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# **Reservation wages and the earnings capacity of lone and couple mothers**

## **Are wage expectations too high?**

RESEARCH PAPER NO. 37, MAY 2006

**Matthew Gray and Jennifer Renda**

Australian Institute of Family Studies

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## Executive summary

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There is a great deal of policy and community concern about the growth in the number of working-age Australians in receipt of income support payments. Of particular concern is the increasing number of families with children in which no adult is employed. A focus of government policy is on increasing workforce participation rates of mothers in receipt of income support payments.

A consistent theme in policy attempts to increase employment rates has been the importance of ensuring that there are adequate financial incentives to take up paid employment. Strategies to ensure that work pays involve the adjustment of the tax and benefit systems in order to widen the differential between in-work and out-of-work incomes in favour of in-work incomes.

In order for income support recipients to be able to calculate the financial gain from moving to paid employment, it is necessary that they are able to estimate the minimum wage (reservation wage) which they need to be paid in order to accept a job offer. Therefore, if income support recipients do not know their reservation wage, policies designed to increase the financial incentives for paid employment will be less effective in increasing employment rates.

The higher a jobseeker's reservation hourly wage is, relative to their productivity in the labour market, the lower their chances of finding employment. Therefore, it is sometimes argued that the unemployed and other jobseekers have unrealistically high wage expectations and this is an important reason for their difficulty in finding employment.

This paper presents evidence on the extent to which non-employed lone and couple mothers who would like to work are able to provide an estimate of their reservation income. There is virtually no existing Australian research on the extent to which jobseekers are able to estimate their reservation income. The paper also tests the hypothesis that unrealistic wage expectations are an important factor in explaining relatively low employment rates among mothers by comparing reservation hourly wages with the estimated earning capacity of mothers. If reservation wages are greater than what we estimate the mother would earn in the labour market, then this is likely to make it difficult to find employment.

The analysis is based on the Family and Work Decisions (FAWD) survey of 2,405 mothers conducted by the Institute in late 2002.

While the majority of the non-employed lone and couple mothers were able to provide an estimate of their reservation income, almost one-third were unable to do so. This has important implications for our thinking about the impact of the financial incentives generated by the income support system. If many of those in receipt of an income support payment are unable to form an estimate of what they would need to earn to make it worthwhile accepting a job, then they are unlikely to be responsive to changes in effective marginal tax rates at different points of the earnings distribution.

It is important to bear in mind that not being able to provide a response to a survey question about reservation incomes does not necessarily mean that in reality the person could not estimate their reservation income. However, the fact

that inability to provide a reservation income is related to education and length of time since last job in the way we would expect, suggests that responses to the survey question are correlated with the underlying ability to estimate reservation income.

Reservation hourly wages appear to be quite modest. Couple mothers have an average gross reservation hourly wage rate of \$15.18 per hour, which is slightly higher than the average of \$14.49 for lone mothers. To put the reservation wages into perspective, the federal minimum wage for full-time adult employees at the time of the FAWD 2002 survey was \$11.35 per hour and the average hourly rate for non-managerial female employees was \$19.10. Taking these figures into account, the reservation hourly wage rates reported by non-employed mothers appear to be quite modest. They are also lower than the actual hourly wage rates received by employed lone and couple mothers.

On average, reservation hourly wages are below what we estimate that the mother would earn in the labour market if she were able to find employment. Seventy-one per cent of lone and 74 per cent of couple mothers' reservation wages were equal to or less than the wage we estimate they would command in the labour market, given their education level and other characteristics that influence earnings. Overall, these results suggest that unreasonable wage expectations are not a major reason for mothers failing to find employment.

# Reservation wages and the earnings capacity of lone and couple mothers

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## Introduction

There is a great deal of policy and community concern about the growth in the number of working-age Australians in receipt of income support payments. Of particular concern is the increasing number of families with children in which no adult is employed. A substantial part of this increase is the result of the growth in the number of lone-parent families, who have a higher rate of joblessness than couple families (Gregory, 1999; Renda, 2003).<sup>1</sup> There has also been a growing awareness that significant numbers of mothers are spending long periods of time in receipt of income support payments (Gregory & Klug, 2001; Tseng & Wilkins, 2003).

The relatively low rates of employment of lone mothers have long been a policy concern. In the 1970s it was noted that lone-mother families experienced high rates of poverty, and the policy remedy was seen as adequate social security provision (Henderson, Harcourt, & Harper, 1970). By the 1990s the policy remedy had shifted to supplementing the pension with income from other sources, primarily from employment (Shaver, 1998). The most recent review of the social security system emphasised the importance of paid employment for lone and couple mothers (Reference Group on Welfare Reform, 2000), and there has been bipartisan political support for the need to reduce the number of working-age adults depending on welfare payments as their main or sole source of income.

In Australia, as well as other OECD countries, a consistent theme in policy attempts to increase employment rates has been the importance of ensuring that there are adequate financial incentives to take up paid employment (Reference Group on Welfare Reform, 2000; Kilkey & Bradshaw, 2001; Millar & Rowlingson, 2001). Often the concern is that the additional disposable income gained from paid employment can be very little (or in extreme cases nothing), as effective marginal tax rates can be quite high over income ranges in which income support and child-related payments are withdrawn (Ingles 1998; Keating & Lambert 1998; Johnson 2001; Dawkins 2002; Duncan 2002; Toohey & Beer 2003). Strategies to ensure that work pays involve the adjustment of the tax and benefit systems in order to widen the differential between in-work and out-of-work incomes in favour of in-work incomes.

In order for income support recipients to be able to calculate the financial gain from moving to paid employment, it is necessary for them to be able to estimate the minimum income (reservation income) that they need to be paid in order

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1 In 2002, lone mothers had an employment rate of 47.1 per cent (26.8 per cent part-time and 20.3 per cent full-time), which is substantially lower than the rate of 62.9 per cent (37.4 per cent part-time and 23.5 per cent full-time) for couple mothers. It is interesting to note that both lone and couple mothers have experienced similar rates of overall employment growth over the last twenty years (ABS, various years).

to accept a job offer.<sup>2</sup> Therefore, if income support recipients do not know their reservation income, then policies designed to increase the financial incentives for paid employment are likely to be less effective in increasing employment rates.

The higher a jobseeker's reservation hourly wage is, relative to their productivity in the labour market, the lower their chances of finding employment. Therefore, it is sometimes argued that the unemployed and other jobseekers have unrealistically high wage expectations and this is an important reason for their difficulty in finding employment. The reservation hourly wage and income will be influenced by, among other things, the income received when not working (which may include social security benefits, savings and income of other household members), the costs of working (such as child care and travel), and any other non-material advantages or disadvantages to working.

