006, McGuinness et al. (2007) provide detailed information on the characteristics of low-paid employees in Australia. In examining the likely coverage of the then Federal Minimum Wage, McGuinness et al. find that low-paid individuals are relatively likely to be single or lone parents, and they are likely to be less than 30 years old if they are full-time employed, and more than 60 years old if they are part-time employed. In terms of job characteristics, they tend to have low occupational tenure, often work in casual jobs, and are unlikely to be union members. McGuinness et al. (2007) further show that partnered low-paid individuals are usually secondary earners. As a result, low-paid individuals are not necessarily members of low-income households or families, as their own income may be complemented by government benefits in the case of lone parents, or with a partner's income in the case of couples.

Low pay appears to often be a transitory experience: low-paid employees appear to climb up the ladder to higher-paid jobs relatively quickly—a pattern found internationally (Richardson and Miller-Lewis, 2002) as well as in Australia. McGuinness et al. (2007) found that 60 per cent of low-paid individual employees in 2001 successfully made the transition to higher paid jobs in 2004.

Perhaps unsurprising, however, is that not all findings with respect to low-paid employment are favourable. Richardson and Miller-Lewis (2002), in their review of the international literature, find that labour market trajectories from low-paid jobs differ greatly across socioeconomic groups. They report that less educated employees, middle-aged women and lone-parent women exhibit little wage progression. Indeed, Richardson and Miller-Lewis (2002) argue that, if higher-paid employment is the ultimate goal, low-paid employment is not preferable to non-employment for these demographic groups.

This view is corroborated by a range of studies that find evidence of a so-called "low-pay no-pay" cycle. This literature builds on earlier studies that analyse the phenomenon of "unemployment scarring": the mere experience of unemployment itself has a causal and undesirable impact on one's labour market position in the future—an effect that goes above and beyond individual characteristics associated with the original experience of unemployment. (See, for example, Arulampalam et al. (2001) for an overview of three studies for the UK.) Similarly, there is evidence that low-paid employment can be a "low-pay trap" (Cappellari, 2002). Several studies look at the cross-effects of spells of low-pay and unemployment on low-pay and unemployment in the future, and find that "churning" in the labour market is common: repeat spells of unemployment go hand-in-hand with repeat experiences of low-paid, unstable jobs, resulting in a "low-pay no-pay" cycle.

[3] Beyond the scope of this literature review is the broader literature on the nexus between work at home and market work and its consequences, particularly for the female workforce.

(See Uhlendorff (2006) for evidence on Germany, and Cappellari and Jenkins (2008) and Stewart (2007) for analyses of UK data.) Thus, while low-paid employment may be a transitory experience for some groups of workers, such as apprentices and trainees, for others it may be a persistent or recurring state.

For Australia, Watson (2008) uses the Household, Income and Labour Dynamics in Australia (HILDA) Survey to analyse transitions between unemployment and employment, drawing on recall data on labour market activity for each third of every month between annual interviews. Frequent transitions between the two labour force states are interpreted as "labour market churning". He finds that such transitions are clustered among low-paid and low-skilled employees. Perkins and Scutella (2008) analyse individuals' labour force states in three consecutive years using HILDA Survey data. They find that there is a positive relationship between experiencing joblessness in one period and low-paid employment in the next, and vice versa; moreover, entering a low-paid job after being jobless increases the risk of a repeat unemployment experience in the future compared to having entered higher-paid employment. Scutella and Perkins interpret their findings as evidence of a low-pay no-pay-cycle in Australia.

Buddelmeyer et al. (2010) ask whether this effect found in the raw data stems from unobserved differences between individuals who take up low-paid employment and those who take up higher-paid employment, or whether a causal effect of experiencing low-paid employment or unemployment per se increases the risk of repeat unemployment and/or low pay. They find that the low-pay no-pay cycle is fully explained by unobserved characteristics for men, but that true state persistence exists for women. Fok et al. (2015) also investigate the existence of a low-pay no-pay cycle in Australia, controlling for unobserved heterogeneity and using 11 waves of the HILDA Survey data. In contrast to Buddelmeyer et al. (2010) they estimate a single multinomial model capable of simultaneously identifying causal effects of unemployment and low-paid employment. They find evidence of a low-pay no-pay cycle, but that there is heterogeneity in effects across demographic groups, with the young and better educated facing lower penalties from unemployment and low-paid employment. Further, for women, low-paid employment is found to lead to better future employment prospects than unemployment, regardless of their demographic characteristics. By contrast, for men who have only completed secondary schooling, low-paid employment actually decreases the chances of entering higher-paid employment by more than does unemployment. Cai (2014), also using HILDA Survey data, studies the effects of periods of low pay on the probability of moving into higher-paid jobs. He compares periods of low pay to periods of being out of the labour force rather than to periods of unemployment. He finds that, compared to being not in the labour force, having a low-paid job improves an individual's future employment prospects, both in terms of being employed at all and in terms of being in a higher-paid job.

As the findings of Fok et al. (2015) suggest, the heterogeneity of the low-pay experiences has a gender dimension. Women are more likely than men to be low-paid, and while Fok et al. (2015) find that low-paid jobs are preferable to unemployment in terms of future employment prospects for women, the fact remains that women are, overall, less likely to subsequently move to higher-paid jobs (Richardson and Miller-Lewis 2002). The current report will analyse the extent to which the incidence of low pay, as well as the reasons for being low-paid, differ for men and women in Australia.

Standard neoclassical economic theory predicts that wages reflect productivity, and thus human capital. Individuals can acquire human capital, for example, through education and work experience. In this framework, the gender pay gap primarily reflects differences in men's and

women's work experience and education, and thus productivity. Oaxaca (1973) first attempted to quantify how much of the gender pay gap can be attributed to work experience and education, finding both to be important, but not sufficient to completely explain the gap.

Gregory (1999) is one of the first studies to present evidence of the importance of labour market institutions in explaining the gender pay gap. He argues that differences in the gender pay gap across countries are not strongly related to differences in women's education and work experience across countries. In Gregory's framework, any difference in the average gender pay gap across countries can arise from two possible sources: first, the extent to which women disproportionately receive wages from the lower end of the male wage distribution; and second, the extent to which 'low-wage' men's wages are lower than higher-wage men's wages. Gregory shows that, although women in Australia, the U.S. and the U.K. occupy similar "ranks" in the male wage distribution, they are relatively better off in Australia, reflecting the greater compression of the male wage distribution in Australia. This suggests that labour market institutions that limit wage dispersion in Australia (such as the Federal Minimum Wage, the award wage system and collective bargaining) also have beneficial effects on gender pay equity.

In many studies it is found that wages of women and men at the lower end of the wage distribution are very similar to each other, while larger gaps appear among high-paid women and high-paid men. This "glass ceiling" phenomenon is found in many countries—see, for example, Albrecht et al. (2003) for an analysis of Sweden, Arulampalam et al. (2007) for a study of eleven countries in the European Union, and Kee (2006) and Barón and Cobb-Clark (2010) for two studies of Australia. Booth et al. (2003) show that women's lower likelihood of receiving high pay does not necessarily imply stalled careers. Using data from the British Household Panel Survey, they show that women are no less likely than men to receive a promotion at any given time, but women's promotions are less likely to come with a salary increase. Barón and Cobb-Clark (2010) and Kee (2006) estimate the gender pay gap in a quantile regression framework using HILDA Survey data, and both studies find that the pay gap is considerably wider for the highest-paid women compared to the highest-paid men than the gap between low-paid women and low-paid men. Kee (2006) finds the glass ceiling in Australia is largely restricted to the private sector. Barón and Cobb-Clark (2010) similarly find that the gender pay gap among high-paid employees is comparatively small in the public sector, but find that characteristics such as labour market experience and education explain less of the gap in the public sector than they do in the private sector. Nonetheless, the finding of both studies that the gender pay gap is relatively small in the public sector, particularly for low-paid employees, is further indication that more centralised wage determination can have a beneficial impact on pay equity.[4]

The importance of labour market institutions for pay equity, particularly among low-paid workers, is also corroborated by Eastough and Miller (2004), who find the gender pay gap to be much larger among self-employed individuals than among employees. Jefferson and Preston (2007) provide further evidence of the effects of institutions, studying the case of Western Australia, where policies to support more individualised wage setting were introduced in 1993 and then largely revoked in 2001. This was followed by the nationwide introduction of Work Choices in 2006, which again gave

[4] Barón and Cobb-Clark (2010), in common with several other studies, also find that occupational segregation does not explain the gender pay gap in Australia, and in fact the pay gap would be even larger if it were not for the differential distribution of men's and women's occupational choices. However, Coelli (2014) shows that this result is true only for broad occupation categories, and does not hold when more disaggregated occupation categories are considered. That is, differences in men's and women's occupations *within* the broad group of "Professionals", "Labourers" and so on make a sizable contribution to the gender pay gap.

greater scope for individual bargaining at the expense of collective bargaining. When comparing the development of women's wages in Western Australia to both men's wages in Western Australia and women's wages elsewhere in Australia, they conclude that tighter labour market regulations decrease the average gender pay gap, primarily by improving the situation of low-paid women.

Pointon et al. (2012) use HILDA Survey data and Australian Bureau of Statistics (ABS) data to examine women's and men's wage-setting mechanisms and their implications for pay equity. They find that women are more likely than men to be covered by an award, and if they are, they tend to earn more on average, as they are more likely to be employed in higher skill level classifications. Among employees who are not covered by an award, on the other hand, women earn less than men. Whitehouse and Frino (2003) find, using ABS data from 2000 and 2002, that not only are women more likely than men to be covered by an award wage, but they also receive less advantageous conditions if they are covered by individual or collective agreements. The latter finding would seem to be at odds with the nature of collective agreements. However, Whitehouse and Frino show that this finding derives from differences in the collective agreements applying to men and women. Specifically, they find that collective agreements covering predominately female employees had lower defined pay, lower defined pay increases per annum, a higher probability that Saturdays and Sundays are defined as ordinary working days, and a higher probability that time-off in lieu is granted at the ordinary time rate rather than a penalty time rate. These results highlight that regulations and collective bargaining, while beneficial, may not be sufficient to close the gender pay gap. The current report will add to the existing literature in analysing the extent to which wage-setting mechanisms contribute to the gender differential in the incidence of experiencing periods of low pay.

In addition to labour market institutions, personal characteristics and caring responsibilities can also play a significant role in the gender pay gap. Austen (2003) uses the ABS Survey of Employment and Unemployment Patterns from 1995 and 1997 to estimate a simple probit model of the probability of being low paid. She finds that education and age are a powerful protection for men against being low paid, but this is less the case for women. Moreover, family responsibilities do not increase men's risk of receiving low pay, but for women appear to be a crucial risk factor for low pay.

These findings suggest that career decisions due to family responsibilities contribute to women's higher incidence of low pay and lower upward mobility in wages. Common responses to family responsibilities are a reduction in working hours, or career breaks in the form of employment interruptions or extended leave. Notably, however, there is no evidence that part-time work in and of itself comes at the cost of increased likelihood of being low paid in Australia. Rodgers (2004) uses HILDA Survey data to examine hourly wages while accounting for selection into part-time and full-time work. She finds that part-time workers earn lower wages per hour than full-time workers, but this is fully explained by their observed and unobserved characteristics, and not by part-time work per se. Booth and Wood (2008) extend Rodgers' analysis using panel estimation techniques, and even find evidence of a small part-time premium in hourly wages. Preston and Yu (2015) use the Australia at Work Survey to examine the impact of part-time work on hourly wages. They find a small premium of part-time casual work, and no premium or penalty for part-time work versus full-time work in general within a given industry and occupation. Across all industries and occupations, however, part-time wages fall significantly behind full-time wages. They argue that this is in fact to be interpreted as a part-time penalty, because the Australian labour market is highly segmented with respect to part-time work opportunities, and seeking out part-time work thus tends to require selection into typically low-paying industries and occupations. These studies do not estimate the

effect of part-time work on employment outcomes in the longer term, for example via effects on promotions and other avenues of career progression.

Career breaks and leave taking are likely to play a role in explaining differences in pay by gender. Nguyen and Connelly (2014) examine the effect of caregiving on employment. They control for the possibility that unobserved characteristics might cause those who are less likely to participate in the labour market to be more inclined to take on the role of someone's main carer. After controlling for such selection into providing care, there is still a large and negative causal effect of caregiving on employment. To the extent that women might be more likely to provide care than men, and that breaks in one's employment history might contribute to experiences of low pay, caregiving may thus play a role in explaining the gender pay gap. Waldfogel (1997) was one of the first to analyse a motherhood penalty on women's wages in the U.S., and Anderson et al. (2002) show that such penalties are predominantly borne by relatively high-paid women. Using German data, Gorlich and de Grip (2009) show that wage penalties following family-related career breaks differ across occupations, and are lower in predominantly female occupations. This could partly explain occupational sex segregation, since women may self-select into jobs with lower motherhood penalties. Carney and Junor (2003) develop five 'types' of occupations that are dominated by different norms regarding workplace characteristics that impact on career security and care security, such as actual and contractual work hours, flexibility of hours and ease of transition from part-time hours to full-time hours and vice versa. They find that mothers disproportionally select into occupations with norms that allow for higher degrees of career security and care security.

Livermore et al. (2011) present evidence on the motherhood penalty in Australia. They use HILDA Survey data to estimate the effect of motherhood on wages following return to work after the birth, and on subsequent wage growth. Applying cross-sectional as well as panel estimation methods, they find that immediate effects on wages are low, possibly because women taking maternity leave have (limited) rights to return to the job held prior to giving birth. However, wage growth over the following years is considerably reduced. Livermore et al. do not analyse potential heterogeneity of effects across the wage distribution, nor potential heterogeneity in women's risk of being low-paid instead of high-paid. Cooke (2014) uses the Luxembourg Income Study to compare the effects of parenthood on wages in Australia, UK and the U.S. She finds that parenthood exacerbates economic disadvantage as well as economic advantage, both in terms of gender as well as one's position in the wage distribution: there is a motherhood penalty and a fatherhood premium, and low-paid workers' wages further decrease with parenthood while high-paid (male) workers' earnings tend to increase instead. These effects are present in Australia as well as in the UK and U.S., but the lower wage dispersion in Australia appears to dampen the effect.

In addition to providing an updated description of the characteristics of low-paid employees in Australia based on new data to McGuinness et al. (2007), this report adds to the existing literature by analysing low-paid women's transitions into and out of work, and the extent to which they can explain both the pay gap between low-paid women and higher-paid women and why women are more likely than men to be low-paid. The analysis is premised on the greater propensity for women to experience career breaks and periods of extended leave, potentially resulting in a labour market history that may contribute to gender differences in the incidence of, and reasons for, experiencing periods of low pay. The report provides new evidence on the extent to which low-paid women experience career breaks and periods of extended leave that are different from other groups' experiences in the labour market, and it provides new evidence on the extent to which low-paid women's labour market history explains the pay gap between low-paid women and higher-paid women, and why women are more likely than men to be low paid.

3 Sample and definitions

The primary data source for this report is the HILDA Survey, although for some parts this is supplemented with analysis of the Australian Workplace Relations Study (AWRS), conducted in 2014 by the Fair Work Commission.

The HILDA Survey is a nationally representative longitudinal household survey that commenced in 2001. The survey is conducted annually by face-to-face interview with every household member aged 15 years and over, supplemented by a self-completion questionnaire, also administered to all household members aged 15 years and over (Summerfield et al., 2014). As of the date of this report, unit record data has been released for the first 13 waves, conducted over the 2001 to 2013 period. For the first wave, interviews were obtained with 13 969 individuals living in 7682 households. A general sample 'top-up' of 4009 individuals in 2153 households was added in 2011. Annual re-interview rates (the proportion of respondents from one wave who are successfully interviewed the next) are high, rising from 87 per cent in Wave 2 to over 95.5 per cent from Wave 5 onwards.[5] The topics covered include labour market and education activity, retirement intentions and behaviour, income, expenditure, health and disability, subjective wellbeing, and personal relationships.

For this report, we use data from Waves 4 to 13 of the HILDA Survey, which were conducted from 2004 to 2013.[6] The report's main focus is on the sub-population of individuals who are of working age (15 to 64 years) and who are employees. Within this group, we compare women and men who are low-paid and those who are not. After exclusions due to missing data, our analysis sample comprises 74 996 person-year-observations for 16 216 individuals. However, for some of the analysis we also examine persons in the 15–64 age range who are unemployed (not employed, actively searching for work, and available to start within 4 weeks) or marginally attached to the labour force (not employed, wanting to work and either not actively searching but available to start work within 4 weeks, or actively searching but not available to start within 4 weeks). The sample for this analysis comprises 12 375 person-year-observations for 6524 individuals.

The AWRS is a cross-sectional survey of 3057 government and non-government enterprises with 5 or more employees in the national workplace relations system.[7] The survey collected information from each enterprise on employee relations, workforce profile, and structure, operations and finances of the enterprise. While all employees of enterprises with 21 or fewer employees were invited to participate (i.e., the study coordinator and up to 20 employees) in the AWRS, a random selection of 20 employees from enterprises with more than 21 employees were administered a questionnaire collecting demographic and employment-related information. In the analysis in this report, we exclude employees whose main job was with a different enterprise to the surveyed enterprise. After further exclusions due to missing data, our AWRS analysis sample comprises 4881 observations.

[5] In all descriptive analysis using the HILDA Survey data, we use the cross-sectional population weights supplied with the unit record data. These weights are designed to adjust for (non-random) non-response and ensure representativeness of the Australian population. See Summerfield et al. (2014) for details. Likewise, all analysis of the AWRS data uses the cross-sectional weights supplied with the unit record data.

[6] Waves 1 to 3 are excluded from our analysis primarily because information on leave-taking—an important focus of this report—was not collected in those waves.

[7] The national workplace relations system includes most Australian employees with the exception of many state government employees, law enforcement or police officers, and employees of non-constitutional corporations in Western Australia.

3.1 Defining 'low pay'

Identification of workers who are low paid first requires specification of the criteria for determining low-pay status. Low pay can be conceived in terms of the wage (the rate of pay per hour of work) or the worker's income from earnings over a longer timeframe, such as a week, a month, or even a year. One also needs to decide whether to examine earnings in all jobs, or simply earnings in the main job of the worker. But, most importantly, one needs to determine the earnings threshold below which a worker is regarded as low paid.

There is no universally accepted definition of low pay, although studies of low-paid employment have most commonly used low-pay thresholds either based on some fraction of median (hourly) earnings (for example, Stewart and Swaffield, 1999; Uhlendorff, 2006), or as some function of the legislated minimum wage (for example, Smith and Vavricheck, 1992 and Fok et al., 2015). In this report, we take the former (more common) approach, and define an employee to be low paid if the hourly wage in the main job is no more than two-thirds of the median hourly wage of all employees.

The median hourly wage rate is calculated from the HILDA Survey sample for the HILDA Survey analysis and from the AWRS sample for the AWRS analysis. Hourly wages are constructed from reported usual weekly earnings and usual weekly working hours in the main job. For this purpose (and for determining low-pay status), weekly working hours are top-coded at 50 hours per week, meaning that individuals reporting usual hours in excess of 50 are deemed to work 50 hours per week. While the analysis of low-paid employees examines persons aged 15–64, only employees aged 21–64 are used to calculate the median wage in order to exclude employees receiving junior rates of pay. The self-employed, employers and unpaid family workers are also excluded.[8]

Table 1 presents the resulting low-pay thresholds for each wave of the HILDA Survey from 2004 to 2013 and for the AWRS in 2014. An individual in 2004 is considered to be low paid if she earns no more than $13.22 per hour in her main job; in 2013, low-paid employees are those who earn no more than $19.11 per hour in their main job. By comparison, the *Manufacturing and Associated Industries and Occupations Award 2010* for workers in jobs of category C10, which has in the past been used as a benchmark for low pay,[9] was $17.46 in 2010. In the same year, the low-pay threshold derived from the HILDA Survey data is $17.48. In our HILDA Survey sample of 74 996 observations of employees aged 15–64, low pay is observed 14 053 times, corresponding to 18.7 per cent of all observations. The low-pay threshold obtained from the AWRS data for 2014 is $22.22 per hour. Even allowing for wage growth, the AWRS low-pay threshold is thus somewhat higher than the HILDA Survey threshold.[10]

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[8] Earnings of casual employees are sometimes 'deflated' in analyses of earnings in Australia to account for the casual loading typically paid to casual employees, on the basis that the loading is primarily in lieu of paid leave entitlements. While this is in principle reasonable, it is not entirely clear how much earnings should be deflated given differences in loadings across awards over the period analysed; nor is it clear that the loading simply reflects compensation for leave entitlements accruing to other employees. We therefore do not attempt to deflate earnings of casual employees.

[9] For example, the Minimum Wages Panel in the Annual Wage Review 2012–13 Decision stated "[t]he Panel … in considering the needs of the low paid … has paid particular regard to those receiving less than two-thirds of median adult ordinary-time earnings and to those paid at or below the C10 rate in the Manufacturing Award".

[10] AWRS records the most recent pay as well as the number of standard hours plus overtime hours the employee was paid for in the most recent pay period. Usual weekly working hours and payment periods (weekly, fortnightly, monthly, etc.) are also collected. Where possible, hourly wages are derived by dividing the most recent pay by the number of hours (standard plus overtime) the employee was paid for. However, in 307 cases, the most recent pay was reported to exceed $10 000 per week (or $20 000 per fortnight, or $43 000 per month). In these cases, we assume that in fact an annual salary has been reported. The hourly wage is then derived by dividing the annual salary by 52 times the usual weekly working hours in the job.

Table 1: Low-pay thresholds, 2004–2014

Year	Hourly wage ($)
HILDA Survey	
2004	13.22
2005	13.77
2006	14.49
2007	15.28
2008	16.00
2009	16.67
2010	17.48
2011	17.93
2012	18.58
2013	19.11
AWRS	
2014	22.22

Source: Authors' calculations using Waves 4–13 of the HILDA Survey and the 2014 AWRS.

4 Descriptive statistics

In this section we present descriptive statistics on the link between method of setting pay and low-pay status, and then compare the family characteristics, personal characteristics, employment characteristics and intrinsic job characteristics of low-paid and higher-paid men and women. Family characteristics as well as personal characteristics are reported to shed light on the context in which low-paid women decide on their workforce participation, and the constraints they may face when doing so, such as, for example, caring responsibilities or poor health. Employment characteristics and intrinsic job characteristics provide a more comprehensive picture of the work situation of low-paid women than is possible by looking at their hourly rate of payment alone.

4.1 Low pay and method of setting pay

In each wave since 2008, the HILDA Survey has collected information on whether an individual is paid according to a collective enterprise agreement, an individual agreement, a combination of both, or paid exactly the award rate.[11] Pooling this information for all six waves from 2008 to 2013, Table 2 shows the distribution of method of setting pay among employees aged 15–64 (upper panel), and the prevalence of low pay by method of setting pay (lower panel).

According to the HILDA Survey data, collective agreements are more common for women than men, applying to 41 per cent of female employees aged 15–64 (excluding combined collective-individual agreements), compared with 36 per cent of male employees in this age range. Women are also considerably more likely than men to be 'award reliant'—that is, paid exactly the award rate—with 24 per cent in this category, compared with less than 18 per cent of male employees. The lower rates of reliance on collective agreements and awards among male employees translates to greater prevalence of individual agreements, which apply to 41 per cent of male employees and only 30 per cent of female employees (excluding combined collective-individual agreements). Other methods of setting pay play a very minor role for employees and are reported very infrequently.

[11] A known flaw in the available information in the HILDA Survey is that public sector employees, who are in fact usually covered by a collective agreement, often wrongly report being paid exactly the award rate (Wilkins and Wooden, 2011). We therefore recode public sector employees reporting being paid exactly the award rate to the collective agreement category. It is not clear whether individuals reporting that their pay is determined by a combination of individual and collective agreements should be classified as having pay set according to an individual agreement or a collective agreement. It may be that such individuals are covered by a collective agreement, but have negotiated a higher level of pay than specified in the collective agreement. However, given uncertainty about the meaning of this response option, we treat it as a separate method of setting pay in the analysis reported in this section.

Table 2: Method of setting pay and low-pay status, HILDA Survey, employees aged 15–64

	Men	Women	Total
Method of setting pay			
Collective (enterprise) agreement	35.8	41.3	38.4
Individual agreement or contract	40.6	30.3	35.7
Combination of individual/collective agreement	5.5	4.3	5.0
Paid exactly the award rate	17.6	23.9	20.6
Other	0.4	0.2	0.3
Total	100.0	100.0	100.0
Proportion low-paid			
Collective (enterprise) agreement	8.9	11.2	10.1
Individual agreement or contract	11.5	17.1	13.8
Combination of individual/collective agreement	10.0	14.8	12.0
Paid exactly the award rate	41.7	42.0	41.8
Overall	16.0	20.6	18.2
Number of observations	24 173	22 332	46 505

Source: Authors' calculations using Waves 8–13 of the HILDA Survey.

