

# **The wage-penalty effect**

## **The hidden cost of maternity leave**

Policy Brief No. 24  
July 2011  
ISSN 1836-9014

David Baker

---



This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views reported in this paper, however, are those of the author and should not be attributed to either FaHCSIA or the Melbourne Institute.

## Summary

During the past decade, the incidence of paid parental leave (PPL) in Australia has been increasing until, by 2009, 1.3 million women of child-bearing age enjoyed work conditions that included paid maternity leave. This represented one in every two women employed full time and just over a quarter of those employed part time. Although widely available amongst professional occupations and clerical and administrative workers, paid maternity leave was offered to only one in five women working in sales. This disparity is indicative of the wider disadvantage faced by women who work in industries dominated by part-time and casual work.

In 2011, the introduction of a Paid Parental Leave Scheme saw Australia catch up with other developed countries, including New Zealand where a similar scheme had been in place for a decade. The Australian scheme is means-tested and provides employed parents with the option of 18 weeks' PPL at the minimum wage.

The aim of the PPL payment is to offset some of the financial pressures that can force parents to take off less time than might be optimal to provide primary care for a newborn infant and to recover maternal health. It has been found, however, that access to paid maternity leave determines the duration of the leave so that, potentially, an inadvertent outcome of the new legislation may be that 18 weeks comes to be accepted as an approved time limit for leave. This outcome would prevent the new scheme from appreciably extending the period of maternity leave available to women, which is one of its goals.

While the new scheme provides 18 weeks' income at the minimum wage, it does not address the wage penalty that can be experienced when parents, often women return to work following parental leave. International research puts the wage penalty for working women at between one and 15 per cent. Analysis of the Household, Income and Labour Dynamics in Australia (HILDA) survey reveals that, in the first year back at work, a wage penalty of just over four per cent exists for women in Australia. In 2009, the average value of this penalty was \$1,566, which equates to more than three weeks of PPL payments under the new scheme. Within the weighted HILDA sample, 80,725 women returned to work within a year of taking maternity leave in 2008. It can be estimated, therefore, that the wage penalty effect collectively cost working mothers almost \$126 million in 2009. Interestingly, women returning to reduced hours of employment following leave experienced a lower average wage penalty.

While some kind of PPL scheme is overdue, the new system does not address the potential future disadvantage for women returning to work following maternity leave. It may be that the provision of PPL may inadvertently worsen the problem. Therefore, further policies addressing the financial implications of a wage penalty, and the factors influencing this phenomenon, could counteract the potential disadvantage that maternity leave imposes on the future earning capacity of mothers.

## 1. Introduction

[T]here is one factor that above all leads to women's inequality in the labour market—becoming mothers.<sup>1</sup>

From 1 January 2011, most Australian workers will be able to access publically funded Paid Parental Leave (PPL) following the birth (or adoption) of a new baby. The Act will allow Australia to catch up with other developed economies, including New Zealand where a similar scheme has been operating since 2001. The new scheme finally addresses Australia's previous resistance to ratifying those international conventions that include the right to paid maternity leave.<sup>2</sup>

The new Paid Parental Leave Scheme provides a means-tested, 18-week payment equivalent to the minimum wage, dependent on a parent having been employed for 10 months prior to taking leave. It will deliver a widespread immediate benefit for a majority of workers who previously did not have access to paid maternity leave as part of their employment conditions. The scheme will make payments to the primary carer; in most cases the mother as she is generally the parent who takes the longer periods of parental leave, including time for maternal recovery following birth.

Unfortunately, this also means that women will be more likely to suffer the longer-term financial costs that can result from periods of extended absence from the workforce. The payment of parental leave addresses some of the equity issues of access to paid maternity leave for working women, but existing Australian data indicate that women who take maternity leave can experience a future wage penalty when compared with those who remain in the workforce. This circumstance is supported by the analysis of the Household, Income and Labour Dynamics in Australia (HILDA) survey reported in this paper, which reveals that there is evidence of a wage penalty effect in Australia. The paper reviews the contributing factors behind this penalty.

The new Paid Parental Leave Scheme is long overdue and brings welcome relief by addressing the previous inequitable situation that prevailed amongst employed women. However, the scheme alone does not address the longer-term penalty of declining wage growth among women who have taken maternity leave. In fact, an unintended consequence of the government's scheme, which is designed to extend the average duration of maternity leave, may be an increased wage penalty. This paper proposes policy options that are available to the government to tackle this emerging problem.

## 2. Who will benefit from Paid Parental Leave?

Although, prior to the introduction of PPL, the working conditions of Australian women increasingly included paid maternity leave, the trend was not evenly distributed across the labour force. The government's purpose in introducing government-funded PPL was to address, in part, this inequality but also to benefit parents and children. A prime objective of the Paid Parental Leave Scheme is to provide 'a means for parents in the paid workforce to take sufficient time off for the exclusive care of children'.<sup>3</sup> By extending the availability of PPL, the

---

<sup>1</sup> Equalities Review Panel, *Fairness and Freedom: the final report of the Equalities Review*, London, 2007, p.66.

<sup>2</sup> Department of Education, Employment and Workplace Relations (2010). *Annual Report 2009-10*, Canberra, p. 218. With regard to ILO Convention No. 183, Maternity Protection Convention 2000, the department stated in its 2009–10 Annual Report that 'it did not consider ratification likely in the foreseeable future'.

<sup>3</sup> Productivity Commission, *Paid Parental Leave: Support for parents with newborn children*, Report no. 47, Canberra, 2009, p.2.22.

government hopes that parents will be encouraged to take longer periods of leave to care for newborn children.

## 2.1 Increasing access to paid maternity leave

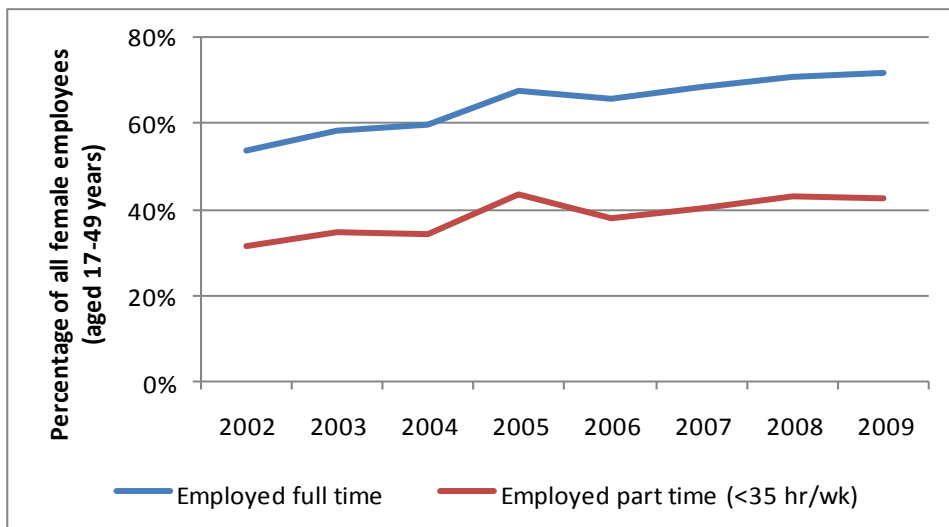
In 2009, the Australian Bureau of Statistics (ABS) reported that just under half the female workforce were employed in jobs that provided access to paid maternity leave.<sup>4</sup> The introduction of PPL in 2011 ensures that women who were previously not entitled to receive such leave are now eligible to do so, although not necessarily at full pay.<sup>5</sup>

Government-provided leave will be paid in addition to existing employment-based leave, a situation that continues to some extent the previous inequality as approximately half of the female workforce will be able to receive two maternity-leave payments, one from the government and one as a consequence of their conditions of employment.