Although there is little Australian research on the extent to which jobseekers can estimate their reservation income, United Kingdom (UK) studies have found that many unemployed families are unable to estimate their likely earning power and systematically underestimate the financial returns from work. For example, Marsh and McKay (1993) find that British lone mothers have modest expectations of their earnings power and that one-quarter are not able to guess what they might expect to earn in the labour market.

This paper presents evidence on the extent to which non-employed lone and couple mothers who would like to work are able to provide an estimate of their reservation incomes and the number of hours they would expect to work in order to earn their reservation incomes. The paper also tests the hypothesis that unrealistic wage expectations are an important factor in explaining relatively low employment rates among mothers by comparing reservation hourly wages with the estimated earning capacity of mothers. The analysis is based on the Family and Work Decisions (FAWD) 2002 survey, a nationally representative survey of 2,405 Australian mothers.

The remainder of this paper is structured as follows. The next section describes the Family and Work Decisions survey and the third section describes how information on reservation incomes was collected and the construction of the measures. The extent to which mothers are able to provide a reservation income is outlined in the fourth section. In the fifth section the expected working hours of non-employed mothers are compared to actual hours worked by mothers. In the sixth section the reservation hourly and weekly wages rates of lone mothers are analysed. The reservation hourly wage rates are compared to estimated earnings capacity in section seven and concluding comments and policy implications are discussed in the final section.

## The Family and Work Decisions survey

The FAWD 2002 survey collected information from 2,405 Australian mothers. The sample, drawn from the Centrelink client database, was randomly selected from mothers who were in receipt of a Family Tax Benefit (FTB) Payment (a child-related payment) during August 2002. Lone mothers were over-sampled, such that half the sample were lone mothers and half couple mothers.<sup>3</sup> The survey collected a wide range of information, including demographic and human capital characteristics;

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2 Formally, the reservation wage is defined as the wage that would need to be offered to the jobseeker which would be just enough to induce them to accept a job rather than continue searching.

3 The interviews were conducted by Wallis Consulting group in November and December 2002 using Computer Aided Telephone Interviewing (CATI). Participation in the survey was voluntary.

detailed information on household composition, labour force status, use of child care, participation in study and training, income and health status; and responses to a wide range of attitudinal questions about combining work and family.

Receipt of FTB was used to define the sampling frame because this gave the broadest possible coverage of Australian mothers with dependent children in receipt of a Centrelink payment. There are two types of FTB payments – FTB A and FTB B. FTB A is a two-tiered payment received by most families with children. Lower-income families receive a higher rate of payment. FTB A is income-tested on family income. In August 2002 eligibility for FTB A was extended to family incomes of \$83,184 to \$122,000 per annum (or more), depending upon the number and age of children in the family. FTB B provides extra assistance to single-income families, including sole parents. FTB B is income-tested only on the secondary (lower) income earner in the family. This means that there is 100 per cent eligibility for FTB B among lone mothers with a dependent child (since by definition there is only one income earner), although there may not be 100 per cent take-up.<sup>4</sup> The income test on FTB B is quite severe, with FTB B being withdrawn at 30 cents per dollar earned by the secondary earner above \$1,752 per annum.

Lone mothers were sampled from those in receipt of FTB B payments. Couple mothers were sampled from those who were receiving either FTB A or FTB B.<sup>5</sup> For couple families, FTB is payable to the lowest income earner (in most cases the mother). This means that couple mothers whose partner received the family's FTB payments were excluded from the sample. In addition, a proportion of couple families receive FTB payments through the tax system and hence were not included in the sampling frame for the survey, as it only included those who received their FTB payments fortnightly through Centrelink.<sup>6</sup> We estimate that around 75 per cent of all couple families in Australia receive a FTB A payment fortnightly from Centrelink.<sup>7</sup>

Many lower-income families also receive income support payments, which are designed to provide a minimally adequate income to persons with no or limited income from other sources. The main type of income support payment available to mothers with dependent children under 16 years of age is the Parenting Payment. Lone mothers are eligible for Parenting Payment Single (PPS), which is paid under pension rates and conditions. Couple mothers are eligible for Parenting Payment Partnered (PPP), which is paid at a lower rate under allowance rates and conditions. (For rates and income tests for PPS and PPP, see Appendix A.) Depending upon their personal circumstances, mothers with dependent children may be eligible for other income support payments apart from Parenting Payment. The main

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4 To be eligible for FTB B lone mothers must have a dependent child aged under 16 or a dependent full-time student up to the age of 18.

5 The vast majority of couple mothers received FTB A. Single-income couple families with a high-income earner receive FTB B only.

6 Mothers who were eligible to receive an FTB payment, but had not taken up their entitlement were not in the sampling frame, as they did not appear on the Centrelink administrative database. However, in Australia the number of families not claiming FTB is believed to be small.

7 There were a number of other exclusions from the sample. Centrelink customers whose contact details needed to be kept confidential for their protection were excluded from the sample initially selected. Included in this category were customers in a Witness Protection Scheme or at risk of domestic violence. Potential respondents who, after being sent letters about the survey by FaCS, notified FaCS that they didn't wish to have their contact details passed on to the Institute (i.e. opted out) were also excluded, as were any customers whose information letter was returned to FaCS because it was undeliverable. The number of mothers opting out was 725. Mothers for whom Centrelink did not have telephone numbers and for whom telephone numbers could not be obtained from the electronic White Pages could not be interviewed.

such payments are the Disability Support Pension, Carer Payment and NewStart Allowance.

At the interview date, 95.6 per cent of lone mothers received both FTB A and FTB B (Table 1). Just 0.9 per cent received FTB A only and 0.3 per cent FTB B only. Among couple mothers, 44.3 per cent received both FTB A and FTB B and 50.8 per cent received FTB A but not FTB B. A small number of couple mothers received only FTB B (1.3 per cent).<sup>8</sup> Although the sample was selected on the basis of receipt of FTB, a small number of respondents ceased to receive FTB between sample selection and being interviewed.

A much higher proportion of lone mothers than couple mothers received an income support payment (Table 2). At the interview date, 71.3 per cent of lone mothers received a Parenting Payment and a further 3.8 per cent received an income support payment other than Parenting Payment. Just 10.3 per cent of couple mothers received a Parenting Payment and 4.7 per cent received an income support payment other than Parenting Payment.

**Table 1 Family Tax Benefit (FTB) receipt status on interview date**

	Couple mothers ( <i>n</i> = 1,209) %	Lone mothers ( <i>n</i> = 1,196) %
Only FTB A	50.8	0.9
Only FTB B	1.3	0.3
Both FTB A and FTB B	44.3	95.6
Neither FTB A or FTB B	3.6	3.2

*Source:* Centrelink administrative database.

**Table 2 Income support payment receipt status on interview date**

	Couple mothers ( <i>n</i> = 1,209) %	Lone mothers ( <i>n</i> = 1,196) %
Parenting Payment	10.3	71.3
Income support payment other than Parenting Payment	4.7	3.8
Does not receive an income support payment	85.0	24.8

*Source:* Centrelink administrative database.