The lower panel of Table 3 shows that, for all methods of setting pay, women are somewhat more likely than men to be low paid. Notable, however, is that the difference is smallest among those paid exactly the award rate, with 42.0 per cent of women and 41.7 per cent of men in this category classified as low paid. Employees covered by any other method of setting pay are substantially less likely to be low paid, suggesting that award rates are indeed a binding restriction for employers' and employees' pay negotiations: if employers and employees negotiate any pay rate other than the award rate, it will usually (and typically necessarily) be higher.

Of itself, the higher rate of award reliance among women implies a higher prevalence of low pay. However, not being paid the award rate opens up room for an even larger gender gap in the incidence of low-pay status. Women covered by collective or individual agreements are much less likely to be low paid than women covered by an award rate, but they are more likely to be low paid than men who are covered by a collective or individual agreement. The effect is particularly strong for individual agreements.

Table 3 presents estimates from the AWRS data of the distribution of method of setting pay and prevalence of low pay by method of setting pay.[12] As with the HILDA Survey, the information on method of setting pay collected by AWRS is based on employee reports, but with somewhat different response options: i) individual negotiations, ii) a collective enterprise agreement, iii) the award rates or iv) the employer offered a wage above the award rate and the employee accepted.

Nonetheless, as with the HILDA Survey data, the AWRS data indicate that women are less likely to be paid according to individual agreements than are men, with individual agreements covering 35 per cent of female employees and 41 per cent of male employees. Individual negotiations are recorded somewhat more frequently in AWRS than individual agreements or contracts are in the HILDA Survey, but the difference is not large. The prevalence of award reliance matches up closely

[12] In Appendix B we present a brief comparison of the demographic characteristics of the HILDA Survey and AWRS employee samples. It shows that the composition of the two samples is broadly similar in terms of age, educational attainment, past employment experience and family situation.

in the two data sets, and in both cases women are considerably more likely to report being award reliant.[13]

Table 3: Method of setting pay and low-pay status, AWRS, employees aged 15–64

	Men	Women	Total
Method of setting pay (%)			
Individual negotiation	49.1	34.5	40.8
Collective (enterprise) agreement	14.7	14.9	14.8
Paid exactly the award rate	16.2	29.6	23.8
Employer offered a wage more than the award/standard rate, and employee accepted	20.0	21.1	20.6
Total	100.0	100.0	100.0
Proportion low-paid (%)			
Individual negotiation	6.7	7.4	7.1
Collective (enterprise) agreement	10.3	13.2	12.0
Paid exactly the award rate	25.7	34.1	31.6
Employer offered a wage more than the award/standard rate, and employee accepted	10.9	11.6	11.3
Overall	11.1	16.8	14.3
Number of observations	1926	2584	4510

Source: Authors' calculations using AWRS.

Collective agreements are less-frequently reported in AWRS than in HILDA, this method of setting pay applying to only 15 per cent of both male and female employees in AWRS. However, it is plausible to assume that in many cases where the employer offers a wage that exceeds the award rate and the employee accepts, the pay will often in fact result from a collective enterprise agreement. The frequency of both categories in AWRS combined matches up closely with the frequency of collective enterprise agreements in HILDA. Overall, the results for different methods of setting pay in both data sets are reasonably similar, reassuring us of the reliability of the information.

The overall incidence of low pay is similar in both data sets, although somewhat fewer employees in AWRS report hourly wages below the low-pay threshold than they do in the HILDA Survey—15 per cent in AWRS versus 19 per cent in the HILDA Survey. This may in part reflect the exclusion from AWRS of establishments with fewer than five employees. In both data sets, women are more likely to be low paid than men, and the likelihood of being low-paid is highest for employees who are paid the award rate. Both data sets show award-reliant employees are more likely to be low-paid than other employees, but the HILDA Survey shows greater prevalence of low pay than AWRS—more than 40 per cent for both men and women, compared with 26 per cent for men and 34 per cent for women in AWRS. One difference between the data sets is found for individual versus collective agreements: while the HILDA Survey shows employees who negotiate with their employer individually are more likely to be low paid than employees covered by a collective agreement, the opposite is found for the AWRS data.

[13] It is unclear to what extent public sector employees in AWRS incorrectly report being award-reliant, as is sometimes the case in the HILDA Survey. The higher rates of reported award-reliance in AWRS compared to the re-classified HILDA Survey data, particularly among female employees (who are over-represented in the public sector), suggests this issue might exist in the data. It was, however, not possible to reclassify public sector workers to be covered by a collective agreement because the information on sector in the AWRS data file available at the time of analysis does not distinguish between non-profit private sector entities and public sector entities.

The probability of being low paid is strongly correlated not only with institutional factors such as method of setting pay, but also with personal factors, most notably age. Table 4 shows the age distribution of employees in the HILDA Survey sample separately for men and women. The overall age distribution is very similar for both genders: around one-third of all employees are up to 30 years of age, one-third are between 30 and 44 years of age, and one-third is 45 years or older.

Table 4: Age group and low-pay status, HILDA Survey, employees aged 15–64

	Men	Women	Total
Proportion in each age group (%)			
20 years or younger	10.9	11.9	11.4
21 to 24 years	9.5	9.6	9.6
25 to 29 years	13.0	11.9	12.5
30 to 34 years	12.2	10.7	11.5
35 to 44 years	23.1	22.5	22.8
45 to 54 years	20.1	22.3	21.1
55 to 64 years	11.2	11.1	11.2
Total	100.0	100.0	100.0
Proportion low-paid (%)			
20 years or younger	68.0	70.0	69.0
21 to 24 years	24.5	26.1	25.2
25 to 29 years	11.9	13.6	12.7
30 to 34 years	8.2	12.7	10.2
35 to 44 years	7.3	12.7	9.9
45 to 54 years	7.3	13.1	10.3
55 to 64 years	9.0	14.6	11.7
Overall	16.4	21.2	18.8
Number of observations	38 556	35 919	74 475

Source: Authors' calculations using Waves 8–13 of the HILDA Survey.

The incidence of low pay among employees aged 15–20 is vastly different from that for other age groups: approximately 70 per cent of all employees aged 15–20 are low-paid. Among employees aged 21–24 years, the probability of being low paid is approximately 25 per cent, and in all older age groups it is less than 15 per cent. The pattern is very similar for men and women, and strongly suggests that being low-paid is in many cases a transitory experience confined to the beginning of one's career. Nonetheless, for a substantial minority, being low-paid may be more persistent; this is particularly the case for women, who have higher rates of low pay than men across all age groups, but particularly in the 25 and over age range. Significantly, for all ages beyond 25 years, women's probability of being low paid remains quite stable, at around 13 per cent, whereas, for men, the probability of low pay continues to decrease with age up to the 45–54 age group. As a result, in the 45–54 age group, female employees are 80 per cent more likely to be low-paid than male employees. The gender gap in the incidence of low pay is lower in the 55–64 age group, but is still in excess of 60 per cent.

The patterns evident in the HILDA Survey data are confirmed by the AWRS data, shown in Table 5. Young employees aged below 21 make up a substantially smaller portion of all employees in the AWRS data than they do in the HILDA Survey, but otherwise the age distribution in both data sets is similar. As found for the HILDA Survey data, we find that approximately two-thirds of employees aged 15–20 are low paid. The probability of low pay is substantially lower among employees aged 21–24, of whom approximately one-third are low paid. Older age groups are further less likely to be low paid. While the incidence of low pay is similar for male and female employees aged 15–24, a gender gap begins to appear from age 25, and continues to increase with age, as men's incidence

of low-pay drops faster than women's. In the next sections, we will compare the family and personal characteristics of low-paid women with the characteristics of other groups of employees, and explore the extent to which this widening gender gap of low-pay across age groups is related to the family context and other personal constraints that may affect low-paid women's workforce participation.

Table 5: Age group and low-pay status, AWRS, employees aged 15–64

	Men	Women	Total
Proportion in each age group (%)			
20 years or younger	2.7	3.7	3.2
21 to 24 years	7.4	9.0	8.3
25 to 29 years	12.4	13.5	13.0
30 to 34 years	14.7	12.5	13.5
35 to 44 years	24.6	22.0	23.1
45 to 54 years	20.7	23.9	22.5
55 years or older	17.5	15.4	16.3
Total	100.0	100.0	100.0
Proportion low-paid (%)			
20 years or younger	65.7	66.8	66.4
21 to 24 years	32.8	35.2	34.3
25 to 29 years	13.2	17.5	15.8
30 to 34 years	8.4	11.6	10.1
35 to 44 years	5.1	12.6	9.2
45 to 54 years	8.0	13.7	11.4
55 years or older	11.6	15.3	13.6
Overall	11.9	17.6	15.2
Number of observations	2061	2820	4881

Source: Authors' calculations using AWRS.

Key points

- Men are more likely than women to be covered by individual agreements.
- Women are more likely than men to be covered by collective agreements or to be paid the award rate.
- If men or women are paid the award rate, they are equally likely to be low paid.
- If employees are covered by any method of setting pay other than the award rate, women are more likely to be low paid. This is particularly pronounced for individual agreements.
- More than two-thirds of employees aged 15–20 are low paid, and low pay is also relatively common among employees aged 21–25. There is no notable gender difference in the probability of being low-paid for young employees.
- The probability of low pay decreases with age, suggesting that in many cases it is a transitory experience; nonetheless, a substantial subset of older employees is low paid.
- At around age 25 to 30, a gender gap in low pay appears and continues to increase with age, as women's probability of low pay remains unchanged across age groups while men's probability of low pay decreases.

4.2 Low-pay status and household characteristics

Table 6 compares the family circumstances of low-paid and higher-paid men and women. It shows appreciable differences by low-pay status in the probabilities of having a partner, living in a

household with children, using child care and living in a household with an individual with a disability or long-term health impairment. Differences along gender lines are evident for partner earnings and the age structure of children in the household.

Low-paid employees are substantially less likely to have a partner than higher-paid employees, and consequently, they are also substantially less likely to live in a household with children. This difference between low-paid and higher-paid employees is more pronounced for men than it is for women, who are more likely than their male counterparts to have a partner or to be single parents. Nonetheless, in comparison with higher-paid women, low-paid women are much more likely to be single without children, about equally likely to be a single mother, and much less likely to be partnered (with or without children).

Consistent with low-paid employees being less likely to live with children, they are also less likely to live in households where child care was used or its utilisation was considered in the last twelve months. However, given that a household used or considered using child care, the evidence in Table 6 suggests similar levels of difficulties with child care across all four groups. In each wave of the HILDA Survey, parents who had used or thought about using child care in the last 12 months are asked to rate on a scale of 0 to 10 how much difficulty they have had with each of 12 different aspects of obtaining child care, such as 'finding the right person to care for your child' and 'the cost of child care'.[14] The average of their responses across all 12 items for those who utilised or considered utilising child care yields the index reported in Table 6. The degree of difficulties a household experiences appears to be similar across all groups, in all cases averaging approximately 3 out of 10 across the 12 items that measure difficulty with finding child care. This suggests that differences in problems with child care are not a major factor in explaining women's low-pay experiences.

Low-paid men and women are, however, substantially more likely than higher-paid men and women to have a person with a disability living in their household, indicating that care responsibilities may be partly responsible for their low-pay status.

When comparing partnered men and partnered women, we find that for low-paid as well as higher-paid employees, women report higher partner earnings than men.[15] Compared with male employees, female employees are less likely to live in a household where the youngest child is aged less than 5, which is consistent with women returning to work as the children become older. While higher-paid women are less likely than higher-paid men to live in a household with dependent children, low-paid women are more likely than low-paid men to live with children. That is, we find a negative correlation between income and employment on the one hand and presence of children on the other hand for women; for men, the same link is positive.

[14] The 12 aspects of child care comprise: (1) Finding good quality care; (2) Finding the right person to take care of your child; (3) Getting care for the hours you need; (4) Finding care for a sick child; (5) Finding care during school holidays; (6) The cost of child care; (7) Juggling multiple child care arrangements; (8) Finding care for a difficult or special needs child; (9) Finding a place at the child care centre of your choice; (10) Finding a child care centre in the right location; (11) Finding care your children are happy with; and (12) Finding care at short notice. In rating the degree of difficulty with each aspect, respondents are advised that 0 corresponds to 'not a problem at all' and 10 corresponds to 'very much a problem'.

[15] Partner earnings are reported only for individuals who are partnered.

Table 6: Family characteristics by low-pay status and gender, HILDA Survey, employees aged 15–64

	Men		Women		Total
	Higher-paid	Low-paid	Higher-paid	Low-paid	
Family Structure					
Single without dependent children	33.6	74.2	30.4	59.3	38.5
Partnered without dependent children	33.7	14.4	37.9	21.7	32.4
Single, youngest dependent child aged 0–4	0.0	0.2	1.2	1.4	0.6
Single, youngest dependent child aged 5–24	0.6	0.6	4.2	3.3	2.2
Partnered, youngest dependent child aged 0–4	16.1	5.9	10.2	5.1	11.8
Partnered, youngest dependent child aged 5–24	16.0	4.8	16.1	9.2	14.4
Total	100.0	100.0	100.0	100.0	100.0
Partner's weekly earnings in all jobs (mean, December 2012 prices)	578.72	414.57	1099.44	928.43	799.18
Had used or thought about using child care (%) [a)]	16.8	8.9	19.4	13.5	16.8
Problems finding child care (mean, 0–10 scale) [b)]	3.06	3.02	2.93	3.09	3.00
Household contains a person with a disability (%)	21.8	28.6	23.0	27.8	23.5

Notes: [a)] Information on child care utilisation and difficulty finding child care are applicable to and reported for individuals who live in households with children aged less than 15. The mean of partner's weekly earnings is evaluated over partnered individuals only. [b)] Several items were combined to create an index of `difficulty finding child care'; for more detailed information refer to the body text of this report.

Source: Authors' calculations using Waves 4–13 of the HILDA Survey.

AWRS obtains information on some family characteristics that are not directly identified in the HILDA Survey. AWRS respondents report whether they are sole, main or secondary income earners in their family, and whether their caring responsibilities are best described as being the sole carer, primary carer, shared carer or secondary carer. The results, presented in Table 7 support the finding from the HILDA Survey that women are much more likely to be the sole or primary carer of children and men are much more likely to be the sole or main income earner. This gender divide is even more pronounced among low-paid employees than among higher-paid employees. Female low-paid employees are much more likely than any of the other employee groups distinguished in Table 7 to be the sole carer, while male low-paid employees are much more likely than other employees to be the sole earner.

Table 7: Family characteristics by low-pay status and gender, AWRS, employees aged 15–64

	Men		Women		Total
	Higher-paid	Low-paid	Higher-paid	Low-paid	
Contribution to Family Income					
Sole income earner	33.5	40.2	30.3	32.3	32.2
Main income earner	55.0	27.2	19.3	9.4	32.7
Secondary income earner	11.5	32.6	50.4	58.4	35.1
Total	100.0	100.0	100.0	100.0	100.0
Caring Responsibility of Dependent Children					
Sole carer (i.e. single parent)	1.2	2.8	9.0	21.5	6.4
Primary carer	10.9	18.5	44.2	36.3	28.4
Shared	72.4	73.2	44.8	41.2	57.4
Secondary carer	15.5	5.5	1.9	1.1	7.9
Total	100.0	100.0	100.0	100.0	100.0

Note: Information on caring responsibilities is applicable to and reported for employees with dependent children only.

Source: Authors' calculations using AWRS.

Key points

- Low-paid women, as well as low-paid men, are much less likely than higher-paid employees to have a partner and to live in a household with children.
- Low-paid women and men are more likely to live with a person with a disability.
- If children below age 15 are present in the household, low-paid men and women are less likely to have considered using child care than higher-paid employees. If they do use child care or consider doing so, low-paid employees reported similar levels of difficulty finding suitable child care as higher-paid employees.
- Female employees report higher partner earnings than do male employees.
- Female employees are more likely to live with older dependent children than younger children; this is not the case for men. This finding is consistent with women returning to work as their children become older.
- Among all low-paid employees, women are more likely to live with children than men; among all higher-paid employees, the opposite is true. This suggests a negative link between employment/income and children for women, and a positive link for men.

4.3 Low-pay status and personal characteristics

Personal characteristics of low-paid and higher-paid employees are presented in Table 8. As discussed in Section 4.1, low-paid employees have a considerably younger age profile than higher-paid employees. Low-paid women are on average six years younger than higher-paid women, and low-paid men are on average nine years younger than higher-paid men. Indeed, compared with higher-paid women, low-paid women are more than three times as likely to be less than 25 years of age; for men, this ratio is even higher, at four. Nearly 70 per cent of low-paid male employees and nearly 60 per cent of low-paid female employees are younger than 35. As noted in Section 4.1, this is consistent with low pay being a transitionary experience for most low-paid employees. For relatively few people, low pay will be an entrenched experience that contributes to long-term social exclusion. That said, being older and still low-paid is a reality for a substantial subset of employees, and there is a clear gender gap in the experience of low pay in older age groups.

Unsurprisingly, low-paid men and women have lower levels of educational attainment than their higher-paid counterparts. Female employees generally have higher qualifications than male employees, but this gender gap in education in women's favour is less pronounced for the low-paid group. Nonetheless, about 9 per cent of low-paid men and low-paid women have bachelor degrees or higher qualifications, and around 19 per cent of low-paid men and 22 per cent of low-paid women have obtained at least a Certificate III/IV or Advanced Diploma. Although the majority of low-paid employees have low levels of educational attainment, being highly educated and low-paid is not uncommon.

Table 8: Personal characteristics by low-pay status and gender, HILDA Survey, employees aged 15–64

	Men		Women		Total
	Higher-paid	Low-paid	Higher-paid	Low-paid	
Age (mean, years)	38.9	27.6	39.3	30.1	37.2
Age group (%)					
20 years or younger	4.2	44.9	4.5	39.3	11.4
21 to 24 years	8.6	14.2	9.0	11.8	9.6
25 to 29 years	13.8	9.5	13.1	7.6	12.5
30 to 34 years	13.4	6.1	11.8	6.4	11.5
35 to 44 years	25.6	10.3	24.9	13.5	22.8
45 to 54 years	22.3	9.0	24.6	13.7	21.2
55 years or older	12.1	6.1	12.1	7.7	11.1
Total	100.0	100.0	100.0	100.0	100.0
Highest educational attainment (%)					
Graduate or Postgraduate Diploma or Certificate	12.3	2.5	13.8	2.6	11.0
Bachelor degree	16.7	6.2	22.7	6.8	17.1
Diploma or Advanced Diploma	9.0	4.8	11.1	6.8	9.2
Certificate III or IV	28.1	14.6	15.7	15.3	20.9
Year 12	16.4	27.9	17.2	27.2	18.8
Year 11 and below	17.5	44.0	19.5	41.4	22.9
Total	100.0	100.0	100.0	100.0	100.0
Country of birth (%)					
Australia	73.8	81.5	74.7	80.8	75.5
Main English Speaking Country	10.4	4.6	9.4	4.8	9.0
Other country	15.8	13.9	15.9	14.4	15.5
Total	100.0	100.0	100.0	100.0	100.0
SF-36 general health (mean, 0–100 scale)	72.1	72.5	72.4	70.1	72.0
SF-36 mental health (mean, 0–100 scale)	76.6	75.5	74.5	72.0	75.2
Disability (%)	14.1	15.7	15.3	17.3	15.0
Employment history since leaving full-time education					
Total years of employment (%)					
Up to 5 years	12.6	51.6	14.3	41.3	18.5
5 to 10 years	14.4	12.8	15.9	14.0	14.8
10 to 20 years	24.3	13.3	28.8	20.0	24.9
20 to 30 years	23.8	10.3	25.3	13.6	22.6
More than 30 years	24.8	12.0	15.8	11.1	19.2
Total	100.0	100.0	100.0	100.0	100.0
Total years employed (mean)	20.3	11.2	17.9	12.3	18.0
Any time unemployed (%)	41.0	49.2	36.1	46.1	40.1
Total years unemployed, if any (mean)	1.3	2.0	1.2	1.4	1.3
Any time out of labour force (%)	41.6	46.8	71.8	65.8	55.9
Total years out of labour force, if any (mean)	2.1	1.6	5.2	5.6	4.0
Employment in past three waves					
Full-time equivalent employment (mean)	2.7	1.9	2.1	1.6	2.3
Out of the labour force in any wave (%)	3.6	14.5	10.2	18.6	8.2
Tenure with current employer (mean, years)	6.9	3.5	6.5	3.2	6.1
Tenure in current occupation (mean, years)	9.5	4.4	8.6	4.4	8.2
Preferred weekly working hours (mean)	41.6	33.1	32.5	26.5	35.9

Source: Authors' calculations using Waves 4–13 of the HILDA Survey.

Low-paid employees, whether they are men or women, are less likely to have migrated from one of the main English-speaking countries (United Kingdom, United States, Canada, Ireland, New Zealand and South Africa), and are more likely to have migrated from elsewhere or to have been

born in Australia. Given the younger age profile of low-paid employees compared to other employees, one would expect low-paid employees to be in better health. However, the opposite appears true: low-paid employees' self-reported general health and mental health, as measured by the SF-36 general health and mental measures (Ware et al., 2000), are somewhat worse than that of higher-paid employees, and they are somewhat more likely to report having a disability. These small differences in health suggest that low-paid employees' health situation, taking into account their younger age profile, is substantially worse than that of higher-paid employees.

An important personal characteristic that is related to the earnings an employee can achieve is how much employment experience they have. We use several indicators of past labour market activity to measure individuals' work experience. The first set of work experience variables relate to the individual's total labour market history since first leaving full-time education. In the first wave a respondent is interviewed, information is collected on the total length of time employed, unemployed and not in the labour force. This information is subsequently updated annually via an 'employment calendar', whereby labour force status is obtained for each third of each month between interviews. Table 8 presents summary descriptive statistics based on this information, showing the distribution of the total number of years employed, the proportions with any time unemployed and any time out of the labour force, and the means for number of years employed, unemployed (conditional on being unemployed at some stage) and out of the labour force (conditional on being out of the labour force at some stage).

Two further work experience variables examined are the length of time the employee has been employed in the current occupation (tenure in current occupation), and the length of time the employee has been with the current employer (tenure with current employer).

We additionally construct two measures of *recent* work experience based on labour force data collected in each of the preceding three waves (years): i) an indicator showing whether the person had been out of the labour force at the time of interview in any of the last three waves, which would indicate that they have had an employment interruption and only recently returned to the labour market; and ii) a measure of the *intensity* of their labour market involvement at the time of interview over the past three waves, as captured by 'full-time equivalent' employment in each wave. This second measure ranges from three (for current employees who had been full-time employed at each interview in the last three years) to zero (for current employees who had been not employed at any of the interviews in the past three years), with part-time employment assumed to represent 0.5 of full-time employment.[16] Compared with the measure of total work experience, this measure of recent work experience has the advantage of capturing the 'intensity' of (recent) employment activity, but the disadvantage that usual weekly working hours can change over the course of a year, so that our measure will not in all cases accurately reflect total work experience over the preceding three years.

Differences in total work experience between low-paid and other employees are as one would expect, given the mean age difference between the two groups: low-paid men and women have a much higher probability of having less than 5 years of working experience. Specifically, 52 per cent of low-paid men and 41 per cent of low-paid women are in the first five years of their career, whereas only 13 per cent of men and 14 per cent of women who are higher-paid employees have less than five years of experience. On average, low-paid employees have 9 years less (men) and 6

[16] Since the HILDA Survey commenced in 2001, and our analysis sample is of Waves 4 to 13 (2004 to 2013), this information is available for all members of our sample (provided they responded in each of the three preceding waves).

years less (women) employment experience than their higher-paid counterparts. However, clearly evident is a gender gap in respect of work experience of low-paid employees. Although most low-paid employees have little work experience, a substantial minority has had a long career, and this minority is larger for low-paid women than low-paid men. Low-paid women are substantially more likely than low-paid men to have between 10 and 20 years of experience, and are somewhat more likely to have between 20 and 30 years of experience. While increased work experience seems to end low pay for most men, this effect is less strong for women. Table 8 further shows that tenure with current employer and tenure in current occupation are also on average lower for low-paid employees, regardless of gender.

Table 8 also shows that, despite low-paid employees' younger mean age, they are more likely to have experienced periods of unemployment than higher-paid employees; and if they have experienced unemployment, their unemployment experience is longer. This is true for low-paid men as well as low-paid women. Low-paid employees' lower age and work experience on the one hand, and their higher likelihood of unemployment exposure (and, for example, worse health) on the other hand, point to two different reasons for being low-paid: for many, it appears to be a transitory experience early in their working lives. However, for some others, it appears to be connected to more long-lasting disadvantage.

With respect to time spent out of the labour force, low-paid women are less likely to have experienced time out of the labour force than higher-paid women. This is plausibly related to childbearing, which older women are more likely to have experienced than younger women. This interpretation is also consistent with the fact that we do not observe the same difference between low-paid and higher-paid men. However, if low-paid women have taken time out of the labour force, they on average had a longer break than did higher-paid women. These characteristics suggest that low pay is, for some women, a long-term experience related to interrupted employment histories—an issue we explicitly examine in Section 6.