*HILDA analysis shows increasing access to paid maternity leave over time*

Analysis of data from the longitudinal HILDA survey confirms previous findings from the Productivity Commission that access to paid maternity leave has been increasing for women in the workforce.<sup>6</sup> The growth in full- and part-time female employment since 2001 is shown in Figure 1. This paper uses a sample limited to women aged 17 to 49, thus focusing on those of child-bearing age who are more likely to take advantage of leave entitlements.

Figure 1: Number of women whose employment conditions include paid maternity leave



Source: Household, Income and Labour Dynamics in Australia survey. Average sample size n=979.<sup>7</sup>

Figure 1 shows that in 2009 women of child-bearing age who worked more than 35 hours a week enjoyed quite a high level of access to paid maternity leave, with seven in 10 able to

<sup>4</sup> Australian Bureau of Statistics (ABS), *Forms of Employment November 2009*, Cat. 6359.0, Canberra, 29 April 2010, p.31.

<sup>5</sup> The Paid Parental Leave scheme pays for 18 weeks at the minimum wage rate.

<sup>6</sup> Productivity Commission, p.1.5.

<sup>7</sup> The HILDA data includes weighted variables which calculate a national population figure.

access some form of paid maternity leave as part of their working conditions. This compares favourably to the situation that applied to the 43 per cent of women who worked fewer than 35 hours a week.

The graph shows that the inclusion of paid maternity leave as part of employment conditions has been steadily increasing since 2002, with an above-trend spike occurring in 2005 followed by a return to trend the following year. The timing of the spike coincided with the introduction of the baby bonus in 2004, but it is unclear whether this policy and the recorded increase are related.

By 2009, the total number of women of child-bearing age with access to paid leave as part of their employment conditions had reached 39 per cent, or more than 1.3 million women. In order to provide a more representative sample of the women most likely to take maternity leave, the focus of this paper has been on women of child-bearing age and, as a result, the figure determined from the HILDA data is less than the ABS figure of 49 per cent (two million) for *all* female employees.

#### *Access to paid maternity leave by occupation*

The imbalance in access to paid maternity leave before the introduction of PPL in 2011 is further evidenced in a breakdown of availability by occupation, presented in Table 1.

Table 1: Access to paid maternity leave by occupation (2009)

Occupation	Total number of women (aged 17–49) employed in this occupation	Number with access to paid maternity leave	Proportion of women employed in this occupation with access to paid maternity leave
Professionals	939,029	583,400	62%
Clerical and administrative workers	817,793	313,415	38%
Community and personal service workers	473,227	136,577	29%
Sales workers	457,542	84,903	19%
Managers	270,571	95,652	35%
Labourers	204,193	40,828	21%
Technicians and trades workers	173,440	49,856	29%
Machinery operators and drivers	45,753	17,534	38%
<b>Total</b>	<b>3,381,549</b>	<b>1,322,165</b>	<b>39%</b>

Source: Household, Income and Labour Dynamics in Australia survey. Sample size n=1081.

Table 1 demonstrates that approximately four out of every 10 employed women of child-bearing age could access paid maternity leave in 2009, but there are significant differences across occupations. Professional women (62 per cent) enjoyed the highest level of access, but ABS figures show that this occupational category employs only eight per cent of the female workforce. The majority of women are employed as clerical and administrative workers and community and personal service workers, but only a third of the women in these categories had access to paid maternity leave.

Although the numbers of women employed as sales workers are similar to the numbers employed as professionals, fewer than one in five women working in the sales category had access to paid maternity leave. This is the lowest level of access across all occupations and a third of the access enjoyed by women employed as professionals. Women working in sales have the most to gain from the introduction of PPL, providing they have been employed for a year or more.

## 2.2 Length of leave time

An important consideration of the Productivity Commission, during its inquiry into a Paid Parental Leave Scheme for Australia, was finding the ideal length of time to assign to the leave. In its report, it stated that there is compelling evidence of the benefits accruing to child health and wellbeing from 'exclusive parental care in the first six months' and that '[l]onger periods up to nine to 12 months may also be beneficial'.<sup>8</sup> This correlates with earlier Australian research that found the point at which most Australian women are satisfied with their return to work following maternity leave is between nine and 12 months.<sup>9</sup> In addition to a focus on the needs of the child, leave for maternal recovery following birth should be 'longer than 12 weeks' and up to six months.<sup>10</sup> The government expects that PPL will increase the average length of maternity leave by around 10 weeks, with the overall outcome being that most women will take six months' (26 weeks) leave.<sup>11</sup>

### *Leave duration amongst the HILDA sample*

Within the HILDA sample, 83 women of child-bearing age stopped work in 2009 to have their first child. Of these women:

- 40 took three months' leave or fewer
- 20 took between three and six months
- the remaining women had returned to work within 12 months.

The sample was restricted to women who returned to work in 2009; data for 2010 are not yet available so that five cases were excluded from the sample. The mean length of leave taken was 15.4 weeks; however, the standard deviation was almost as long, 13.8 weeks, suggesting that there is a significant amount of variability in maternity-leave patterns. The Productivity Commission has noted that an average figure for maternity-leave duration 'masks considerable variability in the leave experiences of women and the industries and firms in which they are employed'.<sup>12</sup> Almost half the HILDA sample had gone back to work by the end of three months, the standard length of paid maternity leave in the Australian Public Service.<sup>13</sup>

---

<sup>8</sup> Productivity Commission, p.2.44.

<sup>9</sup> G Whitehouse, et al., 'Returning too soon? Australian mothers' satisfaction with maternity leave duration', *Asia Pacific Journal of Human Resources* 46:3, 2008, p. 288-302.

<sup>10</sup> Productivity Commission, p.2.44.

<sup>11</sup> Australian Government, *Australia's Paid Parental Leave Scheme: supporting working Australian families*, Canberra, 2009, p.4.

<sup>12</sup> Productivity Commission, p.7.4.

<sup>13</sup> Productivity Commission, p.3.6.



Previous Australian research has found that women who take only paid leave tend to return to work sooner.<sup>14</sup> Research from the UK examining the timing of women's return to work from maternity leave found that:<sup>15</sup>

Women from lower skilled groups return disproportionately at the date at which maternity pay expires, while managerial and professional women tend to return at the expiry of unpaid leave.

The extension of paid maternity leave to all women may inadvertently result in the new Paid Parental Leave Scheme tying the average length of the leave to 18 weeks for those women who only had access to unpaid leave previously. This outcome is more likely amongst employees earning lower wages. Such an outcome will further exacerbate the continuing disparity between workers who only have access to paid leave through PPL and those women who will now receive PPL in addition to paid maternity leave through their job.

An extensive body of research in psychology and behavioural economics has found that when people need to make a choice or decision, it is common for them to be influenced by the existence of a 'default' option.<sup>16</sup> Because the lives of most people are busy, requiring attention to be focused on many things, the status quo is likely to be maintained unless deliberate intervention occurs. Sometimes the existence of a default position, whether formal or otherwise, is interpreted as implying that it is advisable or recommended.

This behavioural tendency is exploited, for example, in the situation where a company offers a limited free trial of a product with a 'negative option feature'. Failure to cancel the subscription at the expiration of the free-trial period is taken by the company as permission to begin charging for the service.<sup>17</sup> In a similar manner, automatic subscription renewals result in 'much higher' renewal rates,<sup>18</sup> previous research from The Australia Institute has considered the role 'default' positions play in influencing Australians to remain with superannuation funds that charge excessive fees.<sup>19</sup> Defaults can also be used as an effective policy tool, for example by scheduling childhood immunisation to minimise the possibility that a baby or young child will miss the opportunity to be immunised.