The response rate to the FAWD survey was 65.6 per cent of the sample for which a telephone number could be obtained. An advantage of using the Centrelink administrative database was that aggregate information was available on the members of the sampling frame who were not interviewed, allowing the representativeness of the sample to be assessed. Information available from the administrative data includes age, relationship status, age and number of children, types and amounts of benefits received, and estimated family income for the financial year. Overall, the respondents had similar characteristics to the sample initially selected. The survey slightly under-represented mothers with the following characteristics: younger age groups; those living in major cities; those

<sup>8</sup> This occurs for couple mothers with no or low taxable income whose partner's income is high enough to mean that the family is not eligible to receive FTB A.

living in the Northern Territory, Queensland or Western Australia; those who identified as Indigenous; and those who did not own their own home.<sup>9</sup>

## Measuring reservation incomes and expected work hours

In this section the questions used to measure reservation income and expected hours are described and the construction of the measures is outlined. The FAWD 2002 survey contained a series of questions designed to measure how much non-employed mothers thought they would need to be paid to make it worthwhile to accept a job. The questions on the FAWD 2002 survey are similar, although not identical, to those used in UK surveys (see for example Marsh & McKay, 1993).<sup>10</sup>

In the FAWD 2002 survey, non-employed mothers were asked:

How many hours would you expect to work, taking into account how much money you want to earn?

and

And (for those hours) how much money would you need to be offered in a new job before you felt it worth taking?<sup>11</sup>

Marsh and McKay (1993) label the amount given in response to this question the 'target income'. Marsh and McKay (1993), who used a similar question, note that:

The problem with such a question is that it invites answers that are a mixture of aspiration and expectation, of hope and reality. Moreover, the use of words like 'worth taking', though unavoidable, are open to the interpretation of a job that was really worth having rather than the sort of job people usually end up doing (p. 117).

We therefore adopted their approach of also asking respondents:

If you couldn't find a job paying that much, would you accept less money?

If the answer to this question was yes, they were asked how much they would accept.

These questions are used to construct the measure of the minimum amount non-employed mothers would need to be paid in order to make it worthwhile to take a job ('reservation income'). For mothers who would end up accepting less than the initial amount they provided (the target amount), the reservation income is the lower amount they would end up accepting.<sup>12</sup>

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9 Further details on the conduct of the fieldwork and the representativeness of the sample can be found in Gray and Renda (2003).

10 Similar questions have been used in studies conducted by the Policy Studies Institute in the United Kingdom, most recently in the Study of Families with Children survey, conducted by the Policy Studies Institute for the Department of Work and Pensions.

11 Respondents who could not estimate the number of hours they wanted to work were not asked this question. However, respondents who said 'any hours necessary' were asked this question.

12 The approach of asking about reservation income in two questions differs from the conventional approach used in Australian surveys. Australian surveys have generally asked about reservation income using a single question. For example, Wave 1 of the Household, Income and Labour Dynamics in Australia survey asks: 'Assuming work was available, what would be the lowest wage per hour, before any tax is taken out, that you would accept?'

Two reservation incomes were constructed. The first was reservation weekly earnings. The second was the reservation hourly wage, which was constructed by dividing the reservation weekly earnings by the number of hours the respondent would need to work. The reservation weekly earnings and reservation hourly wage could be expressed as either after-tax (net amounts) or before-tax (gross amounts) values.<sup>13</sup>

Over half (55.8 per cent) of the non-employed mothers who gave a 'target income' said that they would accept less money and gave a lower amount.<sup>14</sup> Among non-employed mothers who lowered the amount of money they would accept, on average, the amount they would end up accepting was 24.2 per cent less. The finding that half the mothers would accept less than their 'target income' has important methodological implications for surveys which ask questions about reservation incomes. It suggests that the approach of asking whether a person would end up accepting less will result in a measure of reservation wages which is closer to the 'true' reservation wage than the conventional approach, which does not provide respondents the opportunity to lower the amount they would accept. Marsh and McKay (1993, p. 118) found a similar result for British lone mothers, with 71 per cent saying that they would accept less than their target income.

## Ability to provide reservation income and expected work hours

Models of individual labour-supply decisions, which place a central role on the reservation wage, assume that individuals are able to work out how much they would need to be paid to make it worthwhile accepting a job. In this section, respondents' ability to provide a reservation income and hours of work is analysed.

A number of the respondents were unable to estimate their reservation income. This occurred for one of two reasons. First, they could not answer the question as to how many hours they would expect to work. Second, although they could give a number of hours, they could not estimate how much they needed to be paid for those hours to make it worthwhile to take a job.

Table 3 shows the proportion of non-employed mothers who were unable to give a reservation income. The table presents information on the inability to estimate hours (which meant that the reservation income question was not asked) and inability to estimate reservation income even though an estimate of hours was provided by the respondent.

For couple mothers, the results are presented according to whether they received an income support payment, given the characteristics of these mothers are very different and the financial imperative to be in paid employment is also likely to differ. Presenting the figures by whether an income support payment is received also facilitates comparison with non-employed lone mothers, almost all of whom receive an income support payment.

There was little difference between couple and lone mothers in their ability to estimate their reservation incomes. For couple mothers, 31.7 per cent were unable to give a reservation income, comprising 16.0 per cent who could not give

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13 The conversion between before- and after-tax amounts takes into account the personal income tax thresholds and tax rates applicable at the time the FAWD survey was conducted. The conversion between before- and after-tax amounts does not take into account the Medicare Levy or the Medicare Surcharge.

14 See Appendix B for the distribution of the difference between the target and reservation gross hourly wages.

expected hours and 15.7 per cent who could provide an income estimate. Among lone mothers, 14.2 per cent could not give hours and 18.8 per cent could not provide an income estimate, so that in total 33.0 per cent could not estimate their reservation income.

Comparing lone and couple mothers in receipt of an income support payment, couple mothers were less likely to be able to indicate the hours they would like to work than lone mothers. However, if they could estimate hours, couple and lone mothers had a similar ability to estimate the income they would need to receive for those hours in order for it to be worthwhile accepting a job. For couple mothers, those not on an income support payment were much more likely to be able to indicate the hours they would like to work and to know the income they would like to receive for those hours.