The recent work experience variables show a clear gender difference in labour market attachment, and an equally clear difference in low-pay status. Around 19 per cent of all low-paid women were out of the labour force in at least one of the last three waves, nearly twice as high as among higher-paid women (10 per cent) and about one-third more than among low-paid men (15 per cent). Moreover, low-paid women worked on average 1.6 of full-time equivalent years in the last three years, while higher-paid women have 0.5 additional years and low-paid men 0.3 additional years of recent full-time equivalent work experience. Being low-paid is thus, for women, associated with being likely to have had a recent period out of the labour force, and a less intense labour market involvement than higher-paid women or low-paid men.

Comparing the personal characteristics of low-paid women with both the characteristics of low-paid men and the characteristics of higher-paid women and men yields three major findings. First, being low paid and older is more common for women than for men. This could be caused (at least partly) by women acquiring less labour market experience as they age, because women are more likely to have interruptions in their employment histories. Second, being low paid and having substantial labour market experience is more common for women than for men as well, which implies that not *all* of the increase in the gender gap by age can be explained by gender differences in acquisition of labour market experience. And third, being low paid is associated with the same average job tenure and occupational tenure for men as it is for women. This suggests that some of the gender gap by level of employment experience might in fact be caused by women changing jobs more frequently. In Section 5 we specifically address this question by analysing low-paid women's work

transitions, including leaving the labour force as well as changing employers, and how they compare to other groups in the labour market.

Key points

- Low-paid employees are younger than, and not as well educated as, higher-paid employees.
- A gender education gap in favour of women exists only among higher-paid employees.
- Despite low-paid employees being much younger than higher-paid employees, they are in slightly worse physical and mental health.
- Low-paid employees are mostly young, but being low-paid and older is still a common phenomenon, and occurs more frequently among women than among men.
- Low-paid men and women have less employment experience than higher-paid employees. However, being low-paid and having substantial employment experience (more than ten years) is still not uncommon, particularly for women.
- Low-paid men and women have similarly low job tenure and occupation tenure compared with higher-paid employees. More frequent employer changes or occupational changes may partly explain the gender gap in the incidence of low-pay.
- Low-paid men and women alike are more likely to have experienced a period of unemployment than their higher-paid counterparts; and for low-paid men, those periods were longer.
- Low-paid women are less likely to have experienced periods out of the labour force than higher-paid women, consistent with their lower likelihood of living with children; but those that had employment interruptions average slightly longer periods out of the labour force than higher-paid women who had employment interruptions.

4.4 Low-pay status and employer and job characteristics

Table 9 shows that low-paid women differ from the general working-age employed population in many of their employment characteristics. Low-paid women, just as low-paid and higher-paid men, almost always work in the private-for-profit sector. However, higher-paid women are substantially more likely than low-paid women to work in the public or not-for-profit sectors. These differences in employment sectors by low-pay status also exist for men, but are weaker.

Low-paid employees are relatively concentrated in small workplaces, with more than 50 per cent of both male and female low-paid employees having fewer than 20 employees at their place of work, compared with approximated 30 per cent of higher-paid employees. The relationship between workplace size and low-pay status is similar for both genders, with the exception that low-paid men are more likely to work at workplaces with fewer than five employees.

In terms of the gender composition of the workplace, only 25 per cent of male employees and 30 per cent of female employees are in workplaces with a balanced gender distribution. For both men and women, gender composition patterns are similar for low-paid and higher-paid employees. For men, 60 per cent of higher-paid and 58 per cent of low-paid employees work in workplaces with more men than women, with the lower-paid men being slightly more frequently employed in workplaces with mostly men. For women, approximately 53 per cent of employees work in workplaces with more women than men, with little difference between low-paid and higher-paid women.

Table 9: Employer characteristics by low-pay status and gender, HILDA Survey, employees aged 15–64

	Men		Women		Total
	Higher-paid	Low-paid	Higher-paid	Low-paid	
Sector of employment (%)					
Private sector for profit organisation	73.4	89.2	55.2	83.2	68.8
Government business enterprise or commercial statutory authority	5.9	2.2	5.5	2.0	5.0
Other commercial	0.2	0.2	0.3	0.1	0.2
Private sector not for profit organisation	4.0	5.0	10.8	6.9	6.9
Other governmental organisation	16.6	3.4	28.3	7.7	19.0
Total	100.0	100.0	100.0	100.0	100.0
Number employed at place of work (%)					
1 to 4	7.0	17.0	7.2	10.9	8.3
5 to 9	10.4	18.5	10.8	19.5	12.2
10 to 19	13.2	17.8	12.4	20.4	14.0
20 to 49	18.0	19.9	18.7	19.2	18.5
50 to 99	12.7	10.8	14.3	11.8	13.1
100 to 199	11.9	8.7	10.9	8.7	10.9
200 to 499	11.0	4.2	9.6	4.9	9.3
500 or more	15.8	2.9	16.1	4.5	13.6
Total	100.0	100.0	100.0	100.0	100.0
Gender composition of workplace [a)] *(%)*					
Mostly men	32.3	39.5	6.3	8.4	20.6
Some men, some women, but a majority of men	28.2	18.4	10.5	7.1	18.4
About the same numbers of men and women	25.5	25.0	29.5	31.6	27.6
Some men, some women, but a majority of women	9.7	13.7	28.8	25.8	19.0
Mostly women	4.4	3.4	25.0	27.1	14.5
Total	100.0	100.0	100.0	100.0	100.0
Industry (%)					
Agriculture, forestry and fishing	1.4	4.2	0.5	1.1	1.3
Mining	3.7	0.4	0.7	0.2	1.9
Manufacturing	14.8	11.7	5.1	5.7	9.9
Electricity, gas, water and waste services	1.9	0.8	0.5	0.1	1.1
Construction	9.5	12.5	1.6	1.0	5.9
Wholesale trade	4.5	4.2	2.5	1.7	3.4
Retail trade	7.5	19.2	10.1	25.6	11.3
Accommodation and food services	3.6	17.4	4.9	20.5	7.0
Transport, postal and warehousing	7.6	3.9	2.0	1.9	4.6
Information media and telecommunications	2.9	0.8	2.6	1.6	2.5
Financial and insurance services	4.5	0.4	5.6	1.8	4.3
Rental, hiring and real estate services	1.1	1.1	1.4	2.0	1.3
Professional, scientific and technical services	8.3	3.3	7.1	4.8	7.1
Administrative and support services	2.0	3.1	2.7	3.6	2.5
Public administration and safety	10.0	2.4	7.2	1.5	7.4
Education and training	6.2	2.5	18.1	6.2	10.4
Health care and social assistance	5.5	4.3	24.1	14.4	13.4
Arts and recreation services	1.7	2.4	1.4	1.9	1.7
Other services	3.3	5.5	2.1	4.3	3.1
Total	100.0	100.0	100.0	100.0	100.0

Note: [a)] Information on gender composition of the workplace is only available in Waves 5, 8 and 11.

Source: Authors' calculations using Waves 4–13 of the HILDA Survey.

The bottom panel of Table 9 shows the distribution of low-paid and higher-paid employees across ANZSIC one-digit industries.[17] Low-paid employees are very likely to work in Retail trade or Accommodation and food services. Low-paid women are also relatively concentrated in Health care and social assistance, although higher-paid women are even more heavily concentrated in this industry. For women, being low paid rather than higher paid is associated with employment in retail trade and accommodation and food services, while being higher-paid is associated with employment in Health care and social assistance, Public administration and safety, and Education and training. Low-paid men are also more likely to work in Retail trade or Accommodation and food services than higher-paid men, who are instead more commonly employed in Professional, scientific and technical services, Finance and insurance services, and Public administration and safety.

Table 10 compares job characteristics across low-paid and higher-paid male and female employees. Low-paid female employees are—compared to their higher-paid counterparts—more likely to be Community and personal service workers, Sales workers, or Labourers, and less likely to be Clerical and administrative workers, Professionals or Managers. Low-paid men in comparison to higher-paid men are more likely to be Technicians and trade workers, Sales workers or Labourers instead of Professionals and Managers. While employed women rank on average higher on the occupational status scale than employed men do, both genders see a similar gap in occupational status between low-paid and higher-paid workers.[18]

Low-paid employees are much more likely to be employed on a casual basis than higher-paid employees, with 40 per cent of low-paid men and 50 per cent of low-paid women employed on this basis, compared with 13 per cent of higher-paid men and 19 per cent of higher-paid women. However, when comparing low-paid women with higher-paid women, the greater prevalence of casual work comes at the expense of both permanent and fixed-term employment; for men, on the other hand, fixed-term employment is not associated with low-pay status.

On average, low-paid women work 25 hours per week, and low-paid men 31 hours per week. The gender difference in working hours is greater for higher-paid employees, with average weekly hours of 32 for women and 40 for men. Put differently, low-paid women work on average seven hours per week less than higher-paid women, compared with a nine-hour difference between low-paid and higher-paid men.

Low-paid employees are less likely to work a regular Monday-to-Friday schedule. Such a schedule applies to only 32 per cent of low-paid women and 46 per cent of low-paid men, compared with 54 per cent of higher-paid women and 65 per cent of higher-paid men. Instead, other fixed days, including weekend days, are much more common among low-paid employees: 33 per cent of low-paid men and 39 per cent of low-paid women work such a schedule—this probability is around 80 per cent (men) to 90 per cent (women) higher than for the respective higher-paid employees.

[17] ANZSIC is the Australian and New Zealand Standard Industrial Classification (ABS, 2013).

[18] The Australian Socioeconomic Index 2006 (AUSEI06) assigns a 'status score' to each occupation coded according to the Australian and New Zealand Standard Classification of Occupations (ANZSCO). The scale is a continuous measure that ranges from 0 to 100. For more detailed information see McMillan et al. (2009).

Table 10: Job characteristics by low-pay status and gender, HILDA Survey, employees aged 15–64

	Men		Women		Total
	Higher-paid	Low-paid	Higher-paid	Low-paid	
Occupation (%)					
Managers	14.1	4.3	8.7	3.0	10.1
Professionals	23.3	5.6	31.8	6.7	23.3
Technicians and trades workers	19.8	26.1	3.6	5.6	12.7
Community and personal service workers	6.6	7.2	13.7	22.0	10.9
Clerical and administrative workers	9.7	4.5	26.2	15.8	16.1
Sales workers	5.5	14.8	9.4	31.3	10.4
Machinery operators and drivers	11.6	9.5	1.0	2.0	6.4
Labourers	9.4	28.0	5.6	13.6	10.0
Total	100.0	100.0	100.0	100.0	100.0
Occupational Status (mean, AUSEI06 scale)	50.2	32.5	55.4	36.4	49.2
Member of trade union or other employee association (%)	29.7	13.0	30.0	13.4	26.7
Type of employment contract (%)					
Fixed-term	9.2	8.8	10.4	5.9	9.3
Casual	13.2	40.1	19.3	49.5	21.5
Permanent	77.6	51.1	70.3	44.6	69.2
Total	100.0	100.0	100.0	100.0	100.0
Employed by labour-hire firm or temporary employment agency (%)	2.9	4.5	2.5	1.9	2.8
Weekly working hours in main job (mean)	40.2	31.0	32.0	24.9	34.7
Weekly work schedule (%)					
Monday to Friday	65.0	45.9	54.1	32.1	55.9
Other regular days, none on weekend	3.4	8.4	12.2	13.6	8.2
Other regular days, including weekend	18.0	32.8	20.4	38.6	22.3
Days vary, none on weekend	1.9	2.7	3.1	3.4	2.6
Days vary, including weekend	11.7	10.2	10.2	12.3	11.0
Total	100.0	100.0	100.0	100.0	100.0
Daily work schedule (%)					
Regular daytime schedule	78.1	69.3	79.4	67.3	76.7
Regular evening shift	2.8	8.0	3.1	8.0	3.9
Regular night shift	2.6	3.8	2.0	2.1	2.4
Rotating shift (changes from days to evenings to nights)	9.6	7.5	8.2	9.7	8.9
Split shift (two distinct periods each day)	1.0	1.7	1.2	1.7	1.2
On call	1.0	1.9	0.8	1.6	1.0
Irregular schedule	5.0	7.7	5.2	9.6	5.8
Total	100.0	100.0	100.0	100.0	100.0
Does some work from home (%)	17.7	6.5	19.1	6.7	16.2
Work place entitlements (%)					
Carers leave	80.3	51.8	81.8	55.9	77.2
Paid maternity leave	63.3	31.1	65.6	36.4	60.1
Paid parental leave [a)]	77.3	39.4	79.0	47.9	73.5
Paid paternity leave [a)]	62.8	34.3	61.8	29.0	57.8
Permanent Part-time work	70.0	63.0	85.7	75.8	76.7
Flexible start/finish times	57.3	55.4	53.3	55.0	55.4
Home-based work	26.0	11.8	23.0	11.7	22.5

Notes: [a)] Information on entitlement to paid parental leave is available for Waves 4–10, and on paid paternity leave for Waves 11–13. The sample size is approximately 10 per cent smaller for the workplace entitlements variables because the questions are administered in the self-completion questionnaire, which approximately 10 per cent of interview respondents do not complete and return.

Source: Authors' calculations using Waves 4–13 of the HILDA Survey.

Low-paid employees are less likely to work a regular day shift, with less than 70 per cent of both low-paid men and low-paid women working according to such a schedule, but around 80 per cent of higher-paid employees doing so. Regular evening shifts are more common (8 per cent among low-paid men and women versus 3 per cent among higher-paid men and women), as are irregular schedules, which apply to 8 per cent of low-paid men and 10 per cent of low-paid women, but only 5 per cent of higher-paid employees. In addition, low-paid men are somewhat more likely to work regular night shifts, and low-paid women work rotating shifts slightly more often. The relatively high prevalence of working non-standard hours among low-paid employees is consistent with their greater likelihood of being in casual employment. Moreover, only 7 per cent of low-paid employees do any work from home, compared to 18 per cent of male and 19 per cent of female higher-paid employees.

Only 13 per cent of low-paid employees are members of a trade union or employee association, compared with 30 per cent of higher-paid employees. There is no gender difference in this characteristic.

In respect of workplace entitlements, it is similarly likely for higher-paid men and higher-paid women to report that their employers provide leave: for both men and women, maternity and paternity leave is available to around 60 per cent of higher-paid employees and parental leave and carer's leave is available to around 80 per cent of higher-paid employees. Higher-paid women are somewhat more likely to have access to permanent part-time work than their male counterparts (86 per cent versus 70 per cent), while the opposite is true for flexible start/finish-times (available for 57 per cent of higher-paid men and 53 per cent of higher-paid women) and home-based work (26 per cent versus 23 per cent, respectively).

For both genders, the likelihood of having access to entitlements is markedly lower for the low paid. However, for all but two workplace entitlements, the gap is smaller (albeit still large) for women than men. The exceptions are for access to paid paternity leave, which is reported by 34 per cent of low-paid men (compared with 63 per cent of higher-paid men) and 29 per cent of low-paid women (compared with 62 per cent of higher-paid women), and for access to permanent part-time work, which is reported by 63 per cent of low-paid men (compared with 70 per cent of higher-paid men) and 76 per cent of low-paid women (compared with 86 per cent of higher-paid women). However, irrespective of low-pay status, low-paid women are more likely than men to work for employers that provide this entitlement. Two explanations are possible for the gendered pattern in the connection between low-pay status and leave entitlements, as well as for the substantially higher rate of entitlement to permanent part-time work of women. First, both higher-paid men and higher-paid women may be more aware of their workplace entitlements; or second, workplace entitlements may play a role in job search and job selection.

Some additional job characteristics are available in AWRS, as reported in Table 11. First, AWRS records the share of an employee's remuneration package that is their standard or base salary, the share that is overtime compensation or penalty payments, and the share that is bonuses or taxable allowances. For low-paid women, and even more so for low-paid men, penalty rates and overtime payments make up a larger share of their pay package than is the case for their higher-paid counterparts. This may again reflect the higher incidence of non-standard working hours and non-standard working days.

Employee respondents to AWRS are also asked whether they receive or attempted to attain a higher wage since commencing employment with their employer; and if so, whether they were successful. Low-paid men, and even more so low-paid women, are less likely to receive a higher

wage than they did when commencing employment; partly, this is to be expected given their lower average tenure (see Table 8). Table 11 also suggests that the main reason for not receiving a higher wage is not having attempted to attain a higher wage, rather than having been unsuccessful in doing so—although the latter plays some role for low-paid men. AWRS respondents who had not attempted to attain a higher wage were additionally asked for their reasons for not doing so. A significant proportion of low-paid employees report that their reason for not attempting to attain a higher wage is that they are concerned about negative effects this could have on the relationship with their employer. This is particularly important for low-paid men, 40 per cent of whom voice such a concern (compared to 19 per cent of low-paid women). Low-paid women are more likely to indicate that their main reason is that they are satisfied with their role and pay; 61 per cent of low-paid women give this as a reason for not attempting to attain a higher wage, compared to 53 per cent of low-paid men. Beside this gender difference within the group of low-paid employees, there is also a notable difference between low-paid and higher-paid employees in satisfaction with their role and pay: if they have not attempted to attain a higher wage, higher-paid employees are substantially more likely to report satisfaction with their role and pay as the reason.

Table 11: Job characteristics by low-pay status and gender, AWRS, employees aged 15–64

	Men		Women		Total
	Higher-paid	Low-paid	Higher-paid	Low-paid	
Contribution to Remuneration Package (%)					
Overtime and penalty payments	3.1	5.5	1.5	2.2	2.3
Commissions, bonuses and allowances	2.5	5.5	1.0	1.1	1.8
Salary negotiations/increase since commencement (%)					
Receives a higher wage/salary (through promotion, negotiation, or without pursuing it)	66.3	53.0	62.7	46.7	62.3
Has unsuccessfully attempted to attain a higher wage/salary	7.9	13.9	6.7	8.7	7.7
Has not attempted to attain a higher wage/salary	25.8	33.1	30.6	44.6	30.1
Total	100.0	100.0	100.0	100.0	100.0
Reason for not attempting to attain a higher wage/salary (%)					
Is satisfied with pay and/or role	73.8	52.8	69.4	61.2	69.0
No processes/procedures to access a higher wage	20.6	21.9	26.5	22.6	23.8
Concerned about negative effects on the relationship	15.2	40.1	15.1	19.3	16.9
Manager/employer considers role not worthy of higher wage	18.6	27.1	15.6	23.9	18.2
Received training for job in past 12 month, including OHS (%)					
No	35.6	35.3	38.3	50.9	38.2
Yes, paid (partly or fully) by employee	8.6	12.0	10.7	7.3	9.6
Yes, paid fully by employer	55.8	52.7	51.0	41.8	52.2
Total	100.0	100.0	100.0	100.0	100.0
Is employed as an apprentice/ trainee (%)	2.3	19.4	0.6	3.5	2.4

Source: Authors' calculations using AWRS.

Finally, the AWRS data give us some insights into on-the-job training of the low paid. Low-paid women are less likely to have received any training in the last twelve months than both higher-paid women and all (low-paid and higher-paid) male employees. On the other hand, for low-paid men in particular, the experience of being low paid is closely connected to being a trainee: the role in the company of nearly one in five low-paid men is that of a trainee or apprentice. This further reinforces

the findings from the last section that, for a substantial part of the population of low-paid employees, the experience is of a temporary nature connected to the early stages of one's working life.

Key points

- Most low-paid employees work in the private-for-profit sector; working in the public or private not-for-profit sectors is associated with being higher paid, especially for women.
- Low-paid men and women are very likely to be employed on a casual basis and to work in small firms.
- Low-paid men and women are likely to work in the retail industry or food services industry, and they have substantially lower occupational status than higher-paid employees.
- Low-paid men and women work substantially fewer hours per week than higher-paid employees, and they are more likely to work on weekends and nights, and to work irregular shifts.
- Low-paid men and women are less likely to report having access to workplace entitlements such as carer's leave and home-based work.
- Low-paid employees, particularly low-paid women, are less likely to have had a wage increase since starting their job.

4.5 Low-pay status and intrinsic job characteristics

Table 12 reports on information collected in the HILDA Survey on (subjectively assessed) job characteristics of intrinsic value: job satisfaction; job attributes such as autonomy, complexity, repetitiveness and intensity; and experience of job discrimination. Mean scores for satisfaction with the job and various aspects of the job indicate that low-paid employees are slightly less satisfied with their jobs overall, the work itself, and their working hours, and are considerably less satisfied with their pay. The difference in job satisfaction between low-paid and higher-paid employees is greater for women than it is for men. In addition, low-paid women are also less satisfied with their job security than higher-paid women, which is to be expected given the much higher prevalence of casual work among low-paid employees. Both genders report somewhat higher levels of satisfaction with their work-life balance if they are low paid than if they are higher paid.

Job attributes such as autonomy, complexity, repetitiveness and intensity are measured by the extent of respondent agreement (on a scale from 1 to 7, where 1 = strong disagreement and 7 = strong agreement) with each of 17 statements about their (main) job. Differences between low-paid and higher-paid employees are similar for both genders, as are the levels of agreement with the statements. Average scores indicate that low-paid men and women on average agree less with statements that:

- they have autonomy in their job;
- they are applying or acquiring new skills in their job;
- their jobs are complex or require them to take initiative; and
- their jobs are stressful or do not give them enough time to do everything.

In addition, low-paid men and women are more agreeable with statements that describe their jobs as repetitive. Curiously, low-paid men and women agree less than higher-paid men and women

with the statement that they have a secure future in their job, but also agree less with the statement that they worry about the future of their job.

Finally, the HILDA Survey asks respondents whether they feel that any of their employers discriminated against them in the last two years because of their age, ethnicity, gender, parenting responsibilities or religion. Generally speaking, relatively few employees believe an employer has discriminated against them. Men are less likely than women to believe they were discriminated against because of age, gender and parenting responsibilities, but are more likely to believe they were discriminated against because of ethnicity. Higher-paid women are more likely than low-paid women to believe they were discriminated against because of parenting responsibilities and gender. An area of concern for low-paid women appears to be age discrimination, which one in fifteen low-paid women reported experiencing in the two-year window. One in twenty low-paid men report the same issue. Further disaggregating the information on age discrimination shows that this is driven equally by young employees below age 25 as well as by older employees aged 55 and older. For low-paid women, 10 per cent to 11 per cent of employees aged younger than 25 or aged 55 and older report having experienced age discrimination; it is a phenomenon reported rarely in the remaining age groups. For low-paid men, age discrimination is reported by just over 5 per cent of all employees aged younger than 30 or 55 and older. The remaining age groups, which only few male low-paid employees belong to, show a low incidence of such reports.

Table 12: Intrinsic job characteristics by low-pay status and gender, HILDA Survey, employees aged 15–64

	Men		Women		Total
	Higher-paid	Low-paid	Higher-paid	Low-paid	
Job satisfaction (mean, 0–10 scale)					
Overall job satisfaction	7.54	7.50	7.67	7.53	7.59
Satisfaction with work itself	7.54	7.41	7.57	7.41	7.52
Satisfaction with working hours	7.22	7.03	7.34	7.15	7.24
Satisfaction with pay	7.16	6.33	7.15	6.43	7.01
Satisfaction with job security	7.95	7.94	8.04	7.85	7.97
Satisfaction with work-life balance	7.34	7.42	7.47	7.52	7.41
Extent of agreement with statements about job (mean, 1–7 scale)					
I have a lot of choice in deciding what I do at work	3.71	3.12	3.45	2.97	3.49
I have a lot of freedom to decide how I do my own work	4.72	4.10	4.51	3.88	4.51
I have a lot of freedom to decide when I do my own work	3.54	3.26	3.36	3.11	3.41
I have a lot of say about what happens on my job	4.36	3.61	4.05	3.41	4.09
My job is more stressful than I had ever imagined	3.20	2.84	3.25	2.87	3.16
I have to work fast in my job	4.88	5.00	5.04	5.06	4.97
I can decide when to take a break	4.72	3.82	4.27	3.68	4.37
I don't have enough time to do everything in my job	4.13	3.52	4.22	3.54	4.06
My job is complex & difficult	4.27	3.18	3.92	2.89	3.91
My job requires me to take initiative	5.44	4.81	5.45	4.90	5.34
My job provides me with a variety of interesting things to do	4.70	4.18	4.67	4.02	4.58
I use many of my skills & abilities in my job	5.34	4.82	5.35	4.80	5.25
My job often requires me to learn new skills	4.71	4.38	4.66	4.09	4.60
My job requires me to do the same things over & over again	4.50	5.08	4.66	5.36	4.69
I get paid fairly for the things I do in my job	4.67	4.28	4.65	4.45	4.61
I have a secure future in my job	5.04	4.72	5.16	4.59	5.02
I worry about the future of my job	3.02	2.75	2.78	2.73	2.88
Discriminated against by employer because of… [a] (%)					
…Age	2.7	4.7	4.6	6.5	4.0
…Ethnicity	1.5	1.6	1.1	0.9	1.3
…Gender	1.4	0.8	3.5	2.7	2.3
…Parenting Responsibilities	1.0	0.9	3.3	2.3	2.0
…Religion	0.5	0.3	0.4	0.2	0.4

Notes: [a] Information on perceived job discrimination is only available for Waves 8 and 10. The sample size is approximately 10 per cent smaller for the 'extent of agreement' items because these questions are administered in the self-completion questionnaire, which approximately 10 per cent of interview respondents do not complete and return.

Source: Authors' calculations using Waves 4–13 of the HILDA Survey.