It is possible, however, that a 'default' length for maternity leave may be influenced by the provision of 18 weeks of paid leave, undermining a goal of the PPL scheme to extend the average length of maternity leave to 26 weeks. The possibility of this outcome is discussed further in the policy options section (Section 4).

### 2.3 Money matters

The role played by financial pressures in determining the length of time people stay on maternity leave was addressed in many submissions to the Productivity Commission's 2009 inquiry into a Paid Parental Leave Scheme. This pressure was also identified in an evaluation of the New Zealand scheme, which found that although payment ameliorated financial pressures while a

---

<sup>14</sup> J Baxter, *Timing of mothers' return to work after childbearing: variations by job characteristics and leave use*, Research Paper No.42, Australian Institute of Family Studies, Canberra, 2008, p.14.

<sup>15</sup> S Burgess et al. *Maternity rights and Mothers' Return to Work*, CMPO working paper series No. 02/055, University of Bristol, 2002.

<sup>16</sup> W Samuelson and R Zeckhauser, 'Status Quo Bias in Decision Making', *Journal of Risk and Uncertainty* 1, Kluwer Academic Publishers, 1988, pp. 7–59.

<sup>17</sup> Visa Incorporated, *Visa, FTC and BBB Partner to Educate Consumers about Online Scams: Twenty-nine percent of online U.S. consumers victimized by deceptive marketing*, Media release, Washington D C, 2009.

<sup>18</sup> R Thaler and C Sunstein, *Nudge: improving decisions about health, wealth and happiness*, Penguin Books, 2008, p.38.

<sup>19</sup> J Fear and G Pace, *Choosing not to choose: making superannuation work by default*, Discussion Paper 103, The Australia Institute, Canberra, November 2008.

woman was on maternity leave, it was not sufficient to provide financial security.<sup>20</sup> The ABS has found that almost three-quarters of women cite financial pressures as their reason for returning to work after having a baby.<sup>21</sup>

Previous Australian research has found that many women, both those with access to paid leave and those without, would elect to stay away from work for longer if they had had access to 'some or more' *paid* maternity leave. In comparison, only a small number of women indicated that they would have taken longer if they had access to some or more *unpaid* maternity leave.<sup>22</sup> Table 2 shows how financial considerations are informing the length of maternity leave.

Table 2: Influence of financial factors on leave length

	Length of leave from work					
	Up to 3 months	3–6 months	6–9 months	9–12 months	12–15 months	All
Would have taken longer if they had access to some or more paid maternity leave	44%	57%	54%	37%	38%	46%

Source: Whitehouse et al.

Table 2 shows that the influence of financial considerations is greatest amongst women who return to work after three to nine months of leave. Amongst those who return to work within three months, the significance of financial pressure is lower, a circumstance that has been attributed to the paid maternity leave they receive.<sup>23</sup> How much a woman earns has also been found to be a factor contributing to the duration of leave, with an earlier return to work being more likely where a woman earns less than \$700 or more than \$1,400 a week prior to taking the leave. The Productivity Commission noted that the reasons for this are likely to differ between these two groups where 'financial constraints are almost certainly more influential for low wage earners'.<sup>24</sup>

This relationship between the amount paid and the length of maternity leave suggests that the provision of PPL is likely to result in women who were previously taking between three and nine months' leave now taking a longer period of time. The deviation within average leave lengths (discussed previously in Section 2.2) will conceal evidence of both the likelihood of lengthening leave suggested by the findings reported in Table 2 and the alternative possibility of a 'default' effect influencing leave lengths. Which is the predominant effect, however, will not be known until leave data from 2011 are available for analysis.

### 3. Returning to work after maternity leave

Analysis of HILDA survey data confirms previous research findings that maternity leave can have a negative effect on wage growth, training opportunities and future career development.<sup>25</sup> The policy objective the new Paid Parental Leave Scheme is to extend the period of leave to six

<sup>20</sup> Department of Labour, *Parental Leave in New Zealand, 2005/2006 evaluation*, New Zealand Government, Wellington, 2007, p.4.

<sup>21</sup> Australian Bureau of Statistics (ABS), *Pregnancy and Employment Transitions, Australia, Nov 2005*, Cat. No. 4913.0, Canberra, 23 October 2006.

<sup>22</sup> Whitehouse et al.

<sup>23</sup> Baxter, p.14.

<sup>24</sup> Productivity Commission, p.3.1; p. 3.25.

<sup>25</sup> A Saint-Martin and D Venn, 'Does part-time work pay?' *OECD Observer*, No.280, July 2010, p. 7.

months to ensure that a parent can care exclusively for an infant without undergoing any undue financial stress<sup>26</sup> and, to achieve this end, it makes provision for paid leave entitlements to most women in the workforce. The new policy does not address, however, the potential disadvantage of a longer absence from the workforce as a result of taking longer leave.

The Productivity Commission reported on ‘the preference of many women to return to work part-time after the birth of a child’,<sup>27</sup> a circumstance confirmed by previous Australian research, which found that 82 per cent of women who returned to work after a birth did so on a part-time basis.<sup>28</sup> A similar pattern exists in New Zealand where, on their return to employment, most women changed their working arrangements with reduced hours being a common adjustment.<sup>29</sup> Consistent with this research, new analysis of aggregated HILDA data from 2002 to 2009 undertaken for this paper, shows that around seven in ten women returned to fewer hours of employment following maternity leave, with the average reduction across the HILDA sample being 15 hours. A majority of women (59 per cent) continued to work part time in the second year back at work.

In Australia, returning to work on a part-time basis after the birth of a child is perceived by women as damaging to their careers and detrimental to future career opportunities<sup>30</sup> but, despite this, many women do transition to fewer working hours. As discussed below, it has been found that, as a group, women who take maternity leave experience slower wage growth, or a wage penalty, when they go back to work.

This risk to women’s future career opportunities has been highlighted by the Australian Human Rights Commission (AHRC), which has claimed that age 29, the average age at which women currently have their first child, is the age of ‘greatest career progression’ and the beginning of prime earning years. Further, the AHRC reports that more than half of all women who take maternity leave believe that their careers have suffered, with three in ten stating their ‘careers take a backward step’. A similar number report that they ‘sacrificed their careers when they gave birth’.<sup>31</sup> The following sections detail the evidence of a wage penalty effect and explore the factors behind perceptions that maternity leave limits future career prospects.

### 3.1 Lower wages

The Australian Government’s Equal Opportunity for Women in the Workplace Agency is addressing the existence of gender-based pay inequality in Australia, but the potential for intra-gender pay inequality experienced by those women who have taken time out of the workforce to have children is less recognised. Available research indicates that women who take maternity leave can suffer a wage penalty, which diminishes the potential for future wage growth,<sup>32,33</sup> a phenomenon that has been attributed to missed training opportunities, non-maintenance of specific employment-related skills and forgone employment experience.

---

<sup>26</sup> Australian Government, p.4.

<sup>27</sup> Productivity Commission, p.6.7.

<sup>28</sup> Australian Bureau of Statistics, *Pregnancy and Employment Transitions*.

<sup>29</sup> Department of Labour, pp.4–5.

<sup>30</sup> G Whitehouse, A Hosking and M Baird, *Investigating the optimal duration of maternity leave: evidence from the Parental Leave in Australia Survey (LSAC wave 1.5)*, paper presented at the LSAC Survey research conference, Melbourne, 3–4 December 2007, slide 12.