**Table 3 Ability to estimate hours and reservation income by income support receipt status, non-employed mothers**

	Could not estimate hours %	Could not estimate income %	Total could not estimate reservation income %	Number of observations
<i>Couple mothers</i>				
All couple mothers	16.0	15.7	31.7	432
Receiving income support payment	22.0	18.7	40.7	118
Not receiving income support payment	13.7	14.6	28.3	314
<i>Lone mothers</i>				
All lone mothers	14.2	18.8	33.0	451
Receiving income support payment	14.3	19.2	33.5	427
<p><i>Notes:</i> The question about reservation income was only asked of those who could provide an estimate of the number of hours they would expect to work (including the response 'any hours necessary'). The proportion who could not estimate income is based upon all mothers in the relevant group asked the reservation income question. It includes those who could not estimate hours and hence were not asked the income question. The figures in the table exclude the small number of respondents who refused to answer the relevant questions.</p> <p><i>Source:</i> FAWD survey 2002.</p>				

A way of checking the validity of the reservation income measure is to examine the relationship between level of educational attainment and ability to provide a reservation income. We expected that the higher the level of educational attainment of a respondent, the more likely they would be able to provide a reservation income. This was for several reasons. First, they may have been able to better understand the interactions between the income support system, tax system and earnings, and the implications of these for their personal situation. Second, they were more likely to have had recent labour market experience, an issue which is explored further below. Third, respondents with higher levels of education were more likely to have family and close friends in paid employment who may have been a valuable source of information on the labour market and the effects of earnings on government benefits. Ability to estimate reservation income was shown to improve with educational attainment (Table 4). Among those with Year 10 or lower education, 41.5 per cent could not provide a reservation income, whereas just 18.6 per cent of those with a degree or higher level of qualification could not provide a reservation income.

**Table 4 Ability to provide reservation income by level of educational attainment, non-employed mothers**

<b>Educational attainment</b>	<b>Unable to provide reservation income %</b>	<b>Number of observations</b>
Year 10 or lower	41.5	287
Year 11	33.3	66
Year 12	26.1	115
Vocational or trade qualification	27.4	263
Diploma	33.8	74
Degree	18.6	70

Source: FAWD survey 2002.

Length of time since a respondent's last job ended was expected to be clearly related to their understanding of the labour market and how much they would need to be paid to make it worthwhile accepting a job. Mothers who had left their most recent job within the last two years showed a similar likelihood of being able to indicate the hours they would like to work and to estimate the income they would like to receive for those hours. Among those whose last job ended less than six months before the interview, 17.2 per cent could not provide a reservation income. Inability to provide a reservation income was slightly higher for those whose job was two to five years ago (24.5 per cent) and much higher among those whose job ended five or more years ago (38.9 per cent). Half of the mothers who had never had a job were unable to provide a reservation income. In summary, as the length of time since the last job ended increased beyond two years, the ability to estimate the hours required and reservation income decreased.

**Table 5 Ability to provide reservation income by length of time since last job ended, non-employed mothers**

<b>Length of time since last job ended</b>	<b>Unable to provide reservation income %</b>	<b>Number of observations</b>
Less than 6 months	17.2	70
6 months to less than 1 year	18.6	86
1 to less than 2 years	13.6	81
2 to less than 5 years	24.5	159
More than 5 years	38.9	337
Never employed	50.0	118

Source: FAWD survey 2002.

It is important to bear in mind that not being able to provide a response to a survey question about reservation incomes did not necessarily mean that in reality the person could not estimate their reservation income. However, the fact that, as we would expect, inability to provide a reservation income is related to education and length of time since last job, suggests that responses to the survey question are correlated with the underlying ability to estimate reservation income.

## Expected and actual work hours

Number of working hours is a major determinant of income, as well as being an important factor in the ability of mothers to balance work and family responsibilities. In addition, the presence of institutional constraints means that employees are restricted in the number of hours they work (Doiron, 2003). For example, labour force participation may be restricted to a choice between part-time and full-time hours. Given family responsibilities, this may limit the range of jobs that a mother is able to accept.

As discussed above, the FAWD 2002 survey asked non-employed respondents about how many hours they would expect to work, taking into account how much money they would want to earn. This section presents an analysis of the number of hours they would expect to work. The number of hours non-employed lone and couple mothers expected to work is compared to actual working hours of employed lone and couple mothers (Table 6).

Lone mothers indicated needing to work longer hours than couple mothers to make it worthwhile accepting a job (mean of 28.3 hours per week compared to 25.0).<sup>15</sup> Interestingly, among the lone and couple mothers who were employed, the average actual working hours were very similar (26.2 and 27.5 hours, respectively).

The distribution of expected weekly work hours and actual hours worked is presented in tabular form in the bottom panel of Table 6 and the full distribution of expected work hours and actual work hours are presented graphically in Figures 1 and 2 respectively. Lone mothers were more likely to expect to work full-time (35 or more hours per week) (36.1 per cent) than were couple mothers (24.4 per cent). Correspondingly, lone mothers were less likely to expect to work 15–34 hours per week (57.6 per cent) than were couple mothers (66.2 per cent). There was little difference between non-employed lone and couple mothers in the proportion expecting to work less than 15 hours per week.

The distribution of actual working hours was much flatter than desired working hours. However, a similar pattern was found with employed lone mothers being more likely to work full-time (38.6 per cent) than couple mothers (28.9 per cent). Lone mothers were less likely to work 15–34 hours (40.8 per cent) than couple mothers (51.5 per cent). About one-fifth of lone and couple mothers worked less than 15 hours per week.

The main difference between the distribution of expected and actual working hours was that the proportion of employed mothers working less than 15 hours per week was greater than the proportion of non-employed mothers who expected to work these short part-time hours. There was little difference in the proportion of employed mothers working full-time and the proportion of non-employed mothers who would expect to work full-time. The proportion of employed mothers working 15–34 hours was substantially less than the proportion of non-employed mothers who would expect to work these hours.

The actual working hours can be benchmarked against figures from the Australian Bureau of Statistics (ABS) Labour Force Survey (LFS) for 2002. According to the LFS, among employed lone mothers, 44 per cent are employed full-time and 56 per cent are employed part-time. For employed couple mothers, 41 per cent are employed full-time and 59 per cent are employed part-time. While the full-time employment rates estimated from the FAWD 2002 survey were a little lower than the LFS for lone mothers and much lower for couple mothers, this is not surprising given that

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<sup>15</sup> Although it should be noted that the difference is not statistically significant.