Additional information from AWRS is available on perceived barriers to achieving one's career goals or reaching a particular role. The lower panel of Table 13 shows that women are more likely than men to report that their gender or responsibilities outside of work are a barrier to their career progress. This is more prevalent among higher-paid women than among low-paid women, which is similar to the finding based on the HILDA Survey data that higher-paid women are more likely to report discrimination because of gender or parenting responsibilities than lower-paid women. Reports of ethnicity being a barrier are infrequent, and similarly uncommon among low-paid and higher-paid men and women. Age barriers are a more common concern, particularly for low-paid men, as are inequitable recruitment practices and limited access to training. The most commonly cited barrier to career progression is, however, limited promotion opportunities in the company.

There is little difference across gender and low-pay status in this characteristic. For low-paid women, age and responsibilities outside of work are the next-most commonly experienced barriers.

More evidence supporting the temporary nature of low-pay status for a substantial part of the population of low-paid employees can be found in their reported job plans for the next twelve months. Low-paid employees are much less likely than higher-paid employees to expect that they will still be in the same role with the same employer in a year's time. Instead, they are more likely to expect a change in roles, employers, or (particularly for low-paid women) industries. It is plausible that such expected career changes might be accompanied by an expected improvement in pay as well as other job conditions. Low-paid employees' expectations about changing their job, employer, or industry, and the potential improvement in their work conditions this might bring, could at least partly explain the finding from the HILDA Survey data that low-paid employees see their jobs as less secure than higher-paid employees do, but at the same time worry less about the future of their job.

Table 13: Intrinsic job characteristics by low-pay status and gender, AWRS, employees aged 15–64

	Men		Women		Total
	Higher-paid	Low-paid	Higher-paid	Low-paid	
Expectation about job in 12 months					
Working for the same employer, in the same role	63.9	54.3	66.8	58.2	64.3
Working for the same employer, but in a different role	20.0	26.0	19.2	22.0	20.1
Working for a different employer in the same industry	6.6	8.6	5.1	2.6	5.6
Working in another industry	6.6	9.7	6.7	16.1	7.7
No longer working	2.8	1.3	2.1	1.1	2.3
Total	100.0	100.0	100.0	100.0	100.0
Barriers to achieving a particular role/ career goal					
Age	6.6	13.0	8.8	9.1	8.2
Gender	0.4	1.2	6.9	2.8	3.8
Ethnicity	1.4	2.0	1.3	1.3	1.4
Responsibilities outside of work	4.5	5.3	12.5	9.9	8.9
Limited access to training	9.4	13.4	8.5	7.5	9.0
Limited promotion opportunities	31.6	28.4	30.3	30.6	30.7
Inequitable recruitment practices	8.1	10.2	7.5	8.6	7.9

Source: Authors' calculations using AWRS.

Key points

- Low-paid men and women are less satisfied with their jobs, and in particular with their pay, than higher-paid men and women.
- Low-paid men and women perceive their jobs to entail less autonomy, less complexity and lower stress levels than higher paid men and women perceive they do.
- Low-paid women report higher levels of discrimination because of gender or parenting responsibilities than men of either pay status, but lower levels of discrimination than higher-paid women.
- An area of concern for low-paid employees in general, but particularly for women, is age discrimination, which is equally driven by women younger than 25 and by women 55 and older
- The main barrier to achieving one's career goals reported in AWRS is limited promotion opportunities.

- Other important barriers to achieving career goals for low-paid women include age and responsibilities outside of work.

4.6 Low reservation wages and family characteristics

An analysis of low-paid women's workforce participation needs to address a fundamental identification issue: a woman is observed to be low-paid if and only if she is employed—that is, if she participates in the workforce and obtains a job. It is then possible to examine the determinants and consequences of subsequent work decisions—such as whether to stay in the current job, whether to change employers, or whether to quit working. However, this provides little insight into a woman's reasons for taking up a low-paid job. In order to learn something about the determinants of entering low-paid employment, in addition to information on women who are employed and low-paid, one needs information on women who would be low-paid if they were employed, but in fact stayed (voluntarily or involuntarily) out of employment.

It is not possible to directly observe individuals who would be low-paid were they employed. However, one possible approach to approximate such a group is to utilise information on individuals' reservation wages, which can be observed for those who are not currently employed. The reservation wage is the lowest wage at which a person would be willing to work. If an individual's reservation wage reflects their actual earnings potential, it is reasonable to assume that those with a low reservation wage are 'potentially low-paid', while those with a high reservation wage are not.[19] We therefore extend the analysis to include the unemployed and marginally attached, and compare men and women with high and low reservation wages. We label unemployed and marginally attached individuals with reservation wages at or below the low-pay threshold as 'potentially low paid'.

The HILDA Survey data we use contains just over 12 000 person-year observations of individuals who are either unemployed or marginally attached, and who report a reservation wage. This sample contains slightly more women than men, whereas the opposite was true for employees. Notably, around one in five employees is in fact low paid, but nearly one in two of all marginally attached and unemployed people reports a low reservation wage. Consequently, although the total sample size for the unemployed and marginally attached is much smaller than the sample of employees, the number of observations for individuals with low reservation wages is relatively close to the number of observations for low-paid employees.

Comparing Table 14 with Table 6, it becomes clear that, overall as a group, the unemployed and marginally attached are less likely than employees to have a partner, less likely to have children, and more likely to live in a household with a person with a disability. However, within the group of marginally attached and unemployed individuals, we find similar patterns across gender lines and reservation wages as we did in the group of employees: those with a low reservation wage are much less likely to have a partner, and much less likely to have children, than those with higher reservation wages. If they have children, the number of children is similar across all four groups, and so is their level of difficulty with finding adequate child care, with the exception of potentially

[19] In theory, an individual will work if and only if their market wage exceeds their reservation wage. Thus, an individual with a reservation wage below the low-pay threshold must have a market wage rate below the low-pay threshold. An individual with a high reservation wage, on the other hand, may or may not have a high market wage. Consequently, using the reservation wage as a proxy for one's potential market wage can identify some, but not all, potentially low-paid individuals. Moreover, it is not clear that individuals are able to identify and/or are willing to reveal their correct reservation wages. Descriptive information on the quality of reservation wage information is thus provided in Appendix A.

low-paid men who report lower levels of difficulty than potentially higher-paid men as well as lower levels of difficulty than women regardless of their reservation wage.

Table 14: Family characteristics by reservation-wage status and gender, HILDA Survey, unemployed and marginally attached persons aged 15–64

	Men		Women		Total
	Higher reservation wage	Low reservation wage	Higher reservation wage	Low reservation wage	
Family structure					
Single without dependent children	56.0	87.5	25.9	58.1	55.4
Partnered without dependent children	24.1	6.2	25.8	13.8	17.8
Single, youngest dependent child aged 0–4	0.5	0.1	7.4	5.3	3.6
Single, youngest dependent child aged 5–24	1.2	0.2	6.3	5.3	3.5
Partnered, youngest dependent child aged 0–4	10.6	3.2	20.6	9.7	11.4
Partnered, youngest dependent child aged 5–24	7.7	2.7	14.0	7.8	8.3
Total	100.0	100.0	100.0	100.0	100.0
Partner's weekly earnings in all jobs (mean, December 2012 prices)	434.44	237.73	1031.74	700.70	729.08
Had used or thought about using child care (%) [a)]	8.1	9.0	17.6	12.7	12.1
Problems finding child care (mean, 0–10 scale) [b)]	3.66	2.63	3.80	3.64	3.54
Household contains a person with a disability (%)	47.2	38.7	32.9	36.7	38.6

Notes: [a)] Information on child care utilisation and difficulty finding child care are applicable to and reported for individuals who live in households with children aged less than 15. [b)] Several items were combined to create an index of `difficulty finding child care'; for more detailed information refer to the body text of this report.

Source: Authors' calculations using Waves 4–13 of the HILDA Survey.

Key points

- Among the unemployed and marginally attached, a low reservation wage is more common than a low *actual* wage is among employees. The unemployed and marginally attached are also less likely to be partnered and to have children, and more likely to live with a person with a disability.
- Men and women with low reservation wages are less likely than individuals with a higher reservation wage to have a partner and are less likely to have children.
- If individuals with low reservation wages have children, the number of children is similar to that of other groups, and they report similar levels of difficulty finding child care.

4.7 Low reservation wages and personal characteristics

Table 15 shows that, compared to employees, unemployed and marginally attached men and women are younger, and have lower levels of educational attainment. They have less employment experience, but more unemployment experience and have accumulated more years out of the labour force. They are in worse health, and about twice as likely to have a disability. As one would expect, most characteristics of unemployed and marginally attached members of the labour force point towards them facing more challenges in the labour market than their employee counterparts.

Comparing those with a low reservation wage and those with a higher one, we find, again, similar patterns as we did in the sample of employees. Those with a low reservation wage are much younger than those with a higher reservation wage—about six years on average for women, and nine years on average for men. While there is some gender gap in education in favour of women in the group with higher reservation wages, this gender gap disappears in the group with low

reservation wages. Education levels are low for both men and women with low reservation wages: around 40 per cent have not (yet) finished high school, and only just over 5 per cent have a tertiary degree.

Table 15: Personal characteristics by reservation-wage status and gender, HILDA Survey, unemployed and marginally attached persons aged 15–64

	Men		Women		Total
	Higher reservation wage	Low reservation wage	Higher reservation wage	Low reservation wage	
Age (mean, years)	38.1	23.2	38.3	27.6	32.0
Age group (%)					
20 years or younger	9.5	67.7	5.5	46.3	31.2
21 to 24 years	12.9	8.2	8.4	9.7	9.8
25 to 29 years	13.8	4.3	15.1	8.3	10.6
30 to 34 years	9.8	3.4	15.3	7.5	9.2
35 to 44 years	19.6	7.6	24.2	13.4	16.5
45 to 54 years	16.8	4.6	17.8	9.8	12.5
55 years or older	17.6	4.3	13.7	5.0	10.2
Total	100.0	100.0	100.0	100.0	100.0
Highest educational attainment (%)					
Graduate or Postgraduate Diploma or Certificate	6.6	0.8	9.8	1.1	4.7
Bachelor degree	10.2	2.5	14.7	3.3	7.8
Diploma or Advanced Diploma	7.3	2.3	8.3	4.1	5.6
Certificate III or IV	23.9	8.0	16.0	11.5	14.9
Year 12	20.3	20.1	18.5	22.6	20.4
Year 11 and below	31.8	66.3	32.7	57.5	46.6
Total	100.0	100.0	100.0	100.0	100.0
Country of birth (%)					
Australia	68.2	86.4	66.2	74.2	73.3
Main English Speaking Country	9.4	2.9	8.6	6.0	6.8
Other country	22.4	10.7	25.2	19.8	19.9
Total	100.0	100.0	100.0	100.0	100.0
SF-36 general health (mean, 0–100 scale)	63.1	70.4	67.2	65.8	66.6
SF-36 mental health (mean, 0–100 scale)	68.0	71.1	68.7	66.9	68.6
Disability (%)	37.4	25.1	27.7	27.9	29.5
Employment history since leaving full-time education					
Total years of past employment (%)					
Up to 5 years	31.6	66.4	31.2	61.8	43.5
5 to 10 years	13.4	8.5	18.6	12.3	14.1
10 to 20 years	17.9	11.0	28.0	16.4	19.9
20 to 30 years	18.0	8.1	13.0	5.5	12.0
More than 30 years	19.1	6.0	9.2	4.0	10.4
Total	100.0	100.0	100.0	100.0	100.0
Total years employed (mean)	15.9	7.1	12.6	7.0	11.5
Any time unemployed (%)	80.2	79.3	67.2	68.6	73.1
Total years unemployed, if any (mean)	3.6	3.5	2.0	2.5	2.9
Any time out of labour force (%)	77.9	71.2	92.3	87.2	83.8
Total years out of labour force, if any (mean)	4.0	3.1	8.0	8.2	6.3
Employment in past three waves					
Full-time equivalent employment (mean)	1.1	0.6	0.8	0.5	0.8
Any time out of the labour force (%)	36.2	40.4	50.4	54.9	45.9
Preferred weekly working hours (mean)	33.6	22.5	24.8	21.0	25.4
Number of observations	2914	2759	3340	3253	12 267

Source: Authors' calculations using Waves 4–13 of the HILDA Survey.

Individuals with low reservation wages have markedly fewer years of employment experience than their counterparts with higher reservation wages. On average, the gap is 8.8 years for men and 5.6 years for women. In contrast to our sample of employees, where low-paid individuals are more likely to have experienced unemployment, and have accumulated more years out of the labour force, this is not true for the marginally attached and unemployed. For both men and women, unemployment experience and time out of the labour force are quite similar, whether the individual does or does not have a low reservation wage. The recent labour market history of the unemployed and marginally attached is low—average years of full-time equivalent employment in the last three years ranges from half a year for women with low reservation wages to just over one year for men with higher reservation wages.

4.8 Low-pay status, leave taking and employment transitions

In each wave's interview, the HILDA Survey collects retrospective information on the length of time spent on paid annual leave, paid sick leave, other paid leave and unpaid leave since the last interview. Information on job changes and changes of employer since the last interview is also collected. This allows the construction of various labour market transition pathways.

Using Waves 4 to 13 of the HILDA Survey, Table 16 shows one-year labour market transitions for individuals who were initially employees. The columns show their employment status in the subsequent year (the year after they had been observed to be employees): they may be no longer employed (that is, they may be unemployed, marginally attached or out of the labour force) or, if they are employed, they may have changed to a new employer or remained with the same employer.

Table 16: One-year employment transitions by initial low-pay status, gender and whether took leave during the year, HILDA Survey, employees aged 15–64

	Still employed one year later			
	Same employer	Changed employer	Not employed one year later	Total
		All employees		
No long leave periods	76.09	14.64	5.97	96.52
Had long leave, paid only	1.25	0.11	0.35	1.71
Had long leave, at least some unpaid	1.22	0.21	0.34	1.77
Total	79.38	14.96	5.66	100.00
		Men, initially higher-paid employees		
No long leave periods	80.53	13.95	3.35	97.83
Had long leave, paid only	0.77	0.11	0.13	1.01
Had long leave, at least some unpaid	0.88	0.18	0.10	1.16
Total	82.19	14.23	3.57	100.00
		Men, initially low-paid employees		
No long leave periods	68.35	20.75	8.64	97.75
Had long leave, paid only	0.25	0.05	0.07	0.38
Had long leave, at least some unpaid	1.27	0.40	0.21	1.88
Total	69.87	21.21	8.93	100.00
		Women, initially higher-paid employees		
No long leave periods	77.69	12.32	4.74	94.75
Had long leave, paid only	2.11	0.15	0.71	2.97
Had long leave, at least some unpaid	1.51	0.22	0.56	2.28
Total	81.32	12.68	6.00	100.00
		Women, initially low-paid employees		
No long leave periods	64.84	21.75	10.05	96.64
Had long leave, paid only	0.76	0.04	0.14	0.94
Had long leave, at least some unpaid	1.55	0.21	0.67	2.43
Total	67.15	21.99	10.86	100.00

Source: Authors' calculations using Waves 4–13 of the HILDA Survey.

While the columns of Table 16 show the state an individual ends up in one year after having been an employee, the rows in the table report the prevalence of 'long' leave-taking in the twelve months in between. Paid annual leave and paid sick leave is not taken into account, as these are standard forms of leave the majority of employees would take in a continuing, standard employment situation. All other forms of leave, paid or unpaid, are considered for the analysis. Long leave taking is here defined to be any such non-standard leave that was 8 weeks or longer. In what follows, we refer to periods of at least 8 weeks of leave, other than paid annual leave and sick leave, as 'extended non-standard leave'.[20] Individuals who did not take extended non-standard leave are reported in the first row as not having had long leave periods. Individuals who had extended non-standard leave and all of it was paid, are reported in the second row, and individuals who had extended non-standard leave, either partly or fully unpaid, are reported in the last row. The first panel reports results for the full sample; this is repeated by (initial) low-pay status and gender in the following panels.

The top panel of Table 16 shows that 79 per cent of all employees were still working with the same employer one year later, while 15 per cent changed their employer, and 6 per cent were no longer working. Men are more likely than women to stay with their employer. For both men and women, the probability of not working as well as the probability of changing employers increases if they are

[20] It is not possible to distinguish further by different types of leave here—such as long-service leave or parental leave—as this is not recorded in HILDA's calendar data.

low paid rather than higher paid. Around 33 per cent of all low-paid women are not employed with the same employer in the following year; instead, 22 per cent will have changed employers and 11 per cent will be not employed at all. By contrast, 81 per cent of higher-paid women stay with their employer, only 13 per cent change their employer from one year to the next, and only 6 per cent will have left employment altogether by the time of the next interview. Clearly, low-paid women have less stable careers with more frequent changes of employer and more frequent interruptions in employment than higher-paid women. Low-paid women also show a pattern of changes in employers and employment status that is slightly less stable than that of low-paid men, but the difference is small. Higher-paid men and women on the one hand, and low-paid men and women on the other hand, are more comparable to each other in terms of employment stability than men of different pay-status or women of different pay-status are to each other.

Extended non-standard leave-taking is generally rare: 97 per cent of all employees do not take extended non-standard leave within a one-year period. Among those who do, more than half take at least some of that leave as unpaid leave.

The leave-taking patterns across all four groups differ more strongly along gender lines than do employer changes and employment interruptions. Within a one-year period, women are more likely than men to take extended non-standard leave: 2.2 per cent of higher-paid men, but 5.3 per cent of higher-paid women, take extended non-standard leave in any given year. Among the low-paid, the difference between men and women is smaller, but still substantial: while 2.3 per cent of low-paid men take extended non-standard leave, 3.3 per cent of low-paid women take such leave.

While female employees are, irrespective of low-pay status, more likely to take extended non-standard leave than male employees, there is nonetheless an important difference in leave-taking behaviour by low-pay status, which is that, if an employee is low paid, the leave taking is more likely to be unpaid. Higher-paid employees, and higher-paid women in particular, are much more likely to take paid leave only. Extended periods of paid leave are taken mostly by higher-paid women. It is plausible to assume that this reflects paid parental leave, to which higher-paid employees are substantially more likely to have access than low-paid employees, and which would predominantly be taken by women.

There is a clear link between leave taking on the one hand, and changing employer or leaving employment on the other hand. While 5.7 per cent of all observed employees are not employed at the time of the following interview, this is true for 19 per cent of all employees who take extended non-standard leave. This suggests that the leave periods are often sufficiently long to last until the next interview and beyond. The finding is much stronger for women than it is for men: while 11 per cent of higher-paid men and 12 per cent of low-paid men who take extended non-standard leave are not employed at the time of next interview, for female employees this figure is 24 per cent, irrespective of whether low paid or higher paid.

For all groups, the probability of staying with one's employer given one has taken only paid, extended non-standard leave is higher, than the probability of staying with one's employer given one has taken at least some unpaid extended non-standard leave. This is particularly strong for low-paid women, among whom the probability of changing employers is 2.03 times higher for those who took unpaid leave compared to those who took paid leave.[21] In comparison, low-paid men's

[21] This is derived as follows: 2.43 per cent of low-paid women took unpaid extended non-standard leave, and 8.6 per cent of those (0.21 out of 2.43) subsequently changed employers; 0.94 per cent of low-paid women took paid extended non-standard leave, and 4.3 per cent of those (0.04 out of 0.94) subsequently changed employers. That means that low-paid

probability of changing employer is increased by factor 1.61 if they took unpaid versus paid leave, while for higher-paid women this ratio is 1.91.

Key points

- Low-paid women are substantially less likely than other women to stay with their current employer—in any given year, 22 per cent of all low-paid women change their employer, and 11 per cent of low-paid women leave employment altogether.
- Men are less likely than women to take non-standard leave of 8 weeks or more.
- Low-paid employees are slightly less likely than higher-paid employees to take extended non-standard leave in any given year, and if they do, their leave is more likely to be unpaid.
- Leave periods are often long enough to last until the next interview (that is, at least 12 months), particularly for women.
- Employees who take unpaid extended leave are more likely to subsequently change employers than employees who take only paid leave, especially if the employee is a low-paid woman.

4.9 Low reservation wages and employment transitions

Changes in employment status are more common among the marginally attached and unemployed than among employees. Table 17 presents, for those initially unemployed or marginally attached to the labour force, the proportion in each labour force state one wave later. It shows that 36 per cent of people who are marginally attached or unemployed at one point in time will take up employment in the next year, 42 per cent stay unemployed or marginally attached, while the remaining 21 per cent drop out of the labour force altogether.

For men, the probability of exiting the labour force does not differ between those with low reservation wages and those with higher reservation wages. However, men with low reservation wages are more likely to stay unemployed/marginally attached, and correspondingly less likely to take up employment, than men with higher reservation wages.

For women, by contrast, the likelihood of exiting unemployment or marginal attachment to employment appears to be unrelated to their reservation wage, but women with higher reservation wages are more likely to exit the labour force, while women with low reservation wages are more likely to remain unemployed or marginally attached to the labour force.

women's probability of changing employers given they have taken unpaid leave is $(\frac{0.21/2.43}{0.04/0.94}) = 2.03$ times as high their probability of changing employers given they have taken paid extended leave only.

Table 17: One-year labour force transitions by reservation-wage status and gender, HILDA Survey, initially unemployed or marginally attached persons aged 15–64

	Men		Women		Total
	Higher reservation wage	Low reservation wage	Higher reservation wage	Low reservation wage	
Labour force status one year later					
Out of the labour force	16.2	16.4	27.2	23.2	21.2
Unemployed or marginally attached	42.3	48.4	37.3	42.6	42.4
Employed	41.4	35.2	35.6	34.2	36.4
Total	100.0	100.0	100.0	100.0	100.0
Number of observations	2077	2126	2619	2528	9350

Source: Authors' calculations using Waves 4–13 of the HILDA Survey.

Key points

- For men, a high reservation wage is associated with a higher likelihood of taking up employment, and a lower likelihood of staying unemployed. Their dropping out of the labour force is unrelated to their reservation wage.
- For women, a high reservation wage is associated with a higher probability of dropping out of the labour force and a lower probability of staying unemployed; their employment take-up, however, seems to be unrelated to their reservation wage.

5 Estimation results: low-paid women's work decisions

In this section, we compare low-paid women's work decisions with the three comparator groups of employees used in Chapter 4: higher-paid women; low-paid men; and higher-paid men. Specifically, we are interested in: 1) an employee's decision to leave one's employer; 2) a non-employed person's decision to take up employment; 3) an employee's decision to take extended periods of leave; and 4) an employee's 'choice' of working hours. In order to shed light on the first three questions, we estimate a series of multinomial logit regression models, and for the last question, we estimate an ordinary least squares regression model.

All models control for the characteristics described in Table 6, Table 8, Table 9, Table 10 and Table 12, with a few exceptions. First, we do not include variables that were asked only in particular years (experiences of discrimination, and gender composition of the workplace) as well as reported workplace entitlements. Second, in order to avoid problems with collinearity, we reduce the variables describing intrinsic job characteristics. Job satisfaction enters the estimations only in the two variables "Overall job satisfaction" and "Satisfaction with pay". A factor analysis of individuals' opinions about their job was conducted to derive two indices: a scale describing how much one enjoys their job; and a scale describing how challenging the job is perceived. Details on the factor analysis are reported in Appendix C. When examining the interplay between gender, low-pay status and work decisions, it should be noted that all modelling is descriptive in nature and causal interpretations should not be applied.

5.1 Low-pay status and employment transitions

We first estimate a multinomial logit model with employees' work transitions as the dependent variable. After being employed in one period, in the next period an employee may be: i) still employed with the same employer; ii) still employed, but with another employer; or iii) no longer employed. The main explanatory variables are those for low-pay status and gender. The characteristics from Table 6, Table 8, Table 9, Table 10 and Table 12 are included in the regression (with the adjustments described above). As a result, if we find any difference in work transitions for low-paid women versus low-paid men, or for low-paid women versus higher-paid women, this difference in behaviour exists for employees who otherwise have the same characteristics (as measured by the included variables for characteristics). Thus, for example, we can compare two people with the same partner status and partner wage, household structure, educational attainment, work experience and tenure, sector, firm size, occupation, satisfaction with the job, work schedule, and so on, but with one being a low-paid woman and the other being a higher-paid man. The analysis then reveals whether there are differences in the work transitions of two such individuals, holding constant the other factors.

Table 18 presents estimates of the 'mean marginal effects' of low-pay status interacted with gender on the probabilities of changing employers, exiting employment and remaining with one's employer (the last of which is the omitted outcome category). Model 1 presents estimates from Waves 4 to 13, while Model 2 restricts to Waves 8 to 13 and adds controls for method of setting pay (which is only available from Wave 8 on).

A mean marginal effect of an explanatory variable is the average effect on the probability of the outcome per one-unit increase in the explanatory variable, evaluated over all sample members. The variables for low-pay status interacted with gender are all indicator (dummy) variables equal to 0 or 1, so the mean marginal effect is the average effect of changing the variable from 0 to 1. For example, an estimate for the variable 'low-paid man' is the average effect of changing this indicator variable from 0 to 1. The reference category is 'low-paid woman', which allows us to directly assess whether each other employee group (low-paid men, higher-paid women and higher-paid men) has statistically significant differences in transition probabilities. That is, we can determine whether, holding constant other characteristics, the probability a low-paid woman changes employers is significantly different from the probability for each other employee group, and whether the probability a low-paid woman ceases employment is significantly different from the probability for each other employee group.