<sup>31</sup> Australian Human Rights Commission, ‘Pregnancy FACT SHEET’. Available at: [http://www.hreoc.gov.au/sex\\_discrimination/publication/pregnancy/fact\\_sheet.html](http://www.hreoc.gov.au/sex_discrimination/publication/pregnancy/fact_sheet.html)

<sup>32</sup> Government Equalities Office, *The Gender Pay Gap in the UK: 1995 to 2007*, Research Findings No.2010/2, United Kingdom Government, London, 2010.

<sup>33</sup> C Manchester, L Leslie and T-Y Park, *Screening for Commitment: the effect of maternity leave usage on wages*, Tech Rep, University of Minnesota, 2008.

In the UK, it has been found that for every year a woman spends away from employment 'to carry out family caring work', there is an average wage penalty of one per cent and an extended effect on longer-term earnings.<sup>34</sup> A wage penalty of between five and seven per cent per child has been identified in the US,<sup>35,36</sup> but if women returned to their previous employers following maternity leave, this was reduced.<sup>37</sup> German research has also found that the wage penalty increases with the duration of maternity leave and identified a penalty of around one per cent per for every month taken over and above the legislated length of paid leave.<sup>38</sup>

The existence of a wage penalty confronting women who take longer-than-legislated maternity leave supports the thesis (Section 2.2) that the statutory length of paid leave may become the standard duration, which is an unintended perception. The Productivity Commission argued that establishing a Paid Parental Leave Scheme would promote acceptance of leave following the birth of a child as 'a normal part of working life'.<sup>39</sup> However, the same argument can be applied to the provision of 18 weeks of paid leave, which may, in time, be adopted as the 'normal' length of maternity leave.

Whereas most studies find small but persistent effects, some research has detected wage penalty rates of between 10 and 15 per cent.<sup>40,41</sup> There is, however, contradictory evidence as to whether delaying maternity leave will offset<sup>42</sup> the wage penalty effect or exacerbate it.<sup>43</sup>

#### *HILDA evidence of a wage penalty in Australia*

The HILDA survey began in 2001 and is a longitudinal study that interviews the same respondents each year.<sup>44</sup> The continuous nature of the survey has produced a data source that permits an analysis of population variables over a series of years so that, for the first time, wage growth for women who take maternity leave can be traced over a number of years following their return to work. The available data (2002–09) have been aggregated and adjusted for income growth over time using the ABS Labour Price Index. (For a further explanation, see Appendix A).

---

<sup>34</sup> Government Equalities Office, *The Gender Pay Gap in the UK*.

<sup>35</sup> Manchester et al., *Screening for Commitment*.

<sup>36</sup> M Budig and P England, 'The Wage Penalty for Motherhood', *American Sociological Review* 66:2, 2001, p.204–225.

<sup>37</sup> Manchester et al., *Screening for Commitment*.

<sup>38</sup> U Schönberg and J Ludsteck, *Maternity Leave Legislation, Female Labor Supply, and the Family Wage Gap*, IZA DP No. 2699, Institute for the Study of Labor, Bonn, 2007.

<sup>39</sup> Productivity Commission, p.xxxiii.

<sup>40</sup> B Buligescu, D de Crombrughe, G Montesoglu and R Montizaan, 'Panel estimates of the wage penalty for maternal leave', *Oxford Economic Papers* 61, Oxford University Press, 2009.

<sup>41</sup> D Anderson, M Binder and K Krause, 'The Motherhood wage penalty: which mothers pay it and why?', *The American Economic Review* 92:2, May 2002, pp. 354–358.

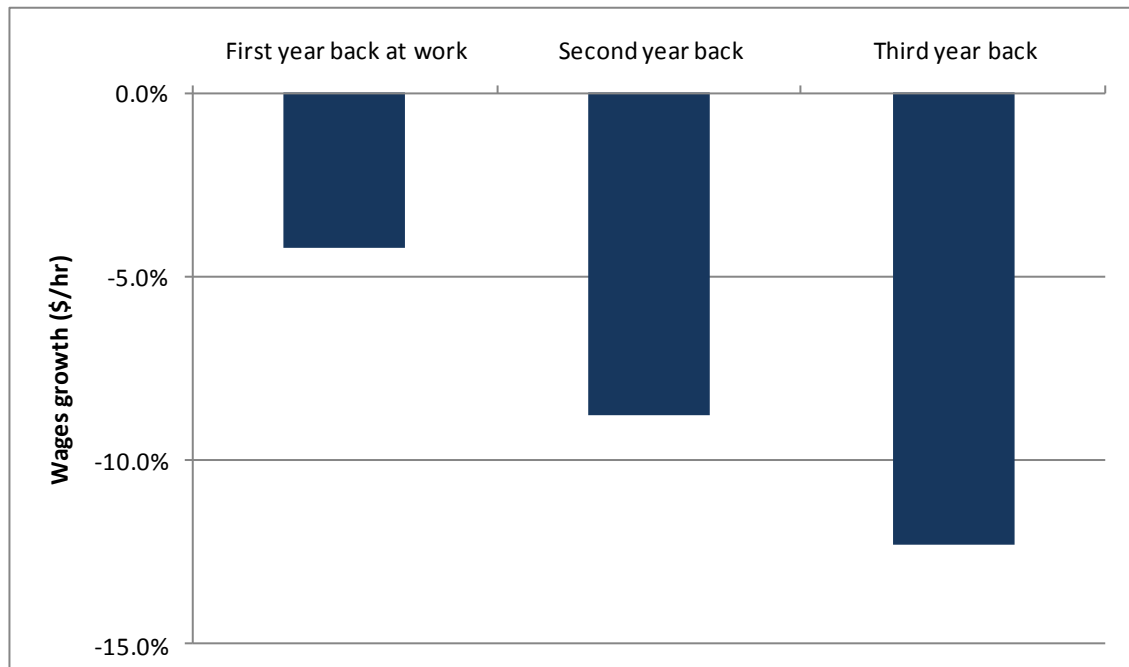
<sup>42</sup> J Herr, *Does it pay to delay?: understanding the effect of first birth timing on women's wage growth*, Job Market Paper, University of California, Berkeley, 2007.

<sup>43</sup> M Beblo and E Wolf, *How much does a year off cost?: estimating the wage effects of employment breaks and part-time periods*, ZEW Discussion Paper No.00-69, Centre for European Economic Research, Mannheim, 2000.

<sup>44</sup> Longitudinal surveys suffer some sample attrition as participants drop out between survey cycles. The sample attrition for the latest HILDA survey was 3.7 per cent. (See M Summerfield (ed.), *HILDA User Manual—Release 9*, Melbourne Institute of Applied Economic and Social Research, University of Melbourne, 2010, p.113).

Analysis has been made on the basis of changes in hourly rates of pay to account for the variance in the number of hours worked by employed women and their tendency to return to reduced hours of employment in the years immediately following maternity leave. Figure 2 shows the average wage growth for these women.

Figure 2: Wages growth for women returning to work following maternity leave



Source: Household, Income and Labour Dynamics in Australia survey. Aggregated sample size n= 203 (1<sup>st</sup> year); 170 (2<sup>nd</sup> year); and 117 (3<sup>rd</sup> year); and ABS, *Average Weekly Earnings*.

Figure 2 shows that, on average, women who return to work following maternity leave experience a decrease in their hourly rate of pay, which is sustained for at least three years. In comparison, the average wage growth for women over the aggregated period of 2002–2009 was four per cent,<sup>45</sup> revealing a significant wage penalty among those women who take maternity leave in Australia.