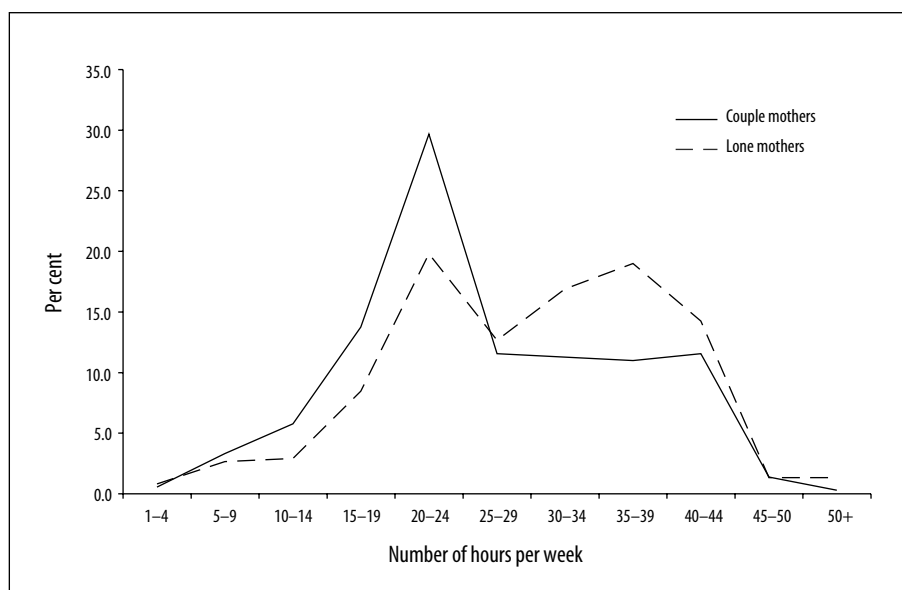
the FAWD sample was of mothers in receipt of a FTB payment through Centrelink and these mothers were relatively more likely to be part-time employed.

**Table 6 Expected and actual work hours by family type**

	Expected working hours (non-employed)		Actual working hours (employed)	
	Couple mother (n = 361)	Lone mother (n = 377)	Couple mother (n = 662)	Lone mother (n = 676)
<b>Hours per week (mean*)</b>	25.0 (9.7)	28.3 (10.3)	26.2 (14.1)	27.5 (14.0)
<b>Distribution of working hours (%)</b>				
Less than 15 hours	9.4	6.4	19.6	20.6
15–34 hours	66.2	57.6	51.5	40.8
35+ hours	24.4	36.1	28.9	38.6

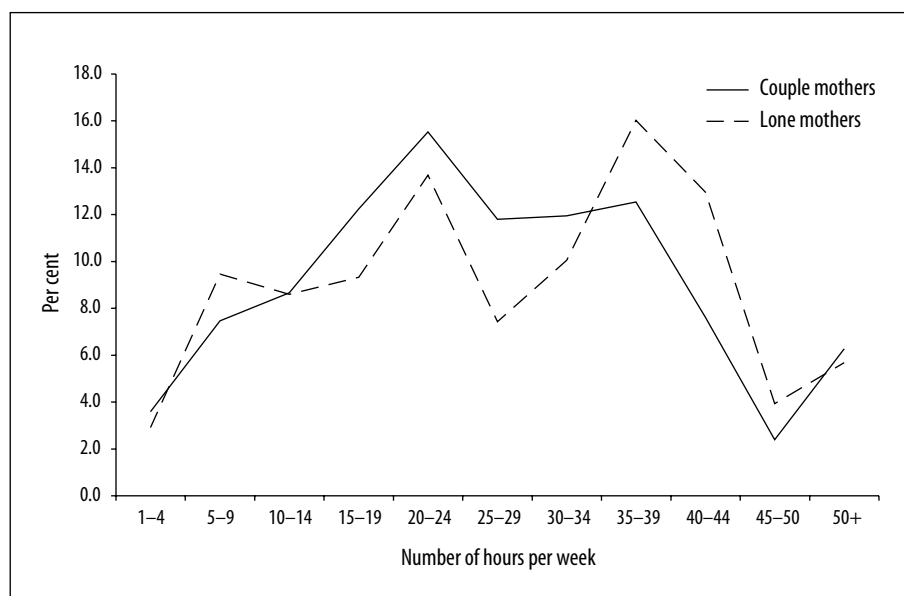
Note: \* Standard deviation is shown in brackets.  
Source: FAWD 2002.

**Figure 1 Expected weekly work hours by family type, non-employed mothers**



Source: FAWD survey 2002.

**Figure 2 Actual weekly work hours by family type, employed mothers**



Source: FAWD survey 2002.

## Reservation incomes

In this section the reservation hourly wage rate and weekly incomes of lone and couple mothers are described and compared to actual incomes earned by employed mothers.

### *Reservation hourly wage rate*

Couple mothers have an average gross reservation hourly wage rate of \$15.18 per hour, which is slightly higher than the average for lone mothers (\$14.49) (Table 7). To put the reservation wages into perspective, the federal minimum wage for full-time adult employees at the time of the FAWD 2002 survey was \$11.35 per hour<sup>16</sup> and the average hourly rate for non-managerial female employees was \$19.10.<sup>17</sup> Taking these figures into account, the reservation hourly wage rates reported by non-employed mothers appear to be quite modest. They are also lower than the actual wage rates received, on average, by employed lone and couple mothers.

**Table 7 Reservation hourly wages and actual hourly wages by family type**

	Reservation gross hourly wages (non-employed)		Actual gross hourly wages (employed)	
	Couple mother (n = 281)	Lone mother (n = 289)	Couple mother (n = 505)	Lone mother (n = 624)
	<i>\$ per hour</i>			
Mean	15.18	14.49	16.93	17.60
Median	13.51	13.35	15.62	15.26
Standard deviation	12.15	6.94	8.50	30.08

Source: FAWD 2002.

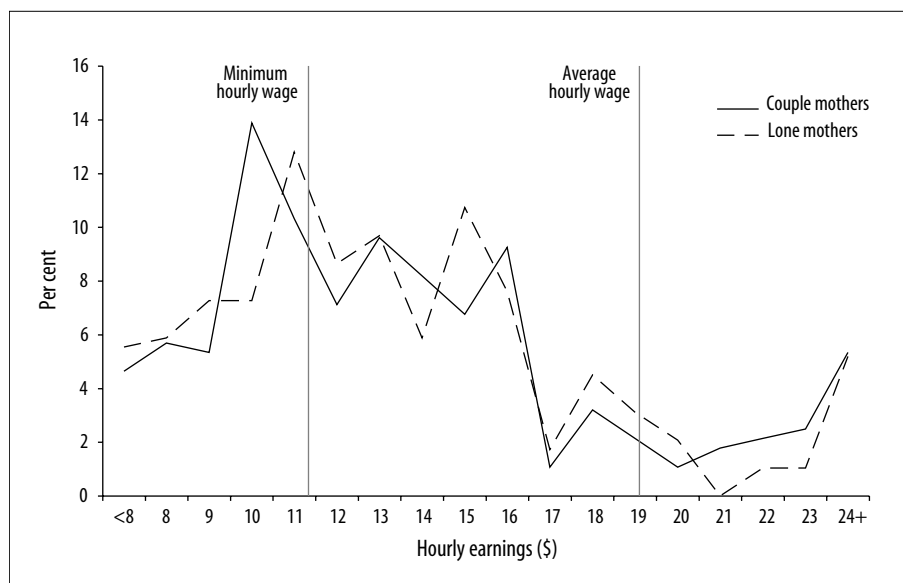
<sup>16</sup> Safety Net Review – Wages Case 2002 (2002) 112 IR 411.