Note that, for each explanatory variable (row), the sum of the mean marginal effects across the three possible outcomes is always equal to zero. In our specification, the 'stayed with employer' outcome is the residual, or reference, category. That means, any increase in the probability of changing employer or ceasing employment for one group, is exactly mirrored in a decreasing probability of staying with the same employer for that employee group.

The table shows that, other characteristics being equal, a low-paid man is 2.1 percentage points less likely to change employers than a low-paid woman. This effect is statistically significant at the 1 per cent level. A low-paid man is also 1.1 percentage points less likely than an otherwise similar low-paid woman to cease employment altogether; this effect is also statistically significant. Combining these two effects implies that a low-paid man is 3.2 percentage points more likely to stay with their employer than an otherwise similar low-paid woman.

In Table 16, for each employee group defined by low-pay status and gender, we reported the raw probability of staying with one's employer, which is 69.9 per cent for low-paid men and 67.1 per cent for low-paid women—a gap of just under three percentage points. After controlling for family, personal, employer and job characteristics, the difference in behaviour is, at 3.2 percentage points, relatively unchanged. Thus, the differences in characteristics between low-paid men and women do not explain the raw gap in the probability of staying with one's employer. Whatever the effects of the different constraints in terms of family environment, personal characteristics, and employer and job characteristics, they are either small or cancel each other out. The difference is either due to unobserved characteristics correlated with gender, or to gender itself.

Table 18: Effects of low-pay status and gender on employment transitions, logit model mean marginal effects estimates, employees aged 15–64

	Model 1		Model 2	
	Changed employer	Ceased employment	Changed employer	Ceased employment
Low-paid woman	[Reference category]		[Reference category]	
Low-paid man	–0.021*** (–3.54)	–0.011* (–2.31)	–0.023** (–3.03)	–0.016** (–2.60)
Higher-paid woman	–0.002 (–0.42)	–0.012** (–3.25)	–0.010 (–1.46)	–0.017** (–3.24)
Higher-paid man	–0.006 (–0.99)	–0.030*** (–7.37)	–0.011 (–1.59)	–0.034*** (–6.07)
Number of observations	58 709		34 511	
Log-likelihood	–34 399.4		–19 746.3	
Chi-squared	10 298		5921	
Degrees of freedom	192		196	

Notes: The table reports, for each of the explanatory variables for low-pay status and gender, the mean of the marginal effect on the probability of each outcome, evaluated over all observations. Estimates are not reported for the control variables, which comprise all variables reported in Table 6, Table 8, Table 9 and Table 10 other than the variables for workplace gender composition, and workplace entitlements. For satisfaction with the job and opinions about the job (presented in Table 12), two control variables derived from a factor analysis are included. Model 2 additionally controls for method of setting pay (in three categories: i) Award-reliant, ii) Collective Agreement, and iii) Other). t-values are reported in parentheses. *, ** and *** indicate statistical significance at the 10 per cent, 5 per cent and 1 per cent levels, respectively.

Source: Authors' estimations using Waves 4–13 (Model 1) and Waves 8–13 (Model 2) of the HILDA Survey.

When comparing low-paid women with higher-paid women, we find no significant difference in their probability of changing employer, but we do find that higher-paid women are 1.2 percentage points less likely to exit employment than low-paid women. This differs greatly from the raw difference in behaviour shown in Table 16, where we saw that low-paid women are 9.3 percentage points more likely to change employer and 4.9 percentage points more likely to exit employment. After controlling for family circumstances, personal, employer and job characteristics, we find that nearly all of this stark behavioural difference is attributable to differences in household context, age, educational attainment, the industries they work in, and so on.

Model 2 in Table 18 is restricted to Waves 8 to 13 and adds controls for the method by which pay is set: by collective agreement; according to an award rate; or by another method (predominantly individual negotiations). This allows us to explore whether method of setting pay impacts on employment transitions, and whether it plays a different role for low-paid women than it does for other groups. This is examined in Tables 19 and 20 below, but Table 18 shows that controlling for method of setting pay (and reducing the sample period and hence sample size) has little impact on estimated effects of low-pay status and gender.

The models presented so far assume that low-paid and higher-paid women and men respond to their characteristics with the same transitions. This is not necessarily the case: for example, having very young children might prompt men to stay with their employers in order to keep a secure family income, while women may exit employment in order to look after the child at home. In order to explore how the effects of socio-economic characteristics on work transitions differ by gender and low-pay status, we therefore interact the controlled characteristics with the variables for gender and low-pay status (the interaction terms). These interactions allow us to ascertain whether, for example, method of setting pay affects the probability of changing employer differently for low-paid women compared with the low-paid men and compared with higher-paid women.

The large number of explanatory variables makes it difficult to simultaneously interact all variables with the variables for low-pay status and gender.[22] Instead, we estimate a series of models, each including one characteristic interacted with the low-pay status and gender variables (and retaining all other characteristics without interactions). For each non-reference outcome (changing employer and ceasing employment) we test the significance (at the 5 per cent level) of the interaction term for low-paid men and the interaction term for higher-paid women, since these are the two comparator groups of employees in which we are interested.[23] For interaction terms found to be statistically significant—implying the characteristic has an effect that is significantly different from its effect for low-paid women—we compute the corresponding mean marginal effects for both the relevant comparator group (low-paid men or higher-paid women) as well as for low-paid women. These mean marginal effects are reported in Table 19 (for the probability of changing employer) and Table 20 (for the probability of ceasing employment). All estimates relate to Model 1 in Table 18, except for the analysis of method of setting pay, which is necessarily based on Model 2. Note that, while interactions with low-paid men and higher-paid women have been tested for all characteristics included in the model, the tables only report mean marginal effects for the statistically significant interactions, with the mean marginal effect for low-paid women also reported if either the interaction term for low-paid men or the interaction term for higher-paid women is reported.

5.1.1 Effects of characteristics on the probability of changing employer—low-paid men and low-paid women

Comparing the left and right columns of Table 19, we see that there are several differences between low-paid women and low-paid men when it comes to the effects of characteristics on changes in employer. First, low-paid men are less likely to change employers when they had any time out of the labour force in the past three years; this is not the case for low-paid women. Second, low-paid men's probability of changing employers is nearly identical irrespective of whether they are on a permanent or fixed-term contract, while this probability increases strongly when they are in casual work (by 4.1 percentage points). Low-paid women, by contrast, are 1.6 percentage points *less* likely to change employers if they are casually employed than if they are on a fixed-term contract. That said, being permanently employed is, for low-paid women, associated even more strongly with employer stability, increasing the probability of staying with one's employer by another 4 percentage points. It is possible that women are more likely to value the flexibility that may accompany casual employment, while men might be more likely to value employment security.

5.1.2 Effects of characteristics on the probability of changing employer—higher-paid women and low-paid women

Comparing the middle and right columns of Table 19 shows whether the effects of characteristics on probability of changing employer differ for low-paid women and higher-paid women. We find that method of setting pay, sector of employment and occupation—that is, aspects of the current work situation—have differential impacts on women's probability of changing employers depending on pay-status.

[22] In order to do so, the number of coefficients that needed to be estimated would increase from 180 to 702. This is not computationally feasible.

[23] In the case of sets of dummy variables, such as for occupation and method of setting pay, we simultaneously interact all the dummies in the set with the variables for low-pay status and gender, and test the *joint* significance of the interaction terms for low-paid men and the joint significance of the interaction terms for higher-paid women.

In respect of health, we find that poorer general health and poorer mental health are both associated with a higher probability of leaving employment for low-paid women, but not for higher-paid women. Moreover, having a disability decreases low-paid women's probability of changing employers, but has the opposite effect on higher-paid women. It is possible that higher-paid women have better opportunities to change employers and presumably jobs when they have health problems, in order to find a job that better suits their health needs. Low-paid women, on the other hand, may be more likely to be 'stuck' in their current job when they are in bad health, with the absence of good alternative jobs also resulting in a higher probability of stopping work altogether.

Higher-paid women in the public sector are much less likely to change employers than higher-paid women in the private sector. For low-paid women, the opposite is true: they are more likely to change employers if they work in the public sector (other than government businesses or enterprises) than if they work in the private sector. In terms of occupation, compared to the reference group 'clerical and administrative workers',[24] the majority of low-paid women work in lower (less skilled) occupations and the majority of higher-paid women work in higher (more skilled) occupations (see Table 10). As a result, the mean marginal effects of higher (lower) occupations are estimated imprecisely for low-paid (higher-paid) women and should not be over-interpreted.[25] For the remaining marginal effects, for both low-paid and higher-paid women, we see the broad pattern of women's probability of changing employers being higher in the higher-skilled occupations.

Method of setting pay plays a different role for low-paid women and higher-paid women in respect of the probability of changing employers. Comparing employees paid at the award rate to employees with other methods of setting pay (except purely collective agreements), both low-paid and higher-paid women are less likely to change employers if they are paid the award rate. However, low-paid women are more likely to change employers if their pay resulted from a collective agreement than if it resulted from an award, whereas for higher-paid women there is little difference between collective agreements and awards in probability of changing employers.

[24] 'Clerical and administrative workers' are chosen as the reference group because it represents the 'median' group of occupation for women, with about half of the sample working in occupations of typically higher pay and/or status (Managers, Professionals, Technicians and trades workers, Community and personal service workers) and the other half in occupations of typically lower pay and/or status (Sales workers, Machinery operators and drivers, Labourers).

[25] For example, because only very few low-paid women are managers, the effect of being a manager on employment transitions is imprecisely estimated for low-paid women. Likewise, because only few higher-paid women are labourers, the effect of being a labourer on employment transitions is imprecisely estimated for higher-paid women. For the most and least skilled occupations alike, a comparison of the effects of those occupations on transitions for the two groups of women involves at least one imprecisely estimated effected, thereby reducing the reliability of the estimated *difference* as well.

Table 19: Impacts of socioeconomic characteristics on the probability of changing employer, low-paid women compared with low-paid men and with higher-paid women, logit model mean marginally effects estimates, employees aged 15–64

	Low-paid men	Higher-paid women	Low-paid women
Country of birth (Reference category: Australia)			
Main English Speaking Country		–0.008	0.056
Other country		–0.037	–0.044
Has a disability		0.016	–0.023
Employment history in past three waves			
Full-time equivalent employment (mean)		0.001	0.013
Any time out of the labour force (%)	–0.033		0.002
Sector of employment (Reference category: Government business enterprise or commercial statutory authority)			
Private sector for profit organisation		0.040	0.023
Private sector not for profit organisation		0.034	0.004
Other governmental organisation		–0.008	0.034
Type of employment contract (Reference category: Fixed-term contract)			
Casual	0.042		–0.016
Permanent	0.005		–0.057
Occupation (Reference category: Managers)			
Professionals		0.013	0.041
Technicians and trades workers		–0.037	0.030
Community and personal service workers		–0.010	0.049
Clerical and administrative workers		–0.019	0.044
Sales workers		–0.012	0.018
Machinery operators and drivers		–0.005	0.007
Labourers		–0.034	0.008
Method of setting pay (Reference category: Paid exactly the award rate)			
Collective agreement		–0.006	0.031
Other		0.012	0.014

Note: See Table 18. Each row is based on Model 1 as reported in Table 18 plus one characteristic interacted with gender and low-pay status, with the exception for method of setting pay, where each row is based on Model 2. If the coefficient on the interaction term is statistically significantly different from 0 at the 5 per cent level for either a) low-paid men or b) higher-paid women, the mean marginal effect of the characteristic is reported for low-paid women and for the employee group (low-paid men or higher-paid women) for which the interaction term is significant. The outcome for which marginal effects are reported in this table is the probability of *changing employer*.

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

5.1.3 Effects of characteristics on the probability of leaving employment – low-paid men and low-paid women

Table 20 presents mean marginal effects of characteristics on the probability of ceasing employment altogether, rather than changing employers. For this type of transition, family circumstances play a very different role for low-paid women than they do for low-paid men. Partnered low-paid women without children are more likely to cease employment than single low-paid women without children. For low-paid men, the effect goes in the opposite direction. Being partnered with young children makes it more likely for a low-paid woman to leave employment (by 6.8 percentage points), while being partnered with older children makes a break in employment less likely for low-paid men (by 4.2 percentage points). This pattern is consistent with men being providers of family income and women being providers of care.

As noted before, low-paid women and men respond differently to their contract type when it comes to changing employer. The same is found when it comes to ceasing employment: compared with fixed-term contracts, casual contracts increase the probability of low-paid men leaving employment (by 2.7 percentage points), but not low-paid women, for whom the probability of leaving employment is unrelated to having a casual contract. Working anything but a Monday-to-Friday schedule is associated with leaving employment for low-paid men, but with staying in employment for low-paid women. This reinforces the previous result that flexibility in working arrangements may be valued more strongly by women, while employment security may be valued more highly by men.

There is a negative association between preferred weekly working hours and the probability of leaving employment altogether for low-paid men as well as low-paid women. However, the effect for men is three times as large as that for women. This shows that low-paid women are more likely to have reasons why they do not want to work long hours without the implication that they are not able to or do not want to work at all; for men, wanting or needing to work shorter hours is more strongly connected to leaving employment altogether.

There are also some differences between low-paid men's and low-paid women's responses to their past labour market histories. For both genders, it is true that having more years of work experience in the recent past as well as in their total employment history, is associated with a lower likelihood of leaving employment, but the effects are much larger for men than for women. A long and stable career in the past is a better predictor of employment stability for men than it is for women. These findings—that men's employment stability is much more strongly connected to standard forms of employment, standard work hours and stable careers than is the case for women—can be interpreted as a reflection of the greater variation in women's work conditions and work histories.

Table 20: Impacts of socioeconomic characteristics on the probability of ceasing employment, low-paid women compared with low-paid men and with higher-paid women, logit model mean marginal effects estimates, employees aged 15–64

	Low-paid men	Higher-paid women	Low-paid women
Family Structure (Reference Category: Single without children)			
Partnered without dependent children	–0.017	0.022	0.035
Single, youngest dependent child aged 0–4		0.042	0.023
Single, youngest dependent child aged 5–24[b]	0.048	0.006	0.076
Partnered, youngest dependent child aged 0–4	0.005	0.067	0.068
Partnered, youngest dependent child aged 5–24	–0.042	–0.015	0.002
Partner's weekly salary in all jobs (in $100) [a)]	–0.003		0.001
SF-36 general health (0–100 scale) [a)]		0.007	–0.020
SF-36 mental health (0–100 scale) [a)]		–0.007	–0.038
Employment history in past three waves			
Years of employment, full-time equivalents (mean)	–0.025		–0.016
Employment history since leaving full-time education			
Total years employed [a)]	–0.159		–0.076
Total years unemployed [a)]		0.270	0.814
Tenure with current employer (years) [a)]		0.008	–0.293
Tenure in current occupation (years) [a)]		–0.039	–0.182
Preferred weekly working hours [a)]	–0.128	–0.109	–0.043
Type of employment contract (Reference category: Fixed-term contract)			
Casual	0.027		–0.008
Permanent	–0.022		–0.030
Weekly working hours in main job [a)]	–0.116		–0.024
Weekly work schedule (Reference category: Monday to Friday)	0.017		–0.028
Other regular days, none on weekend	0.001		–0.025
Other regular days, including weekend	0.009		–0.015
Days vary, none on weekend	0.017		–0.019
Days vary, including weekend	–0.116		–0.024
Enjoys job (Index with mean 0 and standard deviation of 1)	0.003		–0.001

Note: See Table 18 and Table 19. The outcome for which marginal effects are reported in this table is the probability of leaving employment. a) Marginal effects are multiplied by 100 for better readability. b) For men, there is only one combined category 'Single with children'. This was necessary because of the very low number of observations in both cells when the category is further split by age.

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Table 19 showed that job characteristics played different roles in job changes for low-paid and higher-paid women. Comparison of the middle and right columns of Table 20 shows that, for exits for employment, it is household structure that plays a different role for low-paid and higher-paid women. Generally, being single without children is the family structure in which women are the least likely to cease employment. A notable exception, applying to higher-paid women only, is that being partnered with older children reduces the likelihood of leaving work (by 1.5 percentage points) compared to being single without children. A further difference between low-paid and higher-paid women is that being a lone parent increases the probability of leaving employment for low-paid women regardless of the youngest child's age, whereas for higher-paid women this effect is only present if the youngest child is below school age.

In terms of labour market history, we find that low-paid women's current employment stability (both in terms of remaining employed and remaining with the same employer) varies more with their

labour market history than is the case for higher-paid women. Greater recent work experience, tenure with the current employer and tenure in the current occupation all act to reduce the probability of leaving one's current employer, whilst past unemployment experience increases the probability of leaving one's employer. These effects are present for both low-paid and higher-paid women, but the magnitude of the effects are much larger for low-paid women. Thus, for low-paid women, a stable current employment situation depends more strongly on a stable career in the past.

Key points

- Low-paid women are more likely than low-paid men to leave employment and more likely to change employers. This behavioural difference cannot be explained by their different characteristics.
- Raw differences in behaviour between low-paid women and higher-paid women are much larger, but they largely disappear once we control for differences in their characteristics: low-paid women and higher-paid women behave differently because they have different characteristics.
- Having a partner and children reduces the likelihood of low-paid men leaving employment, while it can prompt exits from employment for low-paid women.
- Low-paid men's stability of employment is strongly negatively associated with casual work, non-standard schedules or non-standard forms of employment, or a decrease in preferred weekly working hours; in contrast, low-paid women's employment stability is affected less negatively and in some cases positively by these characteristics.
- Similarly, employment histories that are correlated with unstable careers in the past seem to do more harm to low-paid men than to low-paid women.
- The weaker connection between low-paid women's employment stability and standard forms of employment, work schedules, long hours and stable past careers can be interpreted as a reflection of the greater relative variation in their work lives compared to that of low-paid men and higher-paid women.
- Factors related to the current job have a differential impact on changing employers for higher-paid and low-paid women; family circumstances and past labour market history affect both groups' probability of leaving employment in different ways.
- In terms of their probability of leaving employment, low-paid men's and low-paid women's continued employment is associated with their family circumstances and available working schedules in opposite directions, both in accordance with a traditional male breadwinner model.
- Low-paid women are more likely to stop working if their health deteriorates; higher-paid women are instead more likely to change employers.
- Having pay set by a collective agreement is associated with highest probability of changing employers for low-paid women, but for higher-paid women individual agreements and collective agreements are associated with similar probabilities of changing employers.

5.2 Low reservation wages and employment take-up

In this section we investigate labour force transitions by gender and level of reservation wage for individuals initially unemployed or marginally attached to the labour force. The approach is similar to that taken in Section 5.1: we estimate a multinomial logit model of labour force transitions, and determine to what extent the transitions differ by gender interacted with reservation-wage level (low-reservation wage versus higher-reservation wage). The model controls for personal and family characteristics, but not employer and job characteristics, since these are not applicable to non-employed persons. As in Section 5.1, we then interact those characteristics with reservation-wage status and gender, and determine the extent to which the effects of characteristics on labour force transitions differ between low-reservation-wage women and low-reservation-wage men, and between low-reservation-wage women and higher-reservation-wage women.

The model we estimate is based on the sample of unemployed/marginally attached individuals in the HILDA Survey. We estimate a multinomial logit model of employment entry: those who are unemployed or marginally attached in the observation period may still be unemployed/marginally attached in the following period; they may have left the labour force; or they may have taken up employment. The model is estimated with low-reservation-wage women as the reference category, and includes the characteristics from Table 14 and Table 15 as control variables. The reported coefficients in the left-hand panel of Table 21 show, compared to women with low reservation wages, the difference in likelihood of exit from the labour force for each other reservation-wage by gender group. The right-hand panel shows the corresponding differences for the probability of taking up employment.

The table shows that the likelihood a low-reservation-wage individual will exit the labour force is on average 4.3 percentage points lower for a man than a woman with the same observed characteristics. This difference is highly statistically significant. In the raw data in Table 17, 16.4 per cent of all men with a low reservation wage and 23.2 per cent of all women with a low reservation wage change from being marginally attached or unemployed in one period to being out of the labour force in the next period. Thus, in the raw data for the same population, men's probability of exiting the labour force is 6.8 percentage points lower than women's. After controlling personal characteristics and household characteristics (Table 14 and Table 15), this difference is 4.3 percentage points. Consequently, a substantial part, but not all, of the difference in behaviour between these two groups can be explained by our observed characteristics.

Men with low reservation wages are also on average 1.8 percentage points less likely than women with the same characteristics to take up employment in any given year. This is slightly higher than in the raw data in Table 17, but statistically insignificant. Given men with low reservation wages are 4.3 percentage points less likely to leave the labour force and 1.8 percentage points less likely to take up employment, it follows that they are 6.1 percentage points more likely than low-reservation-wage women to stay marginally attached or unemployed. In the raw data, unemployed and marginally attached individuals with low reservation wages have a probability of 48.2 per cent (men) and 42.6 per cent (women) of staying unemployed, an overall difference of 5.8 percentage points. Controlling personal and family characteristics thus explains nearly nothing of the observed raw difference in the likelihood of remaining unemployed or marginally attached.

Holding other characteristics constant, there is no difference in women's probability of leaving the labour force by level of reservation wage. The raw data in Table 17 showed women with higher reservation wages have a 27.2 per cent probability of exiting the labour force, which is 4.0 percentage points higher than observed for women with low reservation wages. In the model

presented in Table 21, this difference shrinks and is not significantly different from zero. Similarly, there is no significant difference by level of reservation wage in the probability an unemployed or marginally attached woman will commence employment. It therefore appears that the behavioural differences in the raw data are entirely explained by differences in observed characteristics.

These results mirror the findings in Section 5.1 on employment transitions of the employed, where the differences in transitions that we find between low-paid men and low-paid women are largely unrelated to their observed characteristics, while behavioural differences between higher-paid women and low-paid women are almost entirely due to differences in their observed characteristics. The same result is now found for the employment transitions of the unemployed and marginally attached.

Table 21: Effects of level of reservation wage and gender on labour force transitions, logit model mean marginal effects estimates, unemployed and marginally attached persons aged 15–64

	Exited the labour force	Commenced employment
Low-reservation-wage women	[Reference category]	[Reference category]
Low-reservation-wage men	–0.043*** (–3.41)	–0.018 (–1.35)
Higher-reservation-wage women	0.010 (0.88)	0.013 (0.89)
Higher-reservation-wage men	–0.027* (–1.99)	0.008 (0.52)
Number of observations	9345	
Log-likelihood	–8918.8	
Chi-squared	1874.9	
Degrees of freedom	72	

Notes: The table reports, for each of the explanatory variables for level of reservation wage and gender, the mean of the marginal effect on the probability of each outcome, evaluated over all observations. Estimates are not reported for the control variables, which comprise all variables reported in Table 14 and Table 15. t-values are reported in parentheses. *, ** and *** indicate statistical significance at the 10 per cent, 5 per cent and 1 per cent levels, respectively.

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Analogous to Table 19 and Table 20, in Table 22 we examine differences in the effects of characteristics on employment outcomes (commencement of employment and exit from the labour force) for the currently unemployed by reservation-wage level and gender. If a characteristic is found to have a different effect on an employment outcome for low-reservation-wage men than it does for low-reservation-wage women (indicated by the interaction term for low-reservation-wage men being significantly different from zero[26]), the mean marginal effect for that characteristic is reported for low-reservation-wage men and women. Likewise, if a characteristic has a different effect for higher-reservation-wage women than it has for low-reservation wage women, this characteristic's mean marginal effect is reported for both groups. The upper panel presents estimates for the probability of exiting the labour force and the lower panel presents estimates for the probability of taking up employment.

[26] We include marginal effects in this table if the interaction terms were significantly different from zero at the 10 per cent level due to the substantially smaller sample size. (In Section 5.1 the 5 per cent level was used.)

Table 22: Impacts of socioeconomic characteristics on labour force transitions, low-reservation-wage women compared with low-reservation-wage men and with higher-reservation-wage women, logit model mean marginal effects estimates, unemployed and marginally attached persons aged 15–64

	Low-reservation-wage men	Higher-reservation-wage women	Low-reservation wage women
Probability of exiting the labour force			
Age (years)	0.004		0.002
Has a disability		0.002	0.058
Employment history in past three waves			
Any time out of the labour force (%)	0.012		0.004
Probability of commencing employment			
Partner's weekly salary in all jobs ($100)[a)]	0.018	0.000	–0.004
Family Structure (Reference Category: Single without children)			
Partnered without dependent children	–0.031		–0.085
Single, youngest dependent child aged 0–4			–0.157
Single, youngest dependent child aged 5–24[b)]	–0.008		–0.009
Partnered, youngest dependent child aged 0–4	–0.013		–0.193
Partnered, youngest dependent child aged 5–24	–0.014		–0.091
Employment history since leaving full-time education			
Total years employed	0.005		0.002

Notes: See Table 21. Each row is based on the model reported in Table 21, plus one characteristic interacted with gender and low-pay status. If the coefficient on the interaction term is statistically significantly different from 0 at the 5 per cent level for either a) low-reservation-wage men or b) higher-reservation-wage women, the mean marginal effect of the characteristic is reported for low-reservation-wage women and for the reservation-wage group (low-reservation-wage men or higher-reservation-wage women) for which the interaction term is significant. [a)] Marginal effects are multiplied by 100 for better readability. [b)] For men, there is only one combined category 'Single with children'. This was necessary because of the very low number of observation in both cells when the category is further split by age.