In general, women back at work after maternity leave suffer a penalty during the first year of just over four per cent, increasing to almost nine per cent the following year. This pattern continues into the third year, but at a reduced rate. Previous Australian research has found that the greatest wage disparity occurs around 10 years after childbirth, or even longer if a woman has subsequent children, suggesting that there will be no real change in the medium term either.<sup>46</sup>

If the new Paid Parental Leave Scheme had been available in 2008, women who took maternity leave would have been able to access 18 weeks' pay at the minimum wage, which increased in July 2008 to \$543.78 a week.<sup>47</sup> However, according to the HILDA sample, in 2009 women returning to work after maternity leave experienced a wage penalty averaging \$1,566, which

<sup>45</sup> Australian Bureau of Statistics (ABS), *Average Weekly Earnings, Australia*, Cat. No. 6302.0, Canberra, 17 November 2010.

<sup>46</sup> B Chapman, Y Dunlop, M Gray, A Liu and D Mitchell, *The Foregone Earnings from Child Rearing Revisited*, Centre for Economic Policy Research Discussion Paper No. 407, Australian National University, 2000, pp.17–18.

<sup>47</sup> J Gillard and W Swan, *2008 AFPC Federal Minimum Wage Determination*, joint media release, 8 July 2008.

equates to approximately three weeks of PPL payments. This penalty is even higher in the long run when forgone superannuation is also taken into account. Applying population weighting to the HILDA sample reveals that, in 2008, 80,725 women stopped work to have a child and returned to work within 12 months. It can be estimated that these women missed out on \$126 million in earnings in the year they returned to work.

Reduced wage growth is indicative of future career limitations, a situation that may be experienced by women who have taken maternity leave. The new Paid Parental Leave Scheme does not include policies to address these potential longer-term consequences, despite the possibility that, by encouraging women to take longer leave, the new scheme may exacerbate the wage-penalty effect. This likelihood was underlined in the Productivity Commission report, which stated that, by returning to work earlier, women may be able to 'maintain the benefits of the original employment relationship', including wage gains, as a result of having job- and organisation-specific skills.<sup>48</sup>

### 3.2 Do some women experience a lower wage penalty?

The findings reported in Section 3.1 confirm international research that – on average – women who take maternity leave experience lower wage growth than women with continuous employment. This prompts the question: do some women experience a lower wage penalty, and if so what factors determine this outcome? Education attainment and work experience are recognised as key determinants of a person's income level.<sup>49</sup> The role of education level and work experience on the wage growth of women within the HILDA survey who took maternity leave is in Table 3.

---

<sup>48</sup> Productivity Commission, p.5.14.

<sup>49</sup> K Norris, 2000, *Economics of Australian Labour Markets*, Longman, New South Wales, p.137.

Table 3: Factors influencing wage growth following maternity leave

	Proportion of sample	Wage growth		
		First year back	Second year back	Third year back
<b>Education</b>				
High school	32 %	-6.6 %	-10.2 %	-15.5 %
Post high school	68 %	-4.9 %	-8.4 %	-9.6 %
<b>Work experience</b>				
up to 10 years	48 %	-3.6 %	-6.6 %	-15.0 %
11 to 20 years	44 %	-4.4 %	-9.5 %	-8.7 %
more than 20 years	8 %	sample size to small for analysis		
<b>Hours of work following maternity leave</b>				
Working fewer hours	65 %	-1.0 %	-8.0 %	-10.3 %
Working the same or more hours	35 %	-12.0 %	-12.5 %	-13.8 %

Table 3 shows that education level and years of work experience appear to have a direct influence on the degree of wage penalty experienced by women returning from maternity leave. The advantage for women with higher levels of educational attainment or longer work experience is twofold. Firstly, the wage penalty effect they experience after three years back at work is half that of other women with a high school education or fewer than ten years work experience. By the third year women with more between 11 and 20 years work experience have begun to overcome the wage penalty.

The wage penalty effect is more strongly experienced by women with a high school education or less work experience. The effect on these two groups differs with women with the first group experiencing a larger wage penalty in the first two years back at work which then slows in the third year, compared to a steep rise in the third year amongst women who have fewer than ten years work experience. After three years back at work these two groups are in a similar situation.

Interestingly, the prevailing preference amongst women to return to fewer hours of work following maternity leave does not have result in a greater wage penalty effect. In fact the opposite is true with a minimal effect on wages growth of only one per cent compared to women who return to the same or more hours (12 %). There is a significant increase in the wage penalty effect the following year for women working fewer hours and a further increase in the third year, however, the effect on their wages is not as great as it is for women who do not return to reduced hours.

### 3.3 Minimising the wage-penalty effect

#### *Work experience*

Continued employment implies a continued accumulation of work experience, thus increasing one aspect of market value within the labour market; additional training will not completely compensate for the loss of workplace experience. The combination of less experience and missed training opportunities during lengthy periods out of the workforce may be perceived as compounding specific skill depreciation.<sup>50</sup>

The effects arising from a forgone accumulation of experience do not appear to be readily recoverable, a factor contributing to the wage penalty encountered by women. The influence of experience on the evident disparity in wages growth is, to some extent, an inevitable outcome of taking time out of the workforce. That said, policies focused on training may help to minimise the cost of missed experience, but it is unlikely to offset the effect on wages completely.

#### *Workplace skills*

The perception that absence from the workforce depreciates workplace skills, for example during maternity leave, is considered by some to be a primary determinant of lower wage growth. Australian research assesses the influence as second only to the forgone accumulation of work experience.<sup>51</sup>

Despite this finding, the effect of lost workplace skills is not readily acknowledged by employers with recent research finding that, while a quarter of the employers surveyed 'felt that the skills sets of returning mothers might be out of date', more than half believed that these women 'can bring important skills'.<sup>52</sup> An aspect of this argument that has received little attention is the possibility that, on their return to work, mothers actually contribute additional skills.

The potential wage penalty that can be experienced as a result of perceived skill depreciation by a woman returning from maternity leave may be partly offset by the provision of training opportunities.

#### *Less training*

Although training can mitigate the consequences of maternity leave, including lost work experience and workplace skills, participation in workplace training is lower amongst part-time employees and, therefore, amongst the 70 per cent of women who return from maternity leave as part-time workers. While Australian research has found that there is no consistent difference between the availability of training for women with children and those without, nevertheless part-time employees are 'less likely to be trained'.<sup>53</sup> ABS statistics confirm this disparity.<sup>54</sup> The training gap is especially wide for people employed as casuals, often a consequence of part-time work. Given the high incidence of part-time work after maternity leave, this suggests that fewer women will have access to training opportunities that could help offset the potential impact of lost work experience and workplace-specific skills.

---

<sup>50</sup> E Sorensen, 'Continuous female workers: how different are they from other women?', *Eastern Economic Journal* 19:1, 1993, p.15.

<sup>51</sup> Chapman et al., p.2.

<sup>52</sup> Regus Global Report, *Mother's Day: a study of trends in hiring working mothers across the globe*, Luxembourg, 2011, p.6

<sup>53</sup> F Almeida-Santos and K Mumford, 'Employee Training in Australia: evidence from AWIRS', *The Economic Record* 80, September 2004, p.S62.

<sup>54</sup> Australian Bureau of Statistics (ABS), *Education and Training Experience, 2009*, Cat. No. 6359.0, Canberra, 30 March 2010, p.48.