<sup>17</sup> The average hourly rate used is for May 2002 and is sourced from ABS (2002).

Figure 3 shows graphically the distribution of reservation gross hourly wages for non-employed mothers and Figure 4 shows the distribution of actual gross hourly wage rates for employed mothers. The vertical lines indicate the federal minimum wage for full-time adult employees and the average hourly rate of all non-managerial female employees. The distribution of reservation gross hourly rates was very similar for lone and couple mothers. Very few lone or couple mothers reported a reservation hourly wage rate that was greater than the average wage for non-managerial female employees.

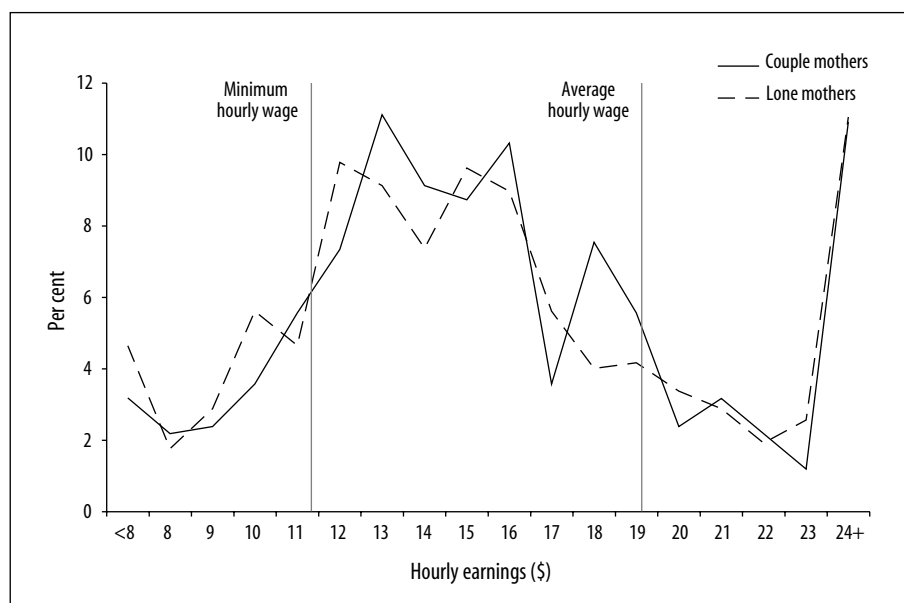
A comparison of Figures 3 and 4 allows us to identify differences in the distribution of actual gross hourly wages of working mothers with gross hourly reservation wages of non-employed mothers. The results show that for both lone and couple mothers, the gross hourly reservation wages of those not working tended to be lower than the actual hourly wages of those employed. A surprisingly high proportion of non-employed mothers gave a reservation wage that fell below the federal minimum wage for full-time adult employees. Amounts slightly below the minimum wage may be explained by slight imprecision in the measurement of both expected hours and reservation income. In contrast, relatively few employed mothers have earnings below the minimum wage. At the other end of the scale, few non-employed couple mothers gave a reservation wage above the average hourly earnings for female Australians of working age, compared to the number of working mothers who earned above average wages.

**Figure 3 Gross hourly reservation wage by family type, non-employed mothers**



Source: FAWD survey 2002.

**Figure 4 Gross hourly actual wage by family type, employed mothers**



Source: FAWD survey 2002.

### Reservation weekly earnings

This section presents descriptive information on gross reservation weekly earnings. The weekly reservation earnings given by non-employed lone mothers (\$410) were substantially higher than those provided by couple mothers (\$349), reflecting the view of lone mothers that they would need to work more hours to make it worthwhile working than did couple mothers (Table 8). Turning to employed mothers, lone mothers earn slightly more per week (\$460) than employed couple mothers (\$423), although median incomes were identical. For both lone and couple mothers, the average gross weekly earnings of those employed were higher than the average gross weekly reservation earnings of non-employed mothers. However, the median reservation weekly earnings and actual earnings for lone mothers were the same. For couple mothers, the median reservation income was less than median actual earnings.

**Table 8 Reservation weekly earnings and actual weekly earnings by family type**

	Reservation gross weekly earnings (non-employed)		Actual gross weekly earnings (employed)	
	Couple mother (n = 281)	Lone mother (n = 289)	Couple mother (n = 505)	Lone mother (n = 624)
	<i>\$ per week</i>			
Mean	349	410	423	460
Median	325	401	401	401
Standard deviation	182	206	255	307

Source: FAWD 2002.

## Reservation hourly wage rate and estimated earnings capacity

One argument that is sometimes made as to why mothers (or anyone else) who want to be in paid employment are not able to find employment is that their reservation wage is higher than the wage offers they receive. While comparison of the reservation hourly wage rates to minimum wage rates and average wage rates suggests that the reservation hourly rates given by non-employed mothers are quite modest, non-employed mothers may have human capital and other characteristics that limit the amount they could earn in the labour market.

In order to assess whether the non-employed lone and couple mothers who want to work are not employed because their reservation wage rates are too high, we compare their reservation wages to the amount we estimate they would earn if they were employed. If we find that, on the whole, mothers' reservation wages are higher than what we think they could earn in the labour market, then this is an indication that one of the reasons they may not be employed is that their reservation wage is higher than what the market is prepared to pay them, given their level of productivity.

### *Estimation method*

Since we do not know what each non-employed mother would earn if she were employed, the empirical approach adopted is to estimate a model of the determinants of earnings for the employed lone and couple mothers and then use the results of this model to estimate what we think each non-employed mother would earn in the labour market given her observable characteristics. This framework allows for the effects of measurable characteristics that are related to earnings to be taken into account.

The estimation of the determinants of earnings has an extensive literature, and the methodological framework of these studies is generally adopted here. In this approach, the natural logarithm of earnings is expressed as a function of labour market experience, educational attainment and a number of other economic and demographic variables which affect earnings. The model is estimated using Ordinary Least Squares (OLS).<sup>18</sup>

The explanatory variables included in the modelling are educational attainment, age (which is a proxy for labour market experience) and age squared. Age is included as a quadratic specification in order to allow a non-linear relationship between age and wage. Other explanatory variables include whether the respondent has a health problem; being a non-English-speaking-background (NESB) migrant,

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18 An important econometric issue relates to sample selection, which is important for the following reason. Mothers in employment are likely to be different to mothers not in employment, as a consequence of factors that are generally not observed. Thus if we want to estimate what a non-employed mother would earn if she were employed we need to take account of any sample selection. Conventionally, this type of selection problem is addressed by estimating the expected value of the error term and using this as an extra explanatory variable which will, in theory, eliminate potential biases when predicting the earnings of non-employed mothers: the so-called Heckman sample selection correction approach (Greene, 1997). A Heckman selection model was estimated. The selection effect was identified by age of youngest child, total number of children, whether a household member other than the mother had a health problem, importance of career and whether there was an employed partner in the household. The selection effect was insignificant and the proportion of the non-employed mothers with a reservation wage below their predicted wages was very similar between the Heckman selection model and the estimates using OLS. Consequently, the OLS results are presented in this paper and the Heckman selection model results are available on request.