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Among the unemployed and marginally attached, there are only a few characteristics which differ by gender and reservation-wage level in their effects on the likelihood of leaving the labour force. Significant, however, is that women with low reservation wages are more likely to leave the labour force because of a disability than women with higher reservation wages. Again, this mirrors a pattern we found before in relation to the employment transitions of the employed, where low-paid women were more likely to exit employment if they are in bad health, which is not the case for higher-paid women. Health appears to be a factor that leads to exclusion from the labour market for those with low-earnings potential—for the unemployed as much as for the employed. Moreover, women with low reservation wages are less likely to take up employment if their partner has a higher wage, which is not the case for women with higher reservation wages. This pattern is consistent with women with low earnings potential being more likely to rely on a male breadwinner than women with higher earnings potential.[27]

We also find differences between men and women with low reservation wages that resemble results we found in the previous section. In particular, years of employment and recent time out of the labour force affect men's and women's future employment transitions in the same and expected direction—greater experience and no career breaks are advantageous for employment take-up and protective against labour force exit—but the relationship is much stronger for men.

For both men and women with low reservation wages, the probability of employment take-up is highest when they are single and have no children. However, the negative association of

[27] Note that it is entirely unclear what is 'cause' and what is 'effect' in this relationship.

employment take-up with being partnered and, even more so, with having young children, is much greater for women than it is for men. For example, a woman's probability of taking up employment decreases by 19.3 percentage points if she has a partner and a young child, compared to her being single without children. For men, this effect is only 1.3 percentage points. This finding is again consistent with a traditional model of men providing family income and women providing care in the home.

Key points

- Women with low reservation wages are more likely than men with low reservation wages to leave the labour force or enter employment, and accordingly less likely to stay unemployed or marginally attached.
- Women with low reservation wages are equally likely as women with higher reservation wages to enter employment, leave the labour force, or stay unemployed/marginally attached once we control for differences in family characteristics and personal characteristics. Hence, nearly all of the observed difference in behaviour in the raw data between low-reservation-wage women and higher-reservation-wage women is due to their different characteristics.
- The difference in behaviour between men and women with low reservation wages appears to be unrelated to their different characteristics.
- This finding mirrors a result from Section 5.1: where we see behavioural differences within a gender across pay-status, this is a result of observed characteristics; where we observe differences within pay-status across genders, it is not.
- Comparing men and women with low reservation wages yields the finding that men's employment transitions are more strongly connected to their past labour market history, while women's are more strongly related to their family circumstances. Their different responses to those characteristics are again consistent with women and men, on average, behaving in accordance with a traditional family model with a male breadwinner and a female secondary earner—particularly if the woman's earnings potential is low.

5.2.1 Low-pay status and leave taking

An employee's long-term career path may not only be affected by decisions related to entries into and exits from employment, but also by short-term employment interruptions that preserve ties with an employer. In this section we present an analysis of differences in leave-taking behaviour by low-pay status and gender, taking the approach adopted in the previous two sections. Specifically, the employment transition of interest is whether the employee takes extended non-standard leave, defined (as in Section 4.8) as leave other than annual leave and sick leave of at least 8 weeks. The transition is estimated using a logit model, with all characteristics from Table 6, Table 8, Table 9, Table 10 and Table 12 added as controls.

Model 1 in Table 23 shows that, other characteristics being equal, low-paid and higher-paid women are equally likely to take extended non-standard leave. The estimated coefficient for higher-paid women indicates a difference in the probability of leave taking of only 0.1 percentage points, a result that is both economically and statistically insignificant. However, significant differences between women and men are evident. Low-paid men are, all else equal, 1.9 percentage points less likely than low-paid women to take extended non-standard leave. This difference is significant and indeed even larger than we observed in the raw data in Table 16, where 2.3 per cent of low-paid men and 3.3 per cent of low-paid women were observed to take extended non-standard leave. This

is, again, a very strong indication that the behavioural difference between men and women in the same earnings range is not due to differences in the controlled characteristics.

Table 23: Effects of low-pay status and gender on the decision to take extended leave, logit model mean marginal effects estimates, employees aged 15–64

	Model 1	Model 2
Low-paid woman	[Reference category]	[Reference category]
Low-paid man	–0.019*** (–3.80)	–0.020** (–2.99)
Higher-paid woman	0.001 (0.28)	0.000 (0.03)
Higher-paid man	–0.030*** (–7.19)	–0.030*** (–5.57)
Number of observations	58 099	34 016
Log-likelihood	–8420.9	–5027.7
Chi-squared	1462.0	1052.7
Degrees of freedom	95	98

Notes: The table reports, for each of the explanatory variables for low-pay status and gender, the mean of the marginal effect on the probability of taking more than one month's leave. Only periods of unpaid leave, or paid leave other than paid sick leave or paid annual leave are considered. Estimates are not reported for the control variables, which comprise all variables reported in Table 6, Table 8, Table 9 and Table 10 other than the variables for workplace gender composition, and workplace entitlements. For satisfaction with the job and opinions about the job (presented in Table 12), two control variables derived from a factor analysis are included. Model 2 additionally controls for method of setting pay (in three categories: i) Award-reliant, ii) Collective Agreement, and iii) Other). t-values are reported in parentheses. *, ** and *** indicate statistical significance at the 10 per cent, 5 per cent and 1 per cent levels, respectively.

Source: Authors' estimations using Waves 4–13 (Model 1) and Waves 8–13 (Model 2) of the HILDA Survey.

A similar result is found among higher-paid employees, with the probability of taking leave 3 percentage points higher for women compared with men. The behavioural difference is very similar to the difference found in the raw data, which show that 2.2 per cent of higher-paid men and 5.3 per cent of higher-paid women take extended non-standard leave in a one-year period. It appears that, when it comes to leave-taking, the controlled characteristics explain very little of the observed behavioural difference between men and women, at least with a model that holds the correlation between characteristics and behaviour constant across gender and low-pay-status.

Model 2 in Table 23 presents estimates based on Waves 8 to 13 of the HILDA Survey and with added controls for method of setting pay. The estimates are nearly identical to those obtained from Model 1.

As in Section 5.1, estimating Model 1 serves the purpose of allowing us to explore whether method of setting pay has a differential impact on leave taking decisions for the different groups. This, along with differences in effects of all other characteristics, is examined in Table 24, which presents analogous results to those presented in Table 19 and Table 20 in Section 5.1. This allows us to explore questions such as whether having young children makes low-paid women more likely to take extended non-standard leave, but makes low-paid men less likely to take such leave. As in Section 5.1, mean marginal effects are only presented where there are significant differences between low-paid women and low-paid men, or between low-paid women and higher-paid women.

Important predictors of extended leave-taking that affect all three groups (low-paid women, low-paid men and higher-paid women) differently are household context, labour market history, and health. Having a partner or children hardly impacts on men's leave-taking behaviour, with the exception of single fathers (which is a small group). Women (low-paid as well as higher-paid) are

more likely to take leave if they have children. However, for higher-paid women, this is the case only if they have a partner and the youngest child is below school age. Low-paid women are also more likely to take leave if they are single and/or their children are older.

In terms of the effects of health, we find that for higher-paid women, and also for low-paid men, poorer mental health increases the probability of leave-taking. For low-paid women, on the other hand, deteriorations in both general health and mental health *decrease* the probability of leave-taking. This is again suggestive of low-paid women being 'stuck' in their jobs when their health deteriorates, with little or no other option than to either leave employment or stay in their current job. Higher-paid women might be more likely to manage the effects of bad health by changing to a different job, as we saw in Section 5.1, or by taking extended leave.

In terms of employment history, as the number of years out of the labour force in their employment history increases, low-paid women are less likely to take extended non-standard leave. It is possible that low-paid women's leave-taking is largely related to child-bearing: those who have already accumulated long breaks for that reason might be less likely to experience this again as they do not have further children. For men, extended leave-taking is strongly positively related to past periods out of the labour force. Men's leave-taking may be more often related to factors, such as poor health, that lead to a weaker labour force attachment in the long term.

The results with regard to actual and preferred working hours allow a similar interpretation. The more hours men work, and the more hours they want to work, the less likely they are to take extended non-standard leave. This pattern is consistent with leave-taking being the result of, for example, reduced work capacity. Women, by contrast, are more likely to take leave the more hours they work.

Type of employment contract also has different effects for men and women. Other factors being equal, both low-paid and higher-paid women are 3.6 percentage points more likely to take extended non-standard leave (compared to an average probability of taking extended non-standard leave of 3.3 per cent; see Table 16) if they are in a permanent or ongoing position than if they are on a fixed-term contract. This pattern is not found for low-paid men. We would expect to see such a pattern in the data if, for example, parenting obligations are an important reason for women's leave-taking, and employer-provided parental leave is available only to employees of a minimum tenure.

Another difference between low-paid women and low-paid men is that low-paid men are more likely to take leave when they work regular evening shifts, night shifts, or irregular schedules. Low-paid women's probability of taking leave is negatively or not at all related to working evenings or nights, but they are more likely to take extended leave if they work an irregular schedule or do on-call work.

The effect of method of setting pay on leave-taking turns out not to be significantly different for low-paid women, low-paid men and higher-paid women.

Table 24: Impacts of socioeconomic characteristics on the probability of taking extended leave, low-paid women compared with low-paid men and with higher-paid women, logit model mean marginal effects estimates, employees aged 15–64

	Low-paid men	Higher-paid women	Low-paid women
Family Structure (Reference Category: Single without children)			
Partnered without dependent children	0.006	0.029	0.018
Single, youngest dependent child aged 0–4		0.001	0.023
Single, youngest dependent child aged 5–24 [b)]	0.069	–0.004	–0.001
Partnered, youngest dependent child aged 0–4	0.000	0.102	0.062
Partnered, youngest dependent child aged 5–24	0.003	0.005	0.027
SF-36 general health (0–100 scale) [a)]		0.005	–0.028
SF-36 mental health (0–100 scale) [a)]		0.022	–0.015
Employment history since leaving full-time education			
Total years employed [a)]		–0.108	–0.038
Total years out of the labour force [a)]	0.351		–0.188
Preferred weekly working hours [a)]	–0.069		–0.010
Weekly working hours in main job [a)]	–0.049		0.042
Type of employment contract (Reference category: Fixed-term contract)			
Casual	0.030		0.034
Permanent	0.002		0.036
Daily work schedule (Reference category: Regular day shift)			
Regular evening shift	0.059		–0.003
Regular night shift	0.013		–0.023
Rotating shift (changes from days to evenings to nights)	–0.009		0.007
Split shift or irregular schedule	0.011		0.010
On call	–0.011		0.048

Notes: See Table 23. Each row is based on a model as reported in Table 23, plus one characteristic interacted with gender and low-pay status. If the coefficient on the interaction term is statistically significantly different from 0 at the 5 per cent level for either a) low-paid men or b) higher-paid women, the mean marginal effect of the characteristic is reported for low-paid women and for the employee group (low-paid men or higher-paid women) for which the interaction term is significant. [a)] Marginal effects are multiplied by 100 for better readability. [b)] For men, there is only one combined category 'Single with children'.

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Key points

- Controlling for differences in observed characteristics, low-paid women and higher-paid women are about equally likely to take extended non-standard leave.
- Leave-taking is much more likely for women if they have children; for higher-paid women this is particularly the case if they have a child aged under 5 years and a partner; for low-paid women, this is observed for all children's ages.
- Low-paid men are less likely to take extended non-standard leave than low-paid women are. The behavioural difference across gender cannot be explained by different characteristics.
- However, the difference in behaviour is correlated with characteristics in different ways for low-paid men and low-paid women.
- Low-paid men and women respond to their family circumstances, on average, according to a family model with a male breadwinner and a female primary carer.
- Low-paid women are less likely to take leave if they have health problems, for higher-paid women the opposite is true.

- For low-paid women, extended leave-taking is less likely if they have already accumulated many years out of the labour market. For men, employment breaks increase the probability of extended leave-taking. This could reflect differences in the reasons for taking leave: for men, these reasons may often be health-related, whereas for women long leave may be more often taken to care for their children.

5.3 Low-pay status and working hours

Table 25 shows the results of an ordinary least squares regression, with employee's weekly working hours in the main job as the dependent variable, and the same set of control variables as in previous estimations (with the exception of weekly working hours). As before, Model 1 is based on Waves 4 to 13, while Model 2 is based on Waves 8 to 13 and contains additional controls for method of setting pay.

The estimates obtained for Model 1 show that, all other controlled characteristics being equal, low-paid men work about forty minutes more per week than low-paid women. This is highly statistically significant, but also substantially less than the raw difference of over six hours per week (see Table 10), implying that most of the difference in chosen hours between low-paid men and low-paid women is due to observed characteristics. Similarly, other things being equal, low-paid women work approximately forty minutes more per week than higher-paid women. This is, again, highly statistically significant. Controlling for observed characteristics reduces the difference in hours worked by nearly 90 per cent compared to the raw difference of six hours per week.

Table 25: Effects of low-pay status and gender on weekly working hours, OLS coefficient estimates, employees aged 15–64

	Model 1	Model 2
Low-paid women	[Reference category]	[Reference category]
Low-paid men	0.666*** (5.31)	0.758*** (4.52)
Higher-paid women	–0.628*** (-6.69)	–0.875*** (-6.88)
Higher-paid men	0.189 (1.78)	0.006 (0.04)
Number of observations	73 101	45 868
F-Statistic	2284.8	1211.2
Degrees of freedom	95	97
R-squared	–0.828	–0.789

Notes: Estimates are not reported for the control variables, which comprise all variables reported in Table 6, Table 8, Table 9 and Table 10 other than the variables for workplace gender composition, and workplace entitlements. For satisfaction with the job and opinions about the job (presented in Table 12), two control variables derived from a factor analysis are included. Model 2 additionally controls for method of setting pay (in three categories: i) Award-reliant, ii) Collective Agreement, and iii) Other). t-values are reported in parentheses. *, ** and *** indicate statistical significance at the 10 per cent, 5 per cent and 1 per cent levels, respectively.

Source: Authors' estimations using Waves 4–13 (Model 1) and Waves 8–13 (Model 2) of the HILDA Survey.

Similar to the analyses presented in the previous sections, Table 26 shows the association of socioeconomic characteristics with hours worked, given that this relationship is statistically different for low-paid women and higher-paid women, or for low-paid women and low-paid men. That is, we again estimate a model with one characteristic interacted with pay-status and gender; we test whether the characteristic in question affects weekly working hours for low-paid women in a way that is significantly different form the effect that the same characteristic has on low-paid men's

weekly working hours, or on higher-paid women's weekly working hours. If the test confirmed such a difference across groups, the mean marginal effects of the characteristic for the relevant groups are reported in the table.

Consistent with our finding in the previous sections, we find that low-paid men work longer hours if they have a partner and/or children (with the exception of the very small group of single fathers, who reduce their working hours). Having a partner and a young child is associated with, on average, ten additional minutes of work per week, while having a partner and older or no children is associated with on average forty to fifty additional minutes of work per week. Women, by contrast, work the most if they are childless, although partnered women without children work twenty to thirty minutes more than single women without children. Having a child below age 4 reduces weekly working hours of low-paid women by about 70 to 80 minutes, and reduces weekly working hours of higher-paid women by 40 minutes if the mother is single and by more than 100 minutes if the mother is partnered. Older children affect women's working hours less, but in the same direction.

Among personal characteristics, we see that age as well as indicators relating to labour market experience (recent and long-term) impact on weekly working hours in different ways for low-paid men and low-paid and higher-paid women. Among higher-paid women, there is a consistent pattern of working hours increasing in age, with higher-paid women aged 55 and older working on average over 2.5 hours more per week than those aged 20 and younger. For low-paid women there is a less clear relationship between age and working hours. Working hours increase with age up to the 25–29 age group, are relatively low in the 30–34 age group, and are highest in the age groups above 35, but with no evidence of a positive age gradient among those aged 35 and over.

In terms of recent labour market history, every year of full-time work in the past three waves on average acts to increase weekly working hours of both low-paid women and higher-paid women by approximately two hours. Having had any time out of the labour force in the last three waves acts to increase working hours for all three employee groups, but the strongest effect is found for low-paid men, who work 2.2 hours more per week on average if they had an employment interruption recently, and weakest for higher-paid women, who work only 0.5 hours more per week in this scenario. Notably, low-paid women who have been working in their occupations longer or with their employer for longer work fewer hours per week than those with less tenure. For low-paid men and higher-paid women, the opposite pattern is found.

Considering employer characteristics, there are substantial differences in the effect of sector on weekly working hours across groups: compared to the private-for-profit sector, low-paid women who work in the public sector work about the same weekly working hours (with the exception of government businesses); in contrast to that, low-paid men work around 80 minutes less per week, and higher-paid women around 12 minutes less per week in the public sector than in the private-for-profit sector. For all three groups, we see an increase in weekly working hours if the individual works in workplaces with more employees; this increase is moderate for low-paid women, steeper for higher-paid women, and flatter for low-paid men.

In regards to job characteristics, occupation and work schedule play a role for low-paid women that is different from the role these characteristics play for higher-paid women. The two most common occupations for higher-paid women, other than the reference category of clerical and administrative workers, are professionals (who work on average 45 minutes more per week than the reference occupation) and community and personal service workers (who work on average 25 minutes less per week). For low-paid women, the most common occupations other than the reference occupation are sales workers and labourers (in both occupations, low-paid workers work around 80

minutes less per week than low-paid workers in the reference occupation do). That means, working in one of their more typical occupations is associated with longer working hours for higher-paid women and with somewhat shorter working hours for low-paid women.

Finally, different types of work schedules are also associated with different weekly working hours across the groups. For all groups, compared to a Monday-to-Friday schedule, working regular days other than Monday to Friday, or working varying days reduces weekly working hours by about two hours per week if the work schedule includes weekends. Naturally, the reduction in working hours is substantially larger, around 5.5 to 6 hours per week, if the work-schedule is not Monday-to-Friday, but also excludes weekends. Working according to a schedule other than Monday-to-Friday has a remarkably similar impact on low-paid men and low-paid women (despite the coefficients being statistically different from each other), but higher-paid women report higher reductions in working hours if they work such a non-standard schedule than do the low-paid groups.

This is also the case for the daily work schedule, where regular day shifts and rotating shifts are associated with the lowest working hours, and regular evening shifts, regular night shifts, irregular shifts and on-call work come with a reduced number of working hours. Again, the pattern is similar across all groups, but higher-paid women have a greater reduction in working hours when working non-standard hours than low-paid women.

Table 26: Impacts of socioeconomic characteristics on weekly working hours, low-paid women compared with low-paid men and with higher-paid women, OLS coefficient estimates, employees aged 15–64

	Low-paid men	Higher-paid women	Low-paid women
Family Structure (Reference Category: Single without children)			
Partnered without dependent children	0.607	0.286	0.415
Single, youngest dependent child aged 0–4		–0.625	–1.432
Single, youngest dependent child aged 5–24[a)]	–2.129	–0.347	–0.117
Partnered, youngest dependent child aged 0–4	0.160	–1.726	–1.272
Partnered, youngest dependent child aged 5–24	0.780	–0.699	–0.295
Age groups (reference Category: 20 years or younger)			
21 to 24 years		1.352	0.468
25 to 29 year		1.582	1.271
30 to 34 years		1.607	0.939
35 to 44 years		1.717	1.573
45 to 54 years		2.036	1.486
55 years or older		2.489	1.360
Employment history in past three waves			
Years of employment, full-time equivalents (mean)		1.941	2.143
Any time out of the labour force (%)	2.234	0.549	1.279
Employment history since leaving full-time education			
Tenure with current employer (years)		0.017	–0.035
Tenure in current occupation (years)	0.034		–0.150
Preferred weekly working hours	0.598		0.634
Sector of employment (Reference category: Private sector for profit organisation)			
Private sector not-for-profit organisation	–0.810	0.117	–0.519
Government business enterprise or commercial statutory authority	–0.578	–0.317	0.329
Other governmental organisation	–1.389	–0.219	0.034
Number employed at place of work (Reference category: 1–4)			
5 to 9	0.320	0.806	0.675
10 to 19	0.696	1.390	1.054
20 to 49	–0.143	1.735	1.045
50 to 99	–0.185	1.798	0.768
100 to 199	0.166	1.893	1.207
200 to 499	0.375	2.039	1.491
500 or more	0.509	2.276	1.989
Occupation (Reference category: Clerical and administrative workers)			
Managers		2.328	1.169
Professionals		0.729	0.918
Technicians and trades workers		0.128	1.118
Community and personal service workers		–0.443	–0.645
Sales workers		–0.889	–1.361
Machinery operators and drivers		0.577	–0.350
Labourers		–1.044	–1.405
Occupations Status Scale AUSEI06	–0.007		0.011
Weekly work schedule (Reference category: Monday to Friday)			
Other regular days, none on weekend	–5.680	–6.450	–5.369
Other regular days, including weekend	–2.185	–4.139	–2.893
Days vary, none on weekend	–4.853	–6.315	–4.730
Days vary, including weekend	–2.015	–2.416	–2.045
Daily work schedule (Reference category: Regular day shift)			
Regular evening shift		–2.100	–1.415
Regular night shift		–0.836	–1.393
Rotating shift (changes from days to evenings to nights)		0.229	0.146
Split shift or irregular schedule		–1.454	–0.723
On call		–3.233	–2.809

Notes: See Table 25. Each row is based on a model as reported in Table 25, plus one characteristic interacted with gender and low-pay status. If the coefficient on the interaction term is statistically significantly different from 0 at the 5 per cent level for either a) low-paid men or b) higher-paid women, the mean marginal effect of the characteristic is reported for low-paid women and for the employee group (low-paid men or higher-paid women) for which the interaction term is significant. a) For men, there is only one combined category 'Single with children'.

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Key points

- Low-paid women on average work forty minutes less per week than low-paid men.
- Low-paid women on average work forty minutes more per week than higher-paid women.
- The differences in working times across the groups that are observed in the raw data are much larger: low-paid women average 5 fewer hours than low-paid men and 6 fewer hours than higher-paid women. Nearly all the variation in weekly working hours across the three groups is therefore explained by differences in observed characteristics.
- Partner status and the presence of children have different effects on working time of low-paid men and low-paid women, and there are also differences in effects between low-paid women and higher-paid women. The pattern of differences is consistent with the male breadwinner model.
- Low-paid women with longer occupation tenure or employer tenure work fewer hours per week than those with less tenure. For low-paid men and higher-paid women, the opposite pattern is found.
- Compared to the private-for-profit sector, low-paid men and higher-paid women in the public sector work fewer hours per week, whereas low-paid women have similar average working times in the two sectors.

6 Estimation results: work decisions and pay equity

6.1 Low-paid women compared with higher-paid women

What are the consequences of past employment, job transitions and leave taking decisions? Any career interruption will impact on an individual's employment experience as well as accumulated years out of the labour force or unemployed. As discussed in Chapter 4, low-pay status is correlated with short employment histories, and more time spent unemployed or out of the labour force. How strong a role do the employment transitions discussed in the previous chapter play in explaining why low-paid women are low paid? How much do those career transitions contribute to explaining why low-paid women earn less than higher-paid women. Do they contribute to any possible earnings gap between low-paid women and low-paid men, if such a gap exists? And can they explain why women have a higher probability of being low-paid than men?

We estimate an earnings function to analyse the relationship between earnings and employment histories:

$$ln(w_{it}) = \beta_0 \cdot emp_{it} + \beta_1 \cdot emp_{it}^2 + \beta_2 \cdot olf_{it} + \beta_3 \cdot ue_{it} + \beta_4 \cdot te_{it} + \beta_5 \cdot to_{it}$$
$$+\gamma_1 \cdot emp_{rec_{it}} + \gamma_2 \cdot olf_{rec_{it}} + \boldsymbol{\delta_1} \cdot \mathbf{X_{fam_{it}}} + \boldsymbol{\delta_2} \mathbf{X_{pers_{it}}} + \boldsymbol{\delta_3} \cdot \mathbf{Year_{it}} + \varepsilon_i$$

where $\ln(w_{it})$ is the logarithmic wage of individual i at time t. emp_{it}, emp_{it}^2, $olf_{it}$and ue_{it} represent the total work history: the individual's years of employment (linear and squared), years spent out of the labour force, and years of unemployment. te_{it}denotes tenure with the current employer, and to_{it} tenure in the current occupation. Recent work history is captured by $emp_{rec_{it}}$, the intensity of recent work experience in years of full-time equivalent employment in the past three waves, and $olf_{rec_{it}}$, a dummy variable indicating whether the individual had a period out of the labour force in the past three waves (as defined in Section 4.3). $\mathbf{X_{fam_{it}}}$ is a vector of the family variables as reported in Table 6, and $\mathbf{X_{pers_{it}}}$ is a vector of all variables reported in Table 8, with the adjustments described in Section 5. $\mathbf{Year_{it}}$ is a vector of year dummies to account for inflation and other time trends.[28]

We estimate a pooled earnings function for all women, as well as separate earnings functions for low-paid women and higher-paid women. A comparison of predicted earnings from each of the three models allows us to compare how much low-paid women would earn, and how much higher-paid women would earn, if the earnings function looked like the pooled earnings function (that is, if the pooled-regression coefficient estimates are applied to each group). It is also possible to determine the extent to which earnings differences would be reduced if the two groups had the same level of employment experience, the same number of years out of the labour force, and so on. This is known as an 'Oaxaca-Blinder-decomposition' (Blinder, 1973 and Oaxaca, 1973).