### *Sending a message*

'Signalling' is another area of research associated with maternity leave. It concerns employers' perceptions of women (and men) who take leave as having a 'lower career commitment', especially those who take advantage of longer periods of leave. After a woman has returned to work, employer perceptions can be cemented by further signals, including the amount of (extra) time she spends in the office and how often she utilises workplace family policies.<sup>55,56</sup> This issue is, however, difficult to quantify.<sup>57</sup>

The finding that returning to reduced hours has a lesser wage penalty effect than working the same or more hours suggests that the effect of 'signalling' is limited. This is despite the general assumption that 'there is more uncertainty about the labour-market commitment of part-time workers'.<sup>58</sup> So while some researchers have concluded that signalling is the third largest determinant on the wage-penalty effect, behind the diminution of skills and experience, the effect may not be overly significant.

The effect of 'signalling' is largely unmeasurable and therefore makes its role in determining a wage penalty difficult to assess. It may be that the influence of signalling may differ depending on a woman's income level; the wage-penalty effect of signalling may be greater in higher-skilled jobs associated with the idea of a career than in lower-skilled jobs, where there are higher levels of casualisation.<sup>59</sup>

### **3.4 Recognising the wage-penalty effect**

There is little public discussion in Australia about the long-run cost incurred by women as a result of the wage-penalty effect of taking maternity leave. The penalty is also part of a bigger picture of longer life-time earning penalties resulting from caring responsibilities for children up to the age of 16. The effect for men also goes unrecognised given the cultural assumption that women fulfil this role. This report, potentially contributes to this bias inadvertently given the lack of available data within the HILDA survey to examine the wage penalty experienced by fathers.

Because of this low recognition, the reasonably abstract concept of a wage penalty is unlikely to figure prominently in people's decisions about the duration of maternity leave in relation to employment contexts and personal financial circumstances and, in turn, the provision of PPL payments. It is important, therefore, that the government consider the policy options available to address the future costs that are likely to become associated with taking maternity leave. That the introduction of PPL may exacerbate the wage-penalty effect is an added reason for the government to implement policies to address the evident shortfall in wage growth.

---

<sup>55</sup> P McDonald, L Bradley and D Guthrie, 'Challenging the Rhetoric of Choice in Maternal Labour-Force Participation: preferred versus contracted work hours', *Gender, Work and Organization* 13:5, 2006.

<sup>56</sup> Manchester et al.

<sup>57</sup> Buligescu et al., p. i37.

<sup>58</sup> Buligescu et al., p. i53.

<sup>59</sup> I Watson, J Buchanan, I Campbell and C Briggs, *The Future of Work: source material on trends and challenges in Australian workplaces*, Australian Council of Trade Unions, Melbourne, 2003, p. 3. This material is an abridged version of chapters 2–10 of *Fragmented futures: new challenges in working life*, Federation Press, Sydney, 2003.

## 4. Policy options to address wage penalties

Evidence drawn from an analysis of HILDA survey data confirms earlier research from both Australia and overseas, which shows that women who take maternity leave experience lower wages growth and potentially jeopardise their future career prospects when compared to women who remain in the workforce. The factors behind this wage-penalty effect need to be addressed in further policies to support parents taking parental leave.

There is no simple solution to the long-term consequences of taking time out of the labour force to have children as is encouraged by the PPL legislation. PPL is a welcome and long overdue measure that addresses the previously existing inequality in paid maternity leave, but unintended consequences may see an increased wage-penalty effect, which will require additional policies to limit the negative impact that taking maternity leave imposes on the future earnings of those women who take maternity leave. The Productivity Commission has reported that increasing retention rates reduce overall training and recruitment costs for employers;<sup>60</sup> thus, policies that benefit women returning to work are also likely to benefit employers. A range of policy options to offset the wage penalty effect are outlined below.

### *Family Tax Benefit*

The current Family Tax Benefit provides income support to assist with the costs of raising children; it could be extended to include a once-off payment when a woman returns to work to help offset the likely wage-penalty impact. This would partly address the unintended potential for an enhanced wage-penalty effect that might arise from increasing the average length of maternity leave to 26 weeks, the aim of the PPL scheme. Providing a fixed once-off incentive payment to return to work would partly alleviate the initial wage penalty experienced following maternity leave. This payment would not address the longer term effect and, therefore, ensure that government does not inadvertently condone lower wage growth for women who have taken maternity leave. The setting of a minimum payment would also mean that the labour-market value of work experience is not unduly discounted.

### *Superannuation*

The financial disadvantage of the wage-penalty effect could be partly offset by requiring PPL payments to be subject to superannuation contributions. Because the Productivity Commission wanted to signal that PPL payments are consistent with other wage incomes and are not welfare, payments made under the PPL scheme are included in an individual's personal income tax assessment.<sup>61</sup> But although PPL payments are taxed as wages income, superannuation is not levied as would usually be the case. A nine per cent superannuation charge on the current PPL payment of \$543.78 for 18 weeks would be approximately \$880 which is just over half the average wage penalty experienced by women in the first year back at work. Paying superannuation would be a small improvement on the wage-penalty effect taking maternity leave can have on wages in the short and long-term.

### *Keeping in touch*

In the UK there is provision for parents to return to work for short periods during parental leave to undertake training or to participate in planning days as a means of 'keeping in touch' with their organisation and, to some extent, their career. This concept was examined by the Productivity Commission inquiry into PPL; however, the final legislation assigns these days for

---

<sup>60</sup> Productivity Commission, p.xiv.

<sup>61</sup> Productivity Commission, p.2.7.

the purpose of work only.<sup>62</sup> However, the purpose of 'keeping in touch' is to maintain a sense of place at work, including social relationships and an update on what is going on at work. This would allow women to maintain contact with their workplace and career more effectively. Supporting this change is the limited contribution an isolated day of work makes to workplace productivity compared with the mutual benefits of completing work-related training.

### *Return to work compact*

There are mutual benefits for employers and employees when women return to work following maternity leave. There are also benefits for the broader economy through increases in productivity, workforce participation and, therefore, increases in the tax base. A return to work compact, or agreement, between an employer and employee provides an opportunity to encourage women to return to the position they occupied before they took maternity leave. Such a compact might provide extended paid maternity leave provisions to employees who agree to return to their existing employer for a minimum of 12 months and could help counter the perceived signalling of low career commitment among women who take maternity leave. While breaking the compact might incur the pro rata repayment of an additional payment it should not be used to impose further conditions on women returning to work. Such compacts are already utilised by some employers such as the university sector.

### *Progress reporting*

In March 2011, the Australian Government announced that organisations employing more than 100 people will be required to report on the number of women employed, their employment conditions, and the availability of flexible working arrangements.<sup>63</sup> While welcome, these changes do not address the wage-penalty effect. To enhance the cultural changes these reforms are intended to achieve, additional requirements could include measurements that track the success of return-to-work policies, including documenting comparative wage growth and training opportunities among women back from maternity leave compared to the rest of an organisation's workforce. These measurements would gauge the success of existing policies and identify where improvements could be made. A requirement to assess the wage-penalty effect and include this measurement in annual reports could also be made a requirement for the public sector and large firms.

### *Government review*

The government has given the Institute for Social Science Research (ISSR), based at the University of Queensland, the task of evaluating the Paid Parental Leave Scheme, aimed at assessing whether PPL will achieve its 'long-term objectives'.<sup>64</sup> The evaluation, with a funding commitment of \$2.7 million, will be the starting point for a government review in 2013. This initial assessment is well positioned to undertake a detailed analysis of the medium-term wage penalty experienced by women who take maternity leave and should include this requirement in the terms of reference for the evaluation.

---

<sup>62</sup> Commonwealth of Australia, *Paid Parental Leave Act 2010*, s. 50.

<sup>63</sup> K Ellis, 'Celebrating 100 years of International Women's Day - where to from here', speech at the National Press Club, Canberra, 9 March 2011.