English-speaking-background (ESB) migrant or born in Australia; regional location and state of residence.

### *Estimation results*

Given that the purpose of the econometric model is to produce a credible prediction of what non-employed mothers would earn if they found employment, we do not discuss the coefficient estimates in detail, but rather describe the main patterns. The summary statistics and coefficient estimates are presented in Appendix C.

Increases in educational attainment are estimated to increase earnings. Having poor health decreases earnings, as does living in a regional or remote area as compared to living in a major city. Being a migrant is found to have no statistically significant effect upon wages. There are some effects from state of residence on hourly earnings, but the effects are generally statistically insignificant.

The bottom line is that the results are generally familiar and the OLS model seems well behaved. This leads to some confidence as to their usefulness with respect to estimating predicted wages for the non-employed mothers.

### *Difference between reservation wage and predicted wage*

Table 9 shows the difference between non-employed respondents' reservation wages and our prediction of what they would earn in the labour market. A negative number means that the reservation hourly wage rate is less than the predicted hourly wage rate. Conversely, a positive number means that the reservation wage is more than the predicted wage. For couple mothers, on average the gross reservation hourly wage was \$1.42 less than the predicted hourly wage. For lone mothers, on average the gross reservation hourly wage was \$1.27 less than the predicted wage. The median difference was \$2.72 for couple mothers and \$2.43 for lone mothers.

**Table 9** Difference between reservation and predicted hourly wage, non-employed mothers

	Couple mothers (n = 277)	\$ per hour	Lone mothers (n = 284)
Mean	-1.42		-1.27
Median	-2.72		-2.43
Standard deviation	7.13		7.15

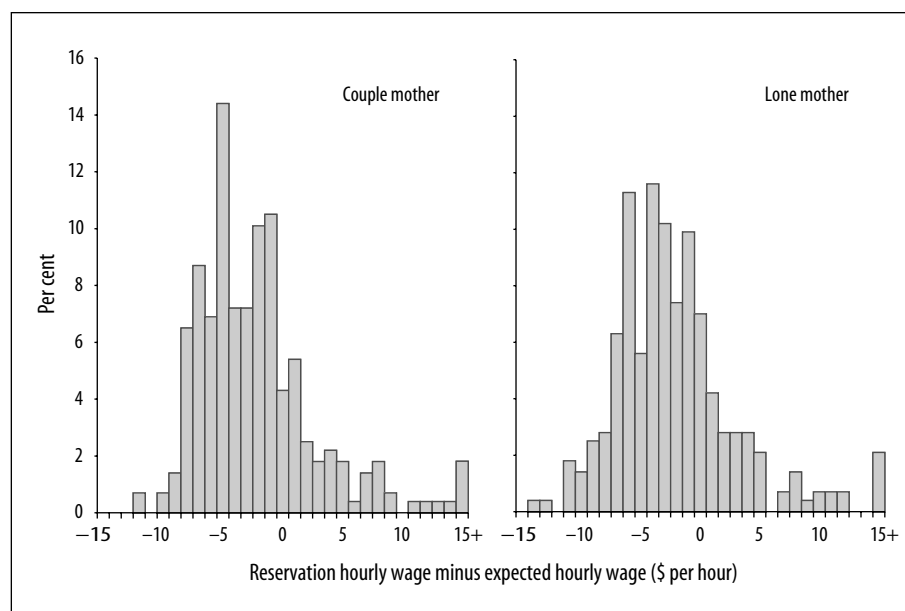
*Notes:* Reservation and predicted hourly wages are before tax (gross). The predicted hourly wage rate is the wage based on the estimates in Appendix C.

*Source:* FAWD survey 2002.

Figure 5 shows the distribution of the difference in the predicted gross hourly wages for lone and couple mothers. A positive difference means that the reservation wage is greater than the predicted wage and negative difference means that the reservation wage is less than the predicted wage. The closer the reservation and predicted wage, the closer the difference is to zero (if they are the same, the difference is zero). The most striking feature of Figure 5 is that the majority of lone and couple mothers had a reservation wage that was less than their predicted wage. Approximately 71 per cent of lone and 74 per cent couple mothers' reservation wage were equal to or less than their predicted wage. The distributions of the difference between the reservation and predicted wage are very similar for lone and couple mothers. These results indicate that the majority

of lone and couple mothers do not have unrealistically high expectations of their potential earnings in the labour market.

**Figure 5 Difference between reservation wage and predicted wage by relationship status**



Source: FAWD survey 2002.

## Concluding remarks

A key factor in determining whether or not a person is employed is the minimum wage at which they will accept employment, termed their reservation hourly wage. Economic models of the labour market generally assume that jobseekers are able to form an estimate of their reservation wage. This paper presents evidence on the extent to which Australian lone and couple mothers are able to estimate a reservation wage and the number of hours they would need to work in order to make it worthwhile accepting a job. The analysis is based upon the FAWD 2002 survey, a survey of lone and couple mothers in receipt of a Family Tax Benefit.

While the majority of the non-employed mothers were able to provide an estimate of the number of hours and the amount they would need to earn in order to make it worthwhile accepting a job, almost one-third of lone and couple mothers were unable to provide a reservation income. This has important implications for our thinking about the impact of the financial incentives generated by the income support system. If many of those in receipt of an income support payment are unable to form an estimate of what they would need to earn to make it worthwhile accepting a job then they are unlikely to be responsive to changes in effective marginal tax rates at different points of the earnings distribution. One policy response may be to provide information to non-employed mothers in receipt of an income support payment on what they might earn in the labour market and the impacts of this on the income support payments, child-related payments and concessions received.

Reservation hourly wages appear to be quite modest. The most common level of reservation wages provided was around the minimum wage and the average reservation wage was well below the average hourly wage rate for non-managerial

employees. On average, the reservation wages were below what we estimated that the mother would earn in the labour market if she were able to find employment. Approximately 71 per cent of lone and 74 per cent couple mothers' reservation wage were equal to or less than the wage we estimated they would command in the labour market, given their education level and other characteristics which influence earnings. Overall, these results suggest that unreasonable wage expectations are not a major reason for mothers failing to find employment.

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# Appendix A

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## The income support system 2002

This is a description of the income support system as it was during November and December 2002 – the period over which the FAWD 2002 survey was conducted. The source of information on payments is the Centrelink publication *A Guide to Commonwealth Government Payments, 20 September–31 December 2002*.