Model 1 of Table 27 shows the result. The log hourly wage of higher-paid women is 3.2252, equivalent to $25.92; that of low-paid women is 2.4693, or $11.81. The lower panel of the table presents the decomposition results, identifying how much of the 0.7858 difference in the log wage can be attributed to differences in characteristics—that is, the extent to which the earnings gap would be reduced (or possibly increased) if low-paid and higher-paid women had the same

[28] Job and employer characteristics are not included as explanatory factors in the earnings equation because they represent part of the mechanism by which characteristics of employees impact on earnings. For example, more highly educated individuals are more likely to be employed in highly skilled occupations.

characteristics. The total effect of differences in characteristics is obtained by using the coefficient estimates from the pooled regression to compare the predicted log wage at the mean values of the characteristics of low-paid women with the predicted log wage at the mean values of the characteristics of higher-paid women. The difference between these two predicted values is the difference in log earnings attributable to differences in the observed characteristics. Effects of subsets of characteristics are obtained by changing only the values of the variables for those characteristics from the mean values of low-paid women to the mean values of higher-paid women. In addition to presenting the contribution to the gap expressed in log earnings (first column), the table also presents the contribution as a percentage of the total difference in mean log earnings (second column).

The first panel of the decomposition presents the contribution to the earnings gap of differences in total labour market history (since first leaving full-time education). Higher-paid women have greater years of labour market experience, so that the earnings gap would shrink by 0.0497, or 6.3 per cent of the total difference, if low-paid and higher paid women had the same number of years of experience. Although the two groups of employees also differ somewhat in years of unemployment and years out of the labour force, these differences explain little of the earnings gap—if both groups had the same number of years of unemployment, the gap would shrink by 0.0006, while if they had the same number of years out of the labour force, the gap would grow by 0.0055.

Occupational tenure and tenure with the current employment are bigger factors: had low-paid women and higher-paid women the same tenure, the log earnings gap would shrink by 0.0284 (0.0133+0.0151). In total, the labour market history can explain 9.3 per cent of the earnings gap—a moderate, but not negligible part of why low-paid women earn less than higher-paid women. Recent labour market history explains a further 6.2 per cent of the earnings gap. This is entirely due to differences in full-time equivalent employment over the past three waves, with having had any time out of the labour force in the past three waves largely irrelevant for the earnings gap between the two groups of women. This would suggest that recent part-time work appears to be the most important factor.

The decomposition also identifies how much of the earnings gap can be attributed to family characteristics in terms of partner status, partner earnings, the presence of dependent children, the age of the youngest child, child care use and problems finding child care, and the presence of a household member with a disability. In total, differences between low-paid and higher-paid women in family characteristics explain on 2 per cent of the total earnings gap.

The biggest role in explaining the earnings gap between low-paid women and higher-paid women is played by personal characteristics other than labour market history (as itemised in Table 8). These comprise age, educational attainment, health, and country of birth. Differences in these characteristics account for 28 per cent of the earnings gap.

In total, were the two groups of women identical in all characteristics that are included in the log earnings equation, the earnings gap would be smaller by 0.3586. The gap would thus reduce to 54.4 per cent of the total earning gap if the observed differences in characteristics were eliminated. Put differently, 54.4 per cent of the earnings gap is not related to family circumstances or personal characteristics, including work history, observed in the HILDA Survey data.

Models 2 and 3 in Table 27 repeat the estimation of Model 1, but examine award-reliant employees (Model 2) and non-award employees (Model 3) separately. As previously discussed, method of setting pay was not collected by the HILDA Survey in Waves 1 to 7, and so the analysis sample for these two models is restricted to Waves 8 to 13. Motivating the development of Models 2 and 3 is

the expectation that the sources of earnings differences between low-paid and higher-paid employees are likely to be quite different for award-reliant employees and non-award employees. In particular, market factors are likely to be more important for non-award-reliant employees, while institutional features of the award system will be more important for award-reliant employees—although these may well manifest in similar associations with employee characteristics as are found for non-award-reliant employees.

Unsurprisingly, the total difference between low-paid and higher-paid women in mean log earnings is lower for award-reliant women than for non-award women. There are nonetheless strong similarities in the roles of characteristics in explaining the overall difference in mean log earnings. That said, differences in characteristics explain only 36.3 per cent of the earnings gap for award-reliant employees, compared with 42.2 per cent for non-award-reliant employees. Thus, we find that differences in characteristics play a greater role for non-award-reliant employees than award-reliant employees. Particularly notable is that differences in recent work experience and personal characteristics (other than work experience) explain more of the earnings gap for non-award-reliant employees.

Table 27: Decomposition of the earnings differential between low-paid women and higher-paid women

	Model 1 – All Employees		Model 2 – Award Wage Employees		Model 3 – Non-Award Wage Employees	
	Logarithmic scale	Non-logarithmic scale	Logarithmic scale	Non-logarithmic scale	Logarithmic scale	Non-logarithmic scale
Pay difference between low-paid women and higher-paid women						
Mean hourly wage, higher-paid	3.2552	25.92	3.1532	23.41	3.2678	26.25
Mean hourly wage, low-paid	2.4693	11.81	2.5404	12.68	2.4388	11.46
Difference (A)	**0.7858**	**2.19**	**0.6128**	**1.85**	**0.8289**	**2.29**
Change in mean log pay difference if low-paid women and higher-paid women had equal characteristics						
	Change	% of total difference	Change	% of total difference	Change	% of total difference
Employment history since leaving full-time education						
Years of experience	–0.0497	–6.3%	–0.0482	–7.9%	–0.0444	–5.4%
Years of unemployment	–0.0006	–0.1%	–0.0016	–0.3%	–0.0017	–0.2%
Years out of the labour force	+0.0055	+0.7%	+0.0040	+0.7%	+0.0042	+0.5%
Tenure with current employer	–0.0133	–1.7%	+0.0006	+0.1%	–0.0124	–1.5%
Tenure in current occupation	–0.0151	–1.9%	–0.0115	–1.9%	–0.0160	–1.9%
Sum of full work history variables	*–0.0731*	*–9.3%*	*–0.0566*	*–9.2%*	*–0.0704*	*–8.5%*
Employment history in past three waves						
Years of employment, full-time equivalents (mean)	–0.0500	–6.4%	–0.0237	–3.9%	–0.0495	–6.0%
Any time out of the labour force (%)	+0.0009	+0.1%	–0.0001	+0.0%	+0.0011	+0.1%
Sum of recent work history variables	*–0.0491*	*–6.2%*	*–0.0238*	*–3.9%*	*–0.0484*	*–5.8%*
Sum of family characteristics	*–0.0154*	*–2.0%*	*–0.0101*	*–1.6%*	*–0.0157*	*–1.9%*
Sum of other personal characteristics	*–0.2210*	*–28.1%*	*–0.1319*	*–21.5%*	*–0.2153*	*–26.0%*
Total change in difference (B)	**–0.3586**	**–45.6%**	**–0.2225**	**–36.3%**	**–0.3498**	**–42.2%**
Remaining difference (A + B)	**0.4272**	**54.4%**	**0.3904**	**63.7%**	**0.4791**	**57.8%**

Source: Authors' estimations using Waves 4–13 (Model 1) and Waves 8–13 (Models 2 and 3) of the HILDA Survey.

Section 5 showed, throughout all estimations, that observed characteristics can explain most of the behavioural differences between low-paid and higher-paid women—in terms of exiting employment, taking up employment, taking extended leave, and number of hours worked per week. However, while the results of those decisions—that is, a woman's total and recent labour market history—explain a substantial part of the mean earnings gap, they also leave a large part unexplained.

6.2 Female employees compared with male employees

It is possible to similarly decompose the earnings differential (if any) between low-paid women and low-paid men. Specifically, the above earnings equation is estimated first on all low-paid employees, then separately on low-paid men and on low-paid women. However, in undertaking this exercise, we find that there is in fact almost no earnings differential between low-paid men and women in the raw data.[29] The gap amounts to just 2 per cent, or $0.28 per hour. Thus, decomposing this "gap" does not yield much new information. Nonetheless, for completeness, the full results are reported in Appendix E controlling the observed characteristics further reduces this minimal gap by a quarter.

As discussed in the previous sections, the observed differences in employment transitions between low-paid men and low-paid women appear to be largely unrelated to their characteristics—after controlling for a very large set of characteristics, the difference in behaviour between men and women appeared to be still about as large as they are in the raw data without taking any differences in characteristics into account. The behavioural difference is thus to be attributed to unobserved characteristics associated with gender, or to gender itself. However, even if we cannot explain why low-paid men and low-paid women behave differently, can the results of those workforce participation decisions still explain why women are more likely to be low paid in the first place?

To this end, we examine the difference in men's and women's incidence of receiving low pay. Instead of the above earnings function, we estimate the linear probability model:

$$lowpay_{it} = \beta_0 \cdot emp_{it} + \beta_1 \cdot emp_{it}^2 + \beta_2 \cdot olf_{it} + \beta_3 \cdot ue_{it} + \beta_4 \cdot te_{it} + \beta_5 \cdot to_{it}$$
$$+\gamma_1 \cdot emp_{rec_{it}} + \gamma_2 \cdot olf_{rec_{it}} + \boldsymbol{\delta_1} \cdot \mathbf{X_{fam_{it}}} + \boldsymbol{\delta_2} \mathbf{X_{pers_{it}}} + \boldsymbol{\delta_3} \cdot \mathbf{Year_{it}} + \varepsilon_i$$

where $\boldsymbol{lowpay_{it}}$ is a 0/1 indicator of receiving low-pay. The equation is first estimated on a pooled sample of men and women, and then separately for both genders.

Table 28 shows the extent to which the incidence of low-pay among men and women would be more similar if they had the same employment histories, family characteristics, and personal characteristics. It shows that 21 per cent of all female employees and 16.4 per cent of all male employees receive low pay; this amounts to a difference of 4.6 percentage points. In total, 2.8 percentage points of this difference can be attributed to differences in characteristics. In fact, two employment history characteristics appear to be the main observed sources of difference in the incidence of low pay: years out of the labour force; and full-time equivalent employment in the past three waves. These two variables alone explain 59.4 per cent of the difference in the incidence of low pay.

[29] This has been found before for a large number of countries (for Australia, for example Barón and Cobb-Clark, 2010 and Kee, 2006), with institutional wage setting playing a large role for gender equity among low-paid workers (Gregory, 1999).

Other employment history characteristics appear to be relatively unimportant, including years of experience, years of unemployment, job tenure and occupation tenure. Differences in family characteristics and personal characteristics also explain little of the gap between male and female employees in the incidence of low pay. Notable, however, is that the gap would be even larger (by 0.3 percentage points) if male and female employees had the same personal characteristics (other than employment history).

Models 2 and 3 respectively examine award-reliant employees and non-award-reliant employees. For Model 2, we see that the incidence of low pay among award-reliant employees is only 0.1 per cent higher for women than men—thus there is essentially no gap to decompose. However, the decomposition shows that, if award-reliant women had the same characteristics as award-reliant men, the proportion of low-paid would be 2.6 percentage points higher than it actually is (or 21 times). The corollary of this is that unobserved factors are causing a higher incidence of low pay among award-reliant women than their observed characteristics would suggest they should have. One possible interpretation of this finding is that the award system is not rewarding men and women with the same characteristics equally—at least in so far as it is producing a higher incidence of low pay for women than their characteristics warrant. (This could also be partly driving the residual male-female difference in mean log earnings of award-reliant employees shown in Table 27.) There are, however, other possible explanations, including that there may be differences in relevant characteristics that are not observed in the HILDA Survey data.

Table 28: Decomposition of the differential incidence of low-pay between women and men

	Model 1 – All Employees		Model 2 – Award Wage Employees		Model 3 – Non-Award Wage Employees	
Difference in incidence of low-pay between women and men						
Incidence of low-pay, women	0.2098		0.4200		0.1728	
Incidence of low-pay, men	0.1640		0.4187		0.1330	
Difference (A)	**0.0458**		**0.0013**		**0.0398**	
Change in difference in incidence of low-pay, if men and women had equal characteristics						
	Change	% of total difference	Change	% of total difference	Change	% of total difference
Employment history since leaving full-time education						
Years of experience	–0.0017	–3.7%	+0.0004	+30.8%	–0.0007	–1.8%
Years of unemployment	+0.0012	+2.6%	–0.0004	–30.8%	+0.0011	+2.8%
Years out of the labour force	–0.0120	–26.2%	–0.0070	–538.5%	–0.0113	–28.4%
Tenure with current employer	–0.0004	–0.9%	–0.0000	–0.0%	–0.0003	–0.8%
Tenure in current occupation	–0.0010	–2.2%	+0.0005	+38.5%	–0.0009	–2.3%
Sum of full work history variables	*–0.0139*	*–30.3%*	*–0.0066*	*–507.7%*	*–0.0121*	*–30.4%*
Employment history in past three waves						
Full-time equivalent employment (mean years)	–0.0160	–34.9%	–0.0079	–607.7%	–0.0151	–37.9%
Any time out of the labour force (%)	+0.0008	+1.7%	+0.0014	+107.7%	+0.0005	+1.3%
Sum of recent work history variables	*–0.0152*	*–33.2%*	*–0.0065*	*–500.0%*	*–0.0147*	*–36.9%*
Sum of family characteristics	*–0.0020*	*–4.4%*	*+0.0204*	*+1569.2%*	*–0.0016*	*–4.0%*
Sum of other personal characteristics	*+0.0030*	*+6.6%*	*+0.0190*	*+1461.5%*	*+0.0033*	*+8.3%*
Total change in difference (B)	**–0.0281**	**–61.4%**	**+0.0263**	**+2023.1%**	**–0.0251**	**–63.1%**
Remaining difference (A + B)	**0.0178**	**38.9%**	**0.0276**	**2123.1%**	**0.0147**	**36.9%**

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Key points

- Different earnings histories play a non-negligible, but small role in explaining why low-paid women earn less than higher-paid women. More important are differences in personal characteristics such as age and educational attainment.
- There is no earnings gap between low-paid women and low-paid men of economic significance.
- The difference between men and women in the incidence of being low-paid is modest, but strongly connected to their respective employment histories. If men’s and women’s employment biographies were more similar to each other, the gap would be halved. The most important factor is time spent out of the labour force.
- However, analysis by method of setting pay shows that this result only holds for non-award-wage employees. Among award-reliant employees, the incidence of low pay among women would actually be higher if they had the same characteristics and work histories as award-wage men.

7 Conclusion

While low pay is, for both men and women, predominantly associated with the early stages of employment careers, it is nonetheless considerably more prevalent at middle and later career stages for women. Correspondingly, the prevalence of low pay is markedly higher among women than men: over the period 2004 to 2013, analysis of HILDA Survey data shows 21.2 per cent of female employees were low-paid, compared with 16.4 per cent of male employees.

Descriptive results show that being low paid is often associated with being young and low pay becomes a less common phenomenon as employees become older. There is no notable gender difference in the probability of being low-paid for young employees. Nonetheless, a substantial minority of older employees is also low paid, and this is more likely to be the case for women than men.

One obvious reason why young employees are more likely to be low paid is that they have little labour market experience, which leads to the question whether women's higher incidence of being low paid at later ages might be caused by them being more likely to have career breaks and not gather as much labour market experience as men. Barriers and constraints that affect employment decisions and outcomes differ between men and women. In particular, child-rearing is a constraint that tends to affect women's movements out of employment, but not men's. There is a large body of international literature (e.g. Arulampalam, 2001), as well as Australian literature, that shows that such employment interruptions can lead to periods of low pay and vice versa (see Fok et al., 2015 or Buddelmeyer et al., 2010).

However, total breaks in employment do not tell the full story of someone's employment history. Potential difficulties in returning to the labour market after an employment interruption, job changes and occupation changes, and career interruptions due to extended leave are also important aspects of a persons' labour market history and may affect their risk of being low-paid. Empirically, our analysis shows that being low paid and having substantial employment experience of more than 10 or 20 years is not uncommon, and is considerably more common among women. Differences between low-paid employees and higher-paid employees in both tenure with their employer and tenure in their occupation suggest that more frequent employer changes and occupational changes may also partly explain the gender gap in the incidence of low pay.

Econometric analysis of low-paid women's labour market outcomes shows that low-paid women are more likely to leave employment and more likely than low-paid men to change employers, and this behavioural difference cannot be explained by differences in their family context, age, educational attainment and other observed characteristics. Rather, we find strong evidence that low-paid men and women respond to their characteristics in very different ways, and indeed largely in line with a traditional family model with a male primary breadwinner and a female primary carer.

By contrast, while the raw differences in employment stability (in terms of changing employer or leaving employment) between low-paid women and higher-paid women are much larger than those between low-paid men and low-paid women, these differences largely disappear once we control for differences in their characteristics—that is, low-paid and higher-paid women behave differently because they have different characteristics.

This result is repeated when we analyse labour market behaviour of the unemployed and marginally attached, examining likelihood of commencing employment and likelihood of leaving the labour force. Again, while women with lower earnings potential have different labour market transitions to women with higher earnings potential, these differences disappear once we control for differences in characteristics. Men and women with low earnings potential, on the other hand,

also differ in their labour market transitions, but differences in their characteristics cannot explain this—because they are actually quite similar. What is different though, is how women and men with low earnings potential *respond* to their characteristics, with both male and female responses consistent with a male breadwinner model of the family. Men's employment take-up is more strongly connected to their past labour market history, while women's employment take-up is more strongly related to their family circumstances.

This result is further confirmed when we analyse the probability of taking extended non-standard leave. Men who take extended leave often had a somewhat unstable career in the past, which suggests that their leave-taking is more often related to factors that lead to a weaker labour force attachment in the long term, such as recurring poor health. For women, leave-taking is firmly related to having children, but with their low-pay status mostly having implications for whether this leave is paid or unpaid. Again, we find that women's employment interruptions differ from men's, and the patterns across gender are plausibly explained by women taking on the roles of primary carers, and men the roles of primary provider of family income.

The analysis in this report establishes, from a number of different angles, that unstable careers for women are related to their family context, while this is not the case for men. It also shows that low-paid women and higher-paid women have quite different personal characteristics, including in their educational attainment, which explain their moderate differences in employment transitions and leave-taking. In contrast, low-paid men and low-paid women are quite similar to each other in their characteristics, but show larger differences in employment transitions because their characteristics have different behavioural implications.

The last part of the analysis undertaken in this report investigates the extent to which the difference in mean earnings between low-paid women and higher-paid women, and the difference between male and female employees in the incidence of low-paid employment, are explained by their different characteristics and labour market histories. In respect of the mean earnings difference between low-paid and higher-paid women, the result is clear: the earnings gap between women with low-pay and women with higher-pay is somewhat related to their employment history, but moderately so. Most of the earnings gap we cannot explain at all, and what we can explain, is largely due to personal characteristics such as educational attainment and health.

In respect of the gender gap in the incidence of low pay, it turns out that a very large portion of that is related to time spent out of the labour market in the past, as well as to the intensity of employment participation in the more recent past. However, further analysis disaggregated by method of setting pay shows that this is only true for non-award wage employees. Award-reliant women would in fact have a greater incidence of low pay if they had award-reliant men's characteristics, which may reflect the industries and occupations in which women are relatively concentrated. Further research is required to answer whether this is the case and why. If industry and occupation do indeed act to increase low pay among award-reliant women compared with award-reliant men, this implies that, given the average employee characteristics in an industry/occupation (including employment history and education), the award system assigns lower wages in industries/occupations in which women are relatively concentrated. It is unclear whether this would be caused by, for example, negative bias in the award system, or by differences across occupations and industries in the productivity-boosting effects of education, experience and other employee characteristics. Other (unobserved) factors correlated with industry and occupation, such as overtime worked, and the 'undesirability' (e.g., level of danger or dirtiness) of the work itself may also play a role.

Some caution is also warranted in not over-interpreting the finding of the important role of labour market histories for non-award-reliant employees as a casual effect. If, for example, some women experience discrimination in the labour market, this could manifest as both reduced employment participation in the past and a higher incidence of low-paid employment, and as such the lower past employment would not be the cause of the current higher incidence of low pay; rather, both phenomena would be caused by discrimination suffered by (some) women. Moreover, even if labour market histories are causally responsible for the higher incidence of low pay among female employees, one needs to look more deeply into the reasons for the unfavourable work histories of some women. As we have shown, constraints that affect men's and women's movements into and out of employment, whether or not they stay with an employer, whether they take extended leave, and so on, are strongly connected to their family context, and the different roles men and women adopt in the family. This inequity in the household is very closely linked to inequity in the labour market, and plays an important role in explaining the gender gap in the incidence of low pay.

Appendix A – Quality of information on reservation wages

A problem with reservation wages is that they cannot be directly observed and are, from an individual's perspective, hypothetical, which can make it difficult for an individual to accurately determine their reservation wage. Moreover, social desirability norms may cause an unemployed individual to quote a low reservation wage, although their true reservation wage may be somewhat higher.

In order to assess the quality of reservation wage information, in Figures 1 to 4 we present histograms of reservation wages and histograms of observed real wages. If individuals are able to assess their reservation wage realistically, and if reservation wages reflect one's actual earnings potential, we would expect 'real-world' factors to impact on the distribution of reservation wages and observed wages in a similar way: both distributions should follow similar time trends, and they should vary with factors such as work experience, educational attainment and age in a similar fashion. On the other hand, if quoted reservation wages have little connection to one's actual 'market' wage, we would expect the distribution of reservation wages to be unrelated to such real-world factors.

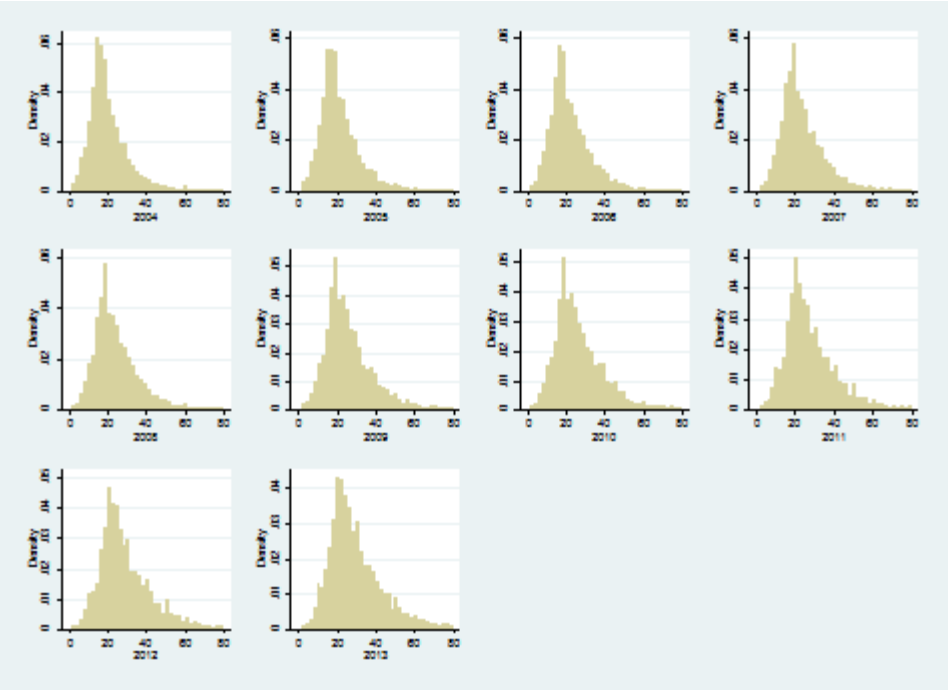
Figure 1 shows the distribution of observed hourly wages over time, between 2004 and 2013. Included are individuals with gainful employment (including employees, the self-employed, employees of their own business and unpaid family workers) between age 15 and 65, truncated at $80/hour. Most observed wages are between $20/hour and $40/hour with a strong peak at $20/hour, and there is also a considerable part of the distribution below $20/hour. Wages exceeding $40/hour are rare. There is a very slight movement of the distribution over time towards higher nominal wages, but this time trend is not very marked.

Figure 2 show the analogous distribution of reservation wages. There are substantially fewer observations on reservation wages available than there are for observed wages, because more individuals are employed than are unemployed or marginally attached. However, the distribution of reservation wages resembles that of observed wages, with an even stronger peak at $20/hour and somewhat greater probability mass at the lower tail below $20/hour. The fact that the distribution of reservation wages has a similar shape to observed wages, while being shifted to the left, is to be expected given that an individual's' reservation wage should, in principle, never exceed that individual's observed wage. Again, little change in the distribution is observed over time, as is the case for observed wages.