<sup>64</sup> J Macklin, *Evaluation of Australia's national Paid Parental Leave scheme*, Media Release, 7 July 2010.

## 5. Conclusion

The introduction of a government-funded Paid Parental Leave Scheme was long overdue. The new scheme provides an opportunity for mothers (or fathers) to care for their newborn child for a minimum of four and preferably six months with some financial support. The payment is not intended as a cash bonus; however, the influence of financial considerations on the length of maternity leave has been well documented.

Less recognised are the longer-term financial implications that maternity leave can have on a woman's earning capacity, a wage penalty that is not addressed by the new Paid Parental Leave Scheme and, ironically, may even be exacerbated by it. The issue of the wage-penalty effect, therefore, requires further policy attention.

Financial considerations are cited as influencing the duration of leave taken by almost one in every two women. From this it can be assumed that the financial benefit of the Paid Parental Leave Scheme will be likely to have the intended effect of increasing the length of time many women are away from work. It is unclear, however, whether the provision of 18 weeks' paid leave will unintentionally lead to this becoming considered as the default length for maternity leave.

Nevertheless, it remains likely that women who take maternity leave will experience lower wage growth compared with those who remain in the workforce, whether the average length of leave increases towards six months as the government predicts or whether, on the other hand, more women return to work at the expiration of the 18 weeks. This wage penalty is indicative of the potential career consequences experienced by women returning to work following maternity leave.

The role of work experience and education add to the complexity of influences behind the degree of wage-penalty effect. Policies that minimise a loss of work experience and missed training opportunities while on leave can help ensure that a worker is up-to-date with the demands and current situation of their job when they return to work.

A complementary policy focused on reintegrating women into the workforce and minimising the longer-term impact taking leave can have on wages is required to balance the up-front benefits of PPL. Suggested measures include:

- a once-off return to work payment through the Family Tax Benefit to offset some of the wage-penalty effect of taking maternity leave
- superannuation levied on PPL payments would offset most of the average estimated wage penalty in Australia
- amending the Paid Parental Leave legislation to stipulate that the purpose of a 'keeping in touch' policy is to maintain professional and social contact and not simply to work
- encouraging employers and employees to enter into return-to-work compacts, which would demonstrate continued commitment to job and career
- requiring employers to measure the effectiveness of return-to-work policies and to report annually
- including an evaluation of the wage-penalty effect in the terms of reference for the University of Queensland's evaluation of the Paid Parental Leave Scheme.

## Appendix A: Methodology

This research paper analyses the availability and uptake of maternity leave, paid and unpaid, in Australia prior to the implementation of the publically funded Paid Parental Leave Scheme. Further data analysis looks at the effect taking maternity leave might have on wages growth for women taking leave. The report uses data from the longitudinal Household, Income and Labour Dynamics in Australia (HILDA) survey, which has been conducted annually since 2001. The focus of the paper has been the maternity leave patterns of women as they are more frequent users of parental leave.<sup>65</sup>

The population sample analysed is women of child-bearing age (17 to 49 years). This age cohort was selected as it most closely matched the ABS definition of 'child bearing age' as 15 to 49 years,<sup>66</sup> the HILDA survey only introduced data categories for ages 15 and 16 in 2006. Given the focus on wages in the second part of the paper, the sample was limited to women taking maternity leave for the first time to control for any pre-existing effects on wages from previous periods of maternity leave.

Since 2001, the HILDA survey has measured the availability of maternity leave and duration of any leave taken. While there are some limitations in using a general survey for analysing the availability and use of maternity leave compared with a more specific survey, such as the Parental Leave in Australia Survey (PLAS), there are also advantages. The PLAS has been conducted only once, in 2005, whereas the HILDA survey is now in its tenth year. The availability of longitudinal data provides a more comprehensive picture of the way Australians have been availing themselves of the paid maternity leave available to them through their job and the consequences of doing so.

In Section 3 the paper looks at the wages of women who take maternity leave and then return to work to see how their wages growth compares to the average for all female employees. Reported wages data (including hours worked) is collected in each wave of the HILDA survey. For this paper wages were compared in ABS Labour Price Index adjusted dollars per hour (\$/hr) to account for variation in hours worked. Wages data has been analysed for the three years back at work following maternity leave.

The sample size varied between 64 and 86 with the average HILDA sample of women (aged 17-49 years) taking maternity to have their first baby being  $n=76$  per year.

The process of analysing wages data for this sample begins with identifying HILDA cases taking maternity leave. While the survey began in 2001, the first year for identifying cases was 2002 as data from 2001 (or Y1) was required for identifying pre-leave wages. The year maternity leave is taken is referred to as Y2. The following year's HILDA survey, Y3 (in this first case, 2003) is the source for wages data for women returning to work following leave. The next two years of data are in turn labelled Y4 and Y5 and provide in total three years of post-leave wages data. This labelling is set out in Table A1.

---

<sup>65</sup> Productivity Commission, p.3.1.

<sup>66</sup> Australian Bureau of Statistics (ABS). *Births, 2009*, Cat. No. 3301.0, Canberra, 3 November 2010.

Table A1: Data labels used for analysing wage changes around maternity leave

	Data group label							
	Y1	Y2	Y3		Y4		Y5	
Data group description	Year before taking leave	<b>Year maternity leave taken</b>	First year back at work	Sample size (n)	Second year back at work	(n)	Third year back at work	(n)
First data year	2001	<b>2002</b>	2003	21	2004	25	2005	26
Second	2002	<b>2003</b>	2004	30	2005	28	2006	26
Third	2003	<b>2004</b>	2005	32	2006	24	2007	30
Fourth	2004	<b>2005</b>	2006	27	2007	27	2008	25
Fifth	2005	<b>2006</b>	2007	32	2008	34	2009	36
Sixth	2006	<b>2007</b>	2008	35	2009	33	n/a	
Seventh	2007	<b>2008</b>	2009	27	n/a		n/a	
Aggregated sample	—	—	—	207	—	173	—	118

To compare wages between years the ABS' seasonally adjusted Labour Price Index was used. The factor of growth for all female employees from 2001 to 2003 was applied to the wages data collected in Y1 to allow comparison with Y3. That is, reported wages data from the year before (2001) maternity leave was taken was adjusted to determine a value relative to 2003 wages. This allows comparison of wages data from before and after leave and a calculation of any real change in wage rates. Application of the Labour Price Index also permitted aggregation of the HILDA data sets.

The formula for any change (denoted by the symbol  $\Delta$ ) in wages following maternity leave would be:

$$\Delta \text{ wages ( Y3 to Y1 )} = Y3 (\$/hr) - [ Y1 (\$/hr) * \{ (ABS ( Y3 ) - ABS ( Y1 ) ) / ABS ( Y1 ) \} ]$$

Similarly, Y4 data was in turn adjusted by the ABS Labour Price Index in Y1 to allow any change in the following year (Y4) to be identified. In this way the wage rate reported on returning to work can be compared with wages in the second and third years back at work to identify subsequent changes and any emerging pattern.

This process of data collation, analysis and comparison was then undertaken for women in the HILDA sample taking maternity leave in subsequent years (2003 to 2008). HILDA data is only available up until 2009 which limits the number of years that can be analysed for the last two data groups.

Once collated a longitudinal aggregation of the data from 2002 to 2008 was made to allow the average change in wages over the first three years back at work to be calculated for women taking maternity leave. These average changes were then compared with the average annual wage growth for female employees. This comparative average was calculated from the ABS Average Weekly Earnings data for women (2002-2009). The results are reported in Section 3.1.