The **Family Tax Benefit Part A (FTB A)** basic fortnightly payment rates were \$126.70 for each child under 13 years of age, \$160.72 for each child aged 13 to 15 years, \$40.74 for each child aged 16 to 17, and \$54.74 for each child aged 18 to 20 years and each dependent full-time student aged 21 to 24. Payments were reduced by 30 cents for each dollar of fortnightly income above \$1,184.85 until the base rate (\$40.74 for each child under 18 years and \$54.74 for each child aged 18 to 24 years) was reached. Income above \$3,063.19 per fortnight (plus \$3,212 for each eligible child after the first) further reduced base rate payments by 30 cents for every dollar until payments were nil.

The **Family Tax Benefit Part B (FTB B)** was paid at the full rate of \$108.78 per fortnight for families with their youngest child aged under 5 years, compared to \$75.88 for those with their youngest child aged 5 to 18 years (those aged 16 to 18 had to be full-time students). For couple families, receipt of FTB B is subject to income testing of the secondary earner's income. The secondary earner could only earn up to \$67.38 per fortnight before payments were reduced at the rate of 30 cents to the dollar. Families still received a reduced rate of FTB B if the secondary earner's earnings remained below \$431 per fortnight for those with their youngest child aged less than 5 years, or below \$321.04 per fortnight for those with their youngest child aged between 5 and 18 years. There is no income test on the primary earner's income so, in the case of sole parents, the payment is universal.

The **Parenting Payment** was introduced in March 1998, incorporating the previous Sole Parent Pension and Parenting Allowance. It has two main streams:

- Parenting Payment (single), which is payable to lone parents under pension rates and conditions, with the maximum payment (\$429.40 per fortnight) equal to the Age Pension (single), and the income test (by which earned income over \$116 per fortnight plus \$24.60 per child reduced payment) equal to that for all pensions; and
- Parenting Payment (partnered), which is payable to partnered parents under allowance rates and conditions, with a maximum payment in 2002 of \$338.10 per week. It is taxable, income-tested on the income of both the claimant (earned income over \$62 per fortnight reduced the payment) and the partner (earned income over \$568 per fortnight reduced the payment), and is assets tested.

Parenting Payment is a very important payment, as virtually all very low-income lone mothers receive it in one form or the other, as do many other mothers whose husbands are in low paid work. For couples with children, where the male partner

(usually) is receiving an unemployment payment, the female partner is likely to be receiving the Parenting Payment (partnered).

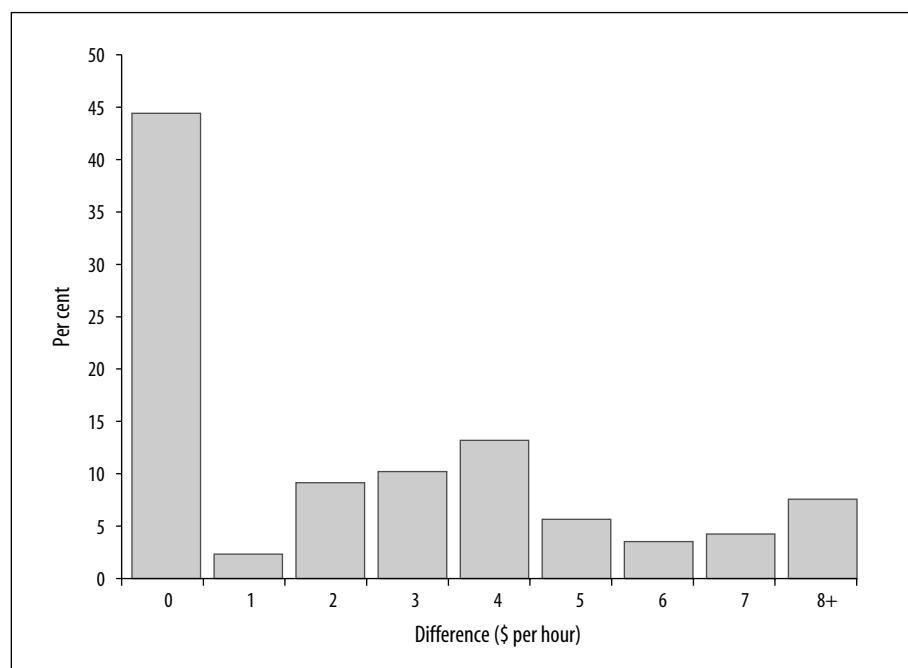
To qualify for Parenting Payment, a person must care for a dependent child or children aged under 16 years, have income and assets under certain amounts, and have been an Australian resident for at least two years; or be a refugee; or have become a lone parent while an Australian resident.

## Appendix B

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### Difference between target gross hourly wage and reservation gross hourly wage

Figure B1



## Appendix C

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### Descriptive statistics and estimates of the determinants of hourly wages

Table C1 Summary statistics

	Mean ( <i>n</i> = 1108)	Standard deviation
Age	40.1	7.5
Age squared	1664.3	580.7
Less than year 10	0.051	0.221
Year 10	0.142	0.349
Year 11	0.065	0.247
Vocational or trade qualification	0.329	0.470
Diploma	0.132	0.338
Degree	0.165	0.371
Respondent has poor health	0.069	0.254
NESB migrant	0.062	0.242
ESB migrant	0.116	0.320
Regional area	0.421	0.494
Remote area	0.014	0.116
ACT	0.020	0.140
NT	0.005	0.073
QLD	0.197	0.398
SA	0.081	0.273
TAS	0.027	0.162
VIC	0.264	0.441
WA	0.064	0.245

**Table C2 Estimates of determinants of gross hourly wage, OLS model**

	Coefficient ( <i>n</i> = 1108)	T-stat
Age	0.001298	0.11
Age squared	0.000023	0.14
Less than year 10	-0.136	-2.95
Year 10	-0.031	-0.83
Year 11	-0.092	-1.93
Year 12 (omitted category)		
Vocational or trade qualification	-0.001	-0.04
Diploma	0.073	1.71
Degree	0.245	6.27
Respondent has poor health	-0.093	-2.24
NESB migrant	-0.031	-0.77
ESB migrant	-0.044	-1.38
Born in Australia (omitted category)		
Regional area	-0.068	-3.32
Remote area	-0.191	-2.74
Major city (omitted category)		
ACT	-0.046	-0.56
NT	0.095	1.04
QLD	-0.054	-1.99
SA	0.020	0.50
TAS	0.047	0.77
VIC	-0.035	-1.33
WA	0.040	0.80
NSW (omitted category)		
Constant	2.693	12.25
R-squared	0.1307	

*Notes:* The dependent variable is the natural log of gross hourly wage. The self-employed are excluded from the estimates. Also excluded are respondents earning less than \$3 per hour (6 respondents) and those earning more than \$200 per hour (1 respondent).