Figures 3 and 4 show both distributions pooled for the years 2004–2013, but split by selected demographic factors that are correlated with on one's earnings capacity: namely gender, age, qualification, and work experience. In observed wages, men are more likely than women to have wages above $20/hour, and substantially more likely to earn an hourly wage that exceeds $40/hour. This does not hold for reservation wages: while most women's reservation wages are very close to $20, men's reservation wages are more spread out, and reservation wages both substantially above and substantially below $20/hour are more common for men than for women. However, for age, work experience and educational attainment the same patterns can be found for reservation wages and observed wages: older individuals have higher observed wages than younger individuals when they are employed, and the same is true for their reservation wages when they are unemployed or marginally attached; more work experience goes along with increased observed wages and reservation wages alike, and the same is true for holding a tertiary qualification.

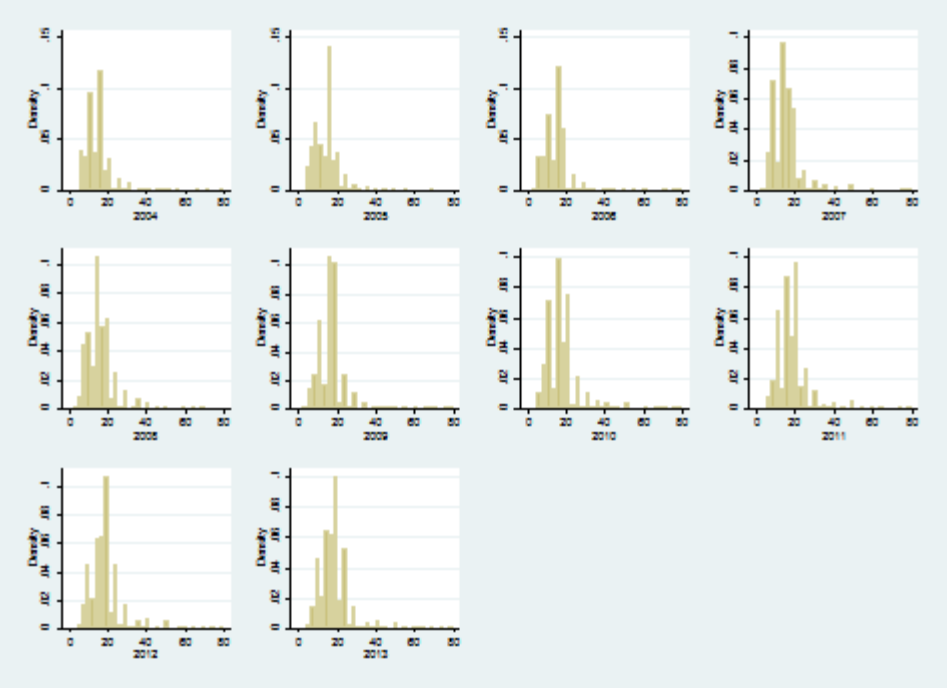
By and large, these findings suggest that individuals' reservation wages are indeed related to their true earnings potential, and using reservation wages as a proxy for 'potential low-pay status' if an individual was to take up employment is a viable option for an analysis of the decision to take up a low-paid job.

Figure 1: Distribution of observed hourly wages for the employed, 2004–2013



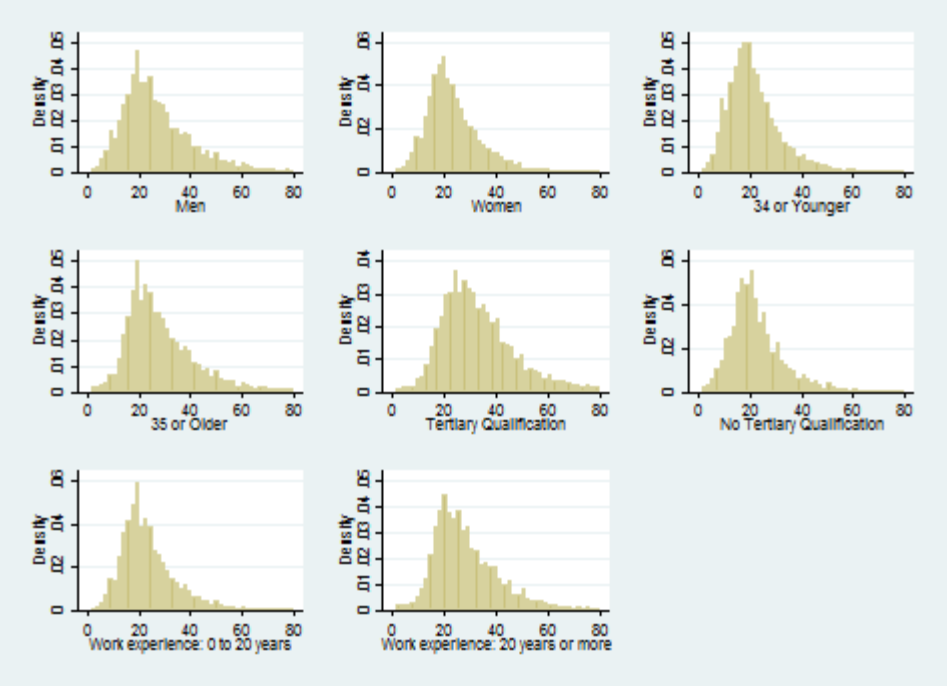
Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Figure 2: Distribution of reservation wages for the unemployed and marginally attached, 2004–2013



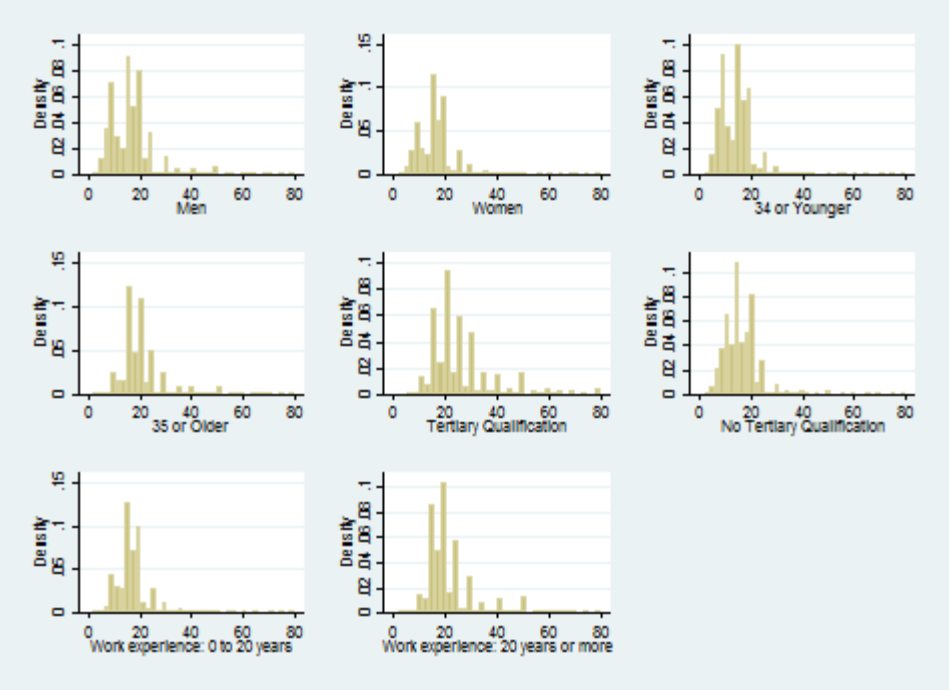
Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Figure 3: Distribution of observed hourly wages for the employed, by personal characteristics



Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Figure 4: Distribution of reservation wages for the unemployed and marginally attached, by personal characteristics



Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Appendix B – Comparison of AWRS and HILDA samples

We present information from the HILDA data alongside information drawn from AWRS data. In order to gain some insight as to whether the reported characteristics are valid for similar populations, we compare both samples in terms of some key demographic characteristics: age, educational attainment, employment experience, partner status and children.

Employees in the AWRS data are somewhat older than employees in HILDA, somewhat more likely to be partnered with children and somewhat less likely to be single without children. They are also somewhat better educated and have slightly higher employment experience. These differences are consistent with the observed lower incidence of low-pay (see Section 4.1). However, the differences are not large, and information taken from either of both samples can be seen as reasonably informative for the same population of employees aged 15 to 64.

Table 29: Comparison of the HILDA Survey and AWRS samples, key characteristics

	HILDA	AWRS
Family Structure (%)		
Single without dependent children	38.5	24.2
Partnered without dependent children	32.5	35.4
Single, youngest dependent child aged 0–4	0.6	0.7
Single, youngest dependent child aged 5–24	2.2	3.4
Partnered, youngest dependent child aged 0–4	11.8	13.5
Partnered, youngest dependent child aged 5–24	14.3	22.9
Total	100.0	100.0
Age group (%)		
20 years or younger	11.4	2.8
21 - 24 years	9.6	8.3
25 to 29 years	12.5	13.3
30 to 34 years	11.5	13.8
35 to 44 years	22.8	23.9
45 to 54 years	21.2	22.4
55 years or older	11.1	15.4
Total	100.0	100.0
Highest educational attainment (%)		
(Post-)graduate Diploma or Certificate	11.5	15.6
(Honours) Bachelor degree	17.9	20.6
(Advanced) Diploma	9.6	15.0
Certificate III or IV	21.9	
Certificate I, II, III or IV		25.5
Year 12	19.1	
Year 11 and below	20.1	
Secondary Schooling		23.3
Total	100.0	100.0
Total years of past employment (%)		
Up to 5 years	18.6	8.1
5 to 10 years	14.8	14.7
10 to 20 years	24.9	32.2
20 to 30 years	22.6	
More than 30 years	19.2	
More than 20 years		44.9
Total	100.0	100.0
Number of observations	70 591	4115

Source: Authors' estimations using Waves 4–13 of the HILDA Survey and AWRS.

Appendix C – Factor analysis for intrinsic job characteristics

Factor analysis is a technique to represent the variation in several related, but not identical, variables in a smaller number of underlying, unobserved 'factors'.

In our case of opinions about jobs, there might, for example, be an underlying factor "time pressure" that leads employees to agree or disagree with the statement "I have to work fast in my job" and "I don't have enough time to do everything in my job". At the same time, an underlying factor of individual confidence might decrease the level of agreement with both of the two statements "I don't have enough time to do everything in my job" and "I worry about the future in my job". The aim of factor analysis is to find less than 19 such unobserved variables that are able to describe most of the variation in the answers to the 19 statements listed in Table 30 below.

Table 30 shows the 'factor loading' for four unobserved factors identified as being able to represent most of the variation in the level of agreement with the 19 statements about one's job. For example the first row implies that multiplying the factors 1 to 4 by 0.73, 0.03, 0.00 and 0.01, respectively, and adding the results up, will predict the level of agreement to the statement "I can decide when to take a break" quite accurately with only a small unexplained variation in answers.

An important part of factor analysis is to interpret what a factor could represent beyond its number-value. Here, the first factor shows a positive relation to all positive statements about the job, and a negative relation to all negative statements about the job. The factor might represent an individual's tendency to agree with positive statements, or it might represent an individuals' enjoyment of their job. There are no clear guidelines on how to attach meaning to a factor. However, this is purely a question of labelling, and will not impact on the computation of the factor, nor on any estimation that uses the factor. We interpret the first factor as "enjoyment of one's job".

The second factor is positively related to all statements that describe the job as challenging, and a negatively related to all statements that describe the job as boring. Other patterns and thus labels may be found; however, we interpret the second factor as representing how challenging an employee perceives their job to be.

The factors are unobserved, but just as the answers to the 19 statements can—with some degree of accuracy—be derived from the unobserved, latent factors, so can the procedure be turned on its head: we can derive the unobserved factors from the answers to the 19 statements using `scoring coefficients', as shown in Table 31. For example, the value of the first factor can be calculated for each individual by multiplying this individual's level of agreement with each of the 19 statements by the reported scoring coefficient, and summing the results. This will yield the individual's value for how much they enjoy their job. Over all individuals in the sample, an index of "enjoyment of job" with mean 0 and standard deviation 1 will be created. Likewise, multiplying the answers to the statements with the scoring coefficients in the second column yields an index with mean 0 and standard deviation 1 for the individual perception of how challenging one's job is. These two indices are included in the estimation models in place of the original 19 statements.

Table 30: Factor analysis—Factor loadings

	Factor 1	*Factor 2*	*Factor 3*	*Factor 4*
I can decide when to take a break	0.73	0.03	0.00	0.01
My job is complex and difficult	0.08	0.59	0.44	-0.24
I have a lot of choice in deciding what I do at work	0.80	0.20	0.00	0.00
I have to work fast in my job	–0.03	–0.06	0.82	0.14
I have a lot of freedom to decide how I do my own work	0.74	0.28	–0.02	0.11
My working times can be flexible	0.70	–0.14	–0.02	0.08
I have a lot of freedom to decide when I do my own work	0.84	–0.02	–0.03	–0.03
My job requires me to take initiative	0.30	0.58	0.29	0.23
I have a lot of say about what happens on my job	0.72	0.34	0.05	0.13
My job is more stressful than I had ever imagined	–0.11	0.20	0.50	–0.47
My job often requires me to learn new skills	–0.01	0.68	0.30	–0.01
I get paid fairly for the things I do in my job	0.21	0.04	–0.21	0.43
My job requires me to do the same things over and over again	–0.10	–0.64	0.28	0.14
I have a secure future in my job	0.10	0.26	0.12	0.71
I don't have enough time to do everything in my job	0.04	0.28	0.61	–0.30
I use many of my skills and abilities in my job	0.11	0.69	0.22	0.18
My job provides me with a variety of interesting things to do	0.29	0.72	0.07	0.19
I worry about the future of my job	0.00	0.00	0.03	–0.75
I have to work very intensely in my job	0.01	0.25	0.81	–0.01

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Table 31: Factor analysis—Scoring Coefficients

	Scale: enjoys job	*Scale: Finds job challenging*
I can decide when to take a break	0.23	–0.08
My job is complex and difficult	–0.01	0.18
I have a lot of choice in deciding what I do at work	0.23	–0.01
I have to work fast in my job	0.02	–0.20
I have a lot of freedom to decide how I do my own work	0.19	0.03
My working times can be flexible	0.23	–0.15
I have a lot of freedom to decide when I do my own work	0.27	–0.11
My job requires me to take initiative	0.02	0.15
I have a lot of say about what happens on my job	0.18	0.05
My job is more stressful than I had ever imagined	–0.01	0.03
My job often requires me to learn new skills	–0.08	0.25
I get paid fairly for the things I do in my job	0.02	0.01
My job requires me to do the same things over and over again	0.05	–0.34
I have a secure future in my job	–0.04	0.04
I don't have enough time to do everything in my job	0.02	0.01
I use many of my skills and abilities in my job	–0.05	0.24
My job provides me with a variety of interesting things to do	–0.01	0.26
I worry about the future of my job	0.05	0.03
I have to work very intensely in my job	0.01	–0.05

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Appendix D – Combining employment transitions and leave taking

The model combines the decision to take leave during one period, and the employment status in the following period. Four different pathways are considered: in the reference case, employees do not take any prolonged leave (defined as in Section 5.3), and are observed to be employed again at the next interview. This is a scenario of continuous employment. The second possibility is that they are observed to be employed at the next interview, but have taken leave in between the two interviews. In that scenario, an employment interruption has occurred, but it was short enough to not last until the next interview ("Moderate leave"). A third possibility is that an employee takes leave, and is not observed to be employed at the next interview; i.e., their leave is likely to have been long enough to last until the next interview ("Long leave"). Note that the two scenarios "Moderate leave" and "Long leave" can only approximate actual length of leave. A last possibility is that an employee is no longer employed at the next interview without having taken any leave, which means that they must have cut ties with their employer (Scenario "Quit"). We estimate a multinomial logit model with those four states, controlling gender, low-pay-status and observed characteristics as described in Section 5.1.Table 32 shows the results.

Table 32: Effects of low-pay status and gender on employment transitions and leave taking (combined), logit model mean marginal effects estimates, employees aged 15–64

	Model 1			Model 2		
	Employed again, with previous leave taking ("Moderate leave")	Not employed again, without previous leave taking ("Quit")	Not employed again, with previous leave taking ("Long leave")	Employed again, with previous leave taking ("Moderate leave")	Not employed again, without previous leave taking ("Quit")	Not employed again, with previous leave taking ("Long leave")
Low-paid women	[Reference category]			[Reference category]		
Low-paid men	0.028*** (4.55)	–0.012** (–2.76)	–0.008* (–2.07)	0.033*** (4.06)	–0.013* (–2.27)	–0.013* (–2.47)
Higher-paid women	0.012* (2.38)	–0.000 (–0.01)	–0.012*** (–3.74)	0.015* (2.27)	–0.001 (–0.28)	–0.014*** (–3.33)
Higher-paid men	0.047*** (8.84)	–0.022*** (–5.75)	–0.016*** (–4.72)	0.048*** (6.80)	–0.022*** (–4.50)	–0.017*** (–3.63)
Number of observations		57 689			33 955	
Log-likelihood		–19 626.7			–11 860.5	
Chi-squared		4153.3			2875.6	
Degrees of freedom		270			294	

Notes: The table reports, for each of the explanatory variables for low-pay status and gender, the mean of the marginal effect on the probability of each outcome, evaluated over all observations. The dependent variable indicates whether an individual took extended non-standard leave, and whether the individual was employed in the subsequent interview. Only periods of unpaid leave, and paid leave other than paid sick leave and paid annual leave, are considered. Estimates are not reported for the control variables, which comprise all variables reported in Table 6, Table 8, Table 9 and Table 10 other than the variables for workplace gender composition, and workplace entitlements. For satisfaction with the job and opinions about the job (presented in Table 12), two control variables derived from a factor analysis are included. Model 2 additionally controls for method of setting pay (in three categories: i) Award-reliant, ii) Collective Agreement, and iii) Other) t-values are reported in parentheses. *, ** and *** indicate statistical significance at the 10 per cent, 5 per cent and 1 per cent levels, respectively.

Source: Authors' estimations using Waves 4–13 (Model 1) and Waves 8–13 (Model 2) of the HILDA Survey.

As in previous sections, the following tables Table 33, Table 34 and Table 35 show the marginal effect of characteristics on the probabilities of choosing any of the states in our model, provided

that the marginal effect for i) low-paid men and low-paid women or ii) higher-paid women and low-paid women is based on coefficients that vary significantly across gender and/or low-pay-status (at the 5 per cent level).

Table 33: Impacts of socioeconomic characteristics on the probability of 'being employed again, with previous leave taking', low-paid women compared with low-paid men and with higher-paid women, logit model mean marginal effects estimates, employees aged 15–64

	Low-paid men	Higher-paid women	Low-paid women
Family Structure (Reference Category: Single without children)			
Partnered without dependent children	0.006		0.015
Single, youngest dependent child aged 0–4	0.000		0.034
Single, youngest dependent child aged 5–24 [b)]	0.027		0.000
Partnered, youngest dependent child aged 0–4	–0.003		0.066
Partnered, youngest dependent child aged 5–24	0.004		0.027
Disability	0.016		–0.002
SF-36 general health (0–100 scale) [a)]		0.001	–0.031
SF-36 mental health (0–100 scale) [a)]		0.021	–0.012
Employment history since leaving full-time education			
Total years employed [a)]		–0.070	–0.009
Type of employment contract (Reference category: Fixed-term contract)			
Casual	0.025		0.029
Permanent	0.001		0.029
Weekly working hours in main job [a)]	–0.023		0.053
Weekly work schedule (Reference category: Monday to Friday)			
Other regular days, none on weekend	0.049		–0.009
Other regular days, including weekend	0.015		0.015
Days vary, none on weekend	–0.016		0.007
Days vary, including weekend	0.006		0.003

Notes: See Table 32. Each row is based on a model as reported in Table 32, plus one characteristic interacted with gender and low-pay status. I If the coefficient on the interaction term is statistically significantly different from 0 at the 5 per cent level for either a) low-paid men or b) higher-paid women, the mean marginal effect of the characteristic is reported for low-paid women and for the employee group (low-paid men or higher-paid women) for which the interaction term is significant. The outcome for which mean marginal effects are reported in this table is the probability of being employed again, with previous leave taking. [a)] Marginal effects are multiplied by 100 for better readability. [b)] For men, there is only one combined category 'Single with children'.

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Table 34: Impacts of socioeconomic characteristics on the probability of 'not being employed again, without previous leave taking', low-paid women compared with low-paid men and with higher-paid women, logit model mean marginal effects estimates, employees aged 15–64

	Low-paid men	Higher-paid women	Low-paid women
Family Structure (Reference Category: Single without children)			
Partnered without dependent children	–0.015	0.007	0.025
Single, youngest dependent child aged 0–4		0.029	0.026
Single, youngest dependent child aged 5–24 [b)]	0.007	–0.004	0.054
Partnered, youngest dependent child aged 0–4	0.013	0.027	0.056
Partnered, youngest dependent child aged 5–24	–0.028	–0.012	–0.003
Partner's weekly earnings in all jobs [a)]	–0.002		0.001
SF-36 general health (0–100 scale) [a)]	0.015		–0.012
Employment history since leaving full-time education			
Total years employed [a)]	–0.119		–0.040
Total years unemployed [a)]		0.228	0.570
Preferred weekly working hours [a)]	–0.072	–0.093	–0.029
Weekly working hours in main job [a)]	–0.057	–0.051	–0.007
Other regular days, none on weekend	0.001	0.002	–0.027
Other regular days, including weekend	–0.002	–0.005	–0.023
Days vary, none on weekend	0.001	0.022	–0.014
Days vary, including weekend	0.018	0.005	–0.017

Notes: See Table 33. The outcome for which mean marginal effects are reported in this table is the probability of being employed again, without previous leave taking. [a)] Marginal effects are multiplied by 100 for better readability. [b)] For men, there is only one combined category 'Single with children'.

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Table 35: Differences by low-pay status and gender in the impacts of socioeconomic characteristics on the probability of not being employed again, with previous "long leave" taking, employees aged 15–64

	Low-paid men	Higher-paid women	Low-paid women
Employment history since leaving full-time education			
Total years out of the labour force [a)]	0.200		0.072
Partner's weekly earnings in all jobs [a)]		0.0002	0.0004

Notes: See Table 33. The outcome for which mean marginal effects are reported in this table is the probability of not being employed again, with previous leave taking. [a)] Marginal effects are multiplied by 100 for better readability.

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

Appendix E – Further decomposition results

Table 36: Decomposition of the earnings differential between low-paid women and low-paid men

	Model 1 – All Employees		Model 2 – Award Wage Employees		Model 2 – Non-Award Wage Employees	
	Logarithmic scale	Non-logarithmic scale	Logarithmic scale	Non-logarithmic scale	Logarithmic scale	Non-logarithmic scale
Pay difference between low-paid women and low-paid men						
Hourly wage, low-paid women	2.4454	11.53	2.5143	12.36	2.4189	11.23
Hourly wage, low-paid men	2.4693	11.81	2.5404	12.68	2.4388	11.46
Difference (A)	**–0.0239**	**0.98**	**–0.0261**	**0.97**	**–0.0199**	**0.98**
Change in pay difference, if low-paid men and low-paid women had equal characteristics						
	Change	% of total difference	Change	% of total difference	Change	% of total difference
Employment history since leaving full-time education						
Years of experience	+0.0053	–22.2%	+0.0030	–11.5%	+0.0062	–31.2%
Years of unemployment	+0.0016	–6.7%	+0.0013	–5.0%	+0.0015	–7.5%
Years out of the labour force	–0.0104	+43.5%	–0.0049	+18.8%	–0.0118	+59.3%
Tenure with current employer	+0.0005	–2.1%	+0.0002	–0.8%	+0.0012	–6.0%
Tenure in current occupation	–0.0001	+0.4%	+0.0018	–6.9%	–0.0000	–0.0%
Sum of full work history variables	*–0.0029*	*+12.1%*	*+0.0015*	*–5.7%*	*–0.0029*	*+14.6%*
Employment history in past three waves						
Full-time equivalent employment (mean years)	–0.0041	+17.2%	–0.0023	+8.8%	–0.0049	+24.6%
Any time out of the labour force (%)	–0.0010	+4.2%	–0.0004	+1.5%	–0.0011	+5.5%
Sum of recent work history variables	*–0.0050*	*+20.9%*	*–0.0027*	*+10.3%*	*–0.0060*	*+30.2%*
Sum of family characteristics	*+0.0090*	–37.7%	*+0.0100*	–38.3%	*+0.0084*	–42.2%
Sum of other personal characteristics	*+0.0058*	–24.3%	*+0.0153*	–58.6%	*+0.0024*	–12.1%
Total change in difference (B)	**+0.0069**	**–28.9%**	**+0.0240**	**–92.0%**	**+0.0020**	**–10.1%**
Remaining difference (A + B)	**–0.0171**	**71.5%**	**–0.0021**	**8.0%**	**–0.0179**	**89.9%**

Source: Authors' estimations using Waves 4–13 of the HILDA Survey.

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