## References

Australian Bureau of Statistics (ABS) (2010). *Average Weekly Earnings, Australia*, Cat. No. 6302.0, Canberra, 17 November.

Australian Bureau of Statistics (ABS) (2010). *Labour Price Index, Australia, Sep 2010*, Cat. No. 6345.0, Canberra, 17 November.

Australian Bureau of Statistics (ABS) (2009). *Births, 2009*, Cat. No. 3301.0, Canberra, 3 November 2010. Available at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4913.0Main+Features1Nov%202005?OpenDocument> accessed 9 December 2010.

Australian Bureau of Statistics (ABS) (2010). *Forms of Employment, November 2009*, Cat. No. 6359.0, Canberra, 29 April 2010.

Australian Bureau of Statistics (ABS) (2010), *Education and Training Experience, 2009*, Cat. No. 6359.0, Canberra, 30 March.

Australian Bureau of Statistics (ABS) (2006). *Pregnancy and Employment Transitions, Australia, Nov 2005*, Cat. No. 4913.0, Canberra, 23 October. Available at:

<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4913.0Main+Features1Nov%202005?OpenDocument> accessed 9 December 2010.

Almeida-Santos, F and Mumford, K (2004). 'Employee Training in Australia: evidence from AWIRS', *The Economic Record* 80, pp.S53-S64.

Anderson, D, Binder, M and Krause, K (2002). 'The Motherhood wage penalty: which mothers pay it and why?', *The American Economic Review* 92:2, pp.354–358.

Australian Government (2009). *Australia's Paid Parental Leave Scheme: supporting working Australian families*, Canberra.

Australian Human Rights Commission (2001). 'Pregnancy FACT SHEET'. Available at: [http://www.hreoc.gov.au/sex\\_discrimination/publication/pregnancy/fact\\_sheet.html](http://www.hreoc.gov.au/sex_discrimination/publication/pregnancy/fact_sheet.html) accessed 7 January 2011.

Baxter, J (2008). *Timing of mothers' return to work after childbearing: variations by job characteristics and leave use*, Research Paper No.42, Australian Institute of Family Studies, Canberra.

Beblo, M and Wolf, E, (2000), *How much does a year off cost?: estimating the wage effects of employment breaks and part-time periods*, ZEW Discussion Paper No.00-69, Centre for European Economic Research, Mannheim.

Budig, M and England, P (2000). 'The Wage Penalty for Motherhood', *American Sociological Review*, 66: 2, p.204–225.

Buligescu, B, de Crombrughe, D, Menteşoğlu, G and Montizaan, R (2009). 'Panel estimates of the wage penalty for maternal leave', *Oxford Economic Papers* 61, Oxford University Press, pp.i35–i55.

Burgess, S, Gregg, P, Propper C and Washbrook, E (2002), *Maternity rights and Mothers' Return to Work*, CMPO Working Paper Series No. 02/055, University of Bristol.

Chapman, B, Dunlop, Y, Gray, M, Liu A and Mitchell, D (2000). *The Foregone Earnings from Child Rearing Revisited*, Centre for Economic Policy Research Discussion Paper No. 407, Australian National University.

Commonwealth of Australia (2010). *Paid Parental Leave Act 2010*, Canberra.

Dawney, E and Shah, H (2005). *Behavioural economics: seven principles for policy makers*, New Economics Foundation, London.

Department of Education, Employment and Workplace Relations (2010). *Annual Report 2009-10*, Canberra.

Department of Labour (2007). *Parental Leave in New Zealand: 2005/2006 evaluation*, New Zealand Government, Wellington.

Ellis, K (2011). 'Celebrating 100 years of International Women's Day—where to from here', speech at the National Press Club, Canberra, 9 March.

Equalities Review Panel (2007). *Fairness and Freedom: the final report of the Equalities Review*, London.

Fear, J and Pace, G (2008). *Choosing not to choose: making superannuation work by default*, Discussion Paper No. 103, The Australia Institute, Canberra.

Gillard, J (2008). *2008 AFPC Federal Minimum Wage Determination*, joint media release with W Swan, 8 July.

Government Equalities Office, (2010). *The Gender Pay Gap in the UK: 1995 to 2007*, Research Findings No.2010/2, United Kingdom Government, London. Available at: <[http://www.equalities.gov.uk/pdf/301113\\_GEO\\_ResearchFactsheetNo2\\_acc2.pdf](http://www.equalities.gov.uk/pdf/301113_GEO_ResearchFactsheetNo2_acc2.pdf)> accessed 30 September 2010.

Herr, J (2007). *Does it pay to delay?: understanding the effect of first birth timing on women's wage growth*, Job Market Paper, University of California, Berkeley. Available at: <[http://emlab.berkeley.edu/users/webfac/cbrown/e251\\_f07/Herr.pdf](http://emlab.berkeley.edu/users/webfac/cbrown/e251_f07/Herr.pdf)> accessed 21 February 2011.

Macklin, J (2010). Evaluation of Australia's national Paid Parental Leave scheme, Media Release, Canberra, 7 July.

Manchester, C, Leslie, L and Park, T-Y (2008). *Screening for Commitment: the effect of maternity leave usage on wages*, Tech Rep, University of Minnesota.

McDonald, P, Bradley, L and Guthrie, D (2006), 'Challenging the Rhetoric of Choice in Maternal Labour-Force Participation: preferred versus contracted work hours', *Gender, Work and Organization* 13:5, pp. 470–491.

Norris, K (2000), *Economics of Australian Labour Markets*, Longman, New South Wales.

Productivity Commission, (2009), *Paid Parental Leave: Support for parents with newborn children*, Report no. 47, Canberra.

Regus Global Report (2011), *Mother's Day?: a study of trends in hiring working mothers across the globe*, Regus plc, Luxembourg.



Saint-Martin, A. and Venn, D., (2010), 'Does part-time work pay?', *OECD Observer*, No.280, pp.7-8.

Samuelson, W and Zeckhauser, R (1988). 'Status Quo Bias in Decision Making', *Journal of Risk and Uncertainty* 1, Kluwer Academic Publishers, pp.7–59.

Schönberg, U and Ludsteck, J (2007). *Maternity Leave Legislation, Female Labor Supply, and the Family Wage Gap*, IZA DP No. 2699, Institute for the Study of Labor, Bonn.

Sorensen, E (1993). 'Continuous female workers: how different are they from other women?', *Eastern Economic Journal* 19:1, pp.15-32.

Summerfield, M (ed.) (2010). *HILDA User Manual – Release 9*, Melbourne Institute of Applied Economic and Social Research, University of Melbourne.

Thaler, R. and Sunstein, C., (2008) *Nudge: improving decisions about health, wealth and happiness*, Penguin Books, London.

Watson, I, Buchanan, J, Campbell, I and Briggs, C (2003). *The Future of Work: source material on trends and challenges in Australian workplaces*, Australian Council of Trade Unions, Melbourne. This material is an abridged version of chapters 2–10 of *Fragmented futures: new challenges in working life*, Federation Press, Sydney, 2003. Available at: <http://www.actu.org.au/Images/Dynamic/OldSite/public/news/files/fowexsum.pdf> accessed 18 February 2011.

Whitehouse, G Hosking, A and Baird, M (2008). 'Returning too soon? Australian mothers' satisfaction with maternity leave duration', *Asia Pacific Journal of Human Resources* 46 (3), pp.288–302.

Whitehouse, G, Hosking, A and Baird, M (2007). *Investigating the optimal duration of maternity leave: evidence from the Parental Leave in Australia Survey* (LSAC wave 1.5), paper presented at the LSAC Survey research conference, Melbourne, 3–4 December.