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The impact of child support payments on the labour supply decisions of resident mothers

Matthew Taylor and Matthew Gray



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Executive summary

This report analyses the effect of receipt of child support payments on the labour supply of resident mothers. This is an important issue, given the role that paid employment plays in increasing the short- and long-term economic wellbeing of separated mothers. There appears to be no Australian research into this issue, and only a handful of international studies.

The effect of receipt of child support on resident mothers' labour supply is estimated using data from an important new Australian data source, the Longitudinal Study of Australian Children (LSAC). LSAC is a nationally representative large-scale longitudinal survey of two cohorts of Australian children born in 1999–2000 and 2003–04. The first two waves of LSAC provide information on the child support payments received by resident mothers with at least one child under the age of 7 years.

Given that the data used in this study were collected in 2004 and 2006, the estimates are for the Child Support Scheme that was in place prior to the reforms that arose from the recommendations of the Ministerial Taskforce on Child Support, which were fully implemented in July 2008.

Economic theory suggests that receipt of non-labour market income (such as child support or income support payments) will reduce the labour force participation of mothers (both the probability of being employed and, where they are already employed, the number of hours worked). This is termed the “income effect” and occurs because the mother is able to achieve the same level of consumption for fewer hours worked than they would in the absence of these payments.

There are several aspects of child support that may mean that the receipt of child support does not have the predicted impact of reducing resident mothers' labour supply. First, for many mothers there is uncertainty as to whether the mother will receive the amount of child support they are supposed to receive and, where they do receive their full entitlement, whether they will receive it on time. In addition, the amount of child support the mother is entitled to receive may change due to changes in the circumstances of the payer (such as changes in the payer's income or the payer having subsequent children with a new partner). This uncertainty in the amount of child support a mother will actually receive may make her less likely to rely on that income in deciding upon labour supply decisions.

The impact of the receipt of child support on the probability of employment of resident mothers and the number of hours worked if employed is modelled using multivariate statistical techniques. The modelling takes into account (holds constant) characteristics of mothers that may have an impact upon their labour supply, independent of the receipt of child support. These characteristics include factors such as educational attainment and the number and age of their children.

The estimates suggest that the amount of child support received, is not related to resident mothers' probability of employment. Furthermore, there is no clear relationship between the amount of child support received and the number of hours worked. There is, however, some evidence that the receipt of larger amounts of child support (in excess of \$100 per fortnight) reduces hours worked by between 10 and 12 hours per fortnight.

Given that the data used in this report were collected prior to the most recent reforms, some caution needs to be exercised when generalising them to the new system, although it is likely that they will be broadly applicable. This is, however, an empirical question that would require data collected after 1 July 2008.

The impact of child support payments on the labour supply decisions of resident mothers

1. Introduction

An important policy response to parental separation in Australia, as in a number of other countries, has been the establishment of child support schemes. These schemes require both parents to continue to financially support their children following separation. In Australia, the Child Support Scheme was introduced in 1988 in response to growing public concern regarding the effect of marriage breakdown on the living standards of resident parents and their children. There have also been concerns regarding the increase in the numbers of separated parents who were dependent on income support, low amounts of child support being paid by non-resident parents and the difficulties faced by many parents in enforcing child maintenance obligations through the courts (Ministerial Taskforce on Child Support, 2005).

An important policy question is whether the receipt of child support payments affects resident mothers' participation in paid employment. This is an important policy issue because paid employment can significantly increase both the short- and long-term economic wellbeing of separated mothers (see, e.g., Gray and Chapman, 2007).

This is an issue on which there appears to be no published Australian research and very few international studies. In addition, the international studies present conflicting findings. Bingley, Lanot, Symons, and Walker (1995) estimated the labour supply response of resident mothers to the introduction of the UK Child Support System in April 1993. Their estimates indicated that the receipt of child support payments increased the probability of part-time and full-time employment relative to non-participation. They did not, however, focus specifically on the amount of child support paid. Using US data, Hu (1999) estimated the impact of child support payments on annual hours and found that an increase in the amount of child support received was estimated to have a small negative impact on mothers' labour supply.

This report uses data from the first two waves of the Longitudinal Study of Australian Children (LSAC), collected in 2004 and 2006, to estimate the impact of the receipt of child support on the probability of employment and hours worked by separated resident mothers. The study is discussed in greater detail in Section 3. We use the term "resident mother" to refer to mothers who reside with an LSAC study child whose father lives elsewhere. LSAC was used because it provides information on labour force participation and the amount of child support received for a relatively large sample of separated mothers.

The most significant challenge in estimating the impact of child support payments on resident mothers' labour supply is that those mothers who receive larger amounts of child support may have characteristics that make them *more* likely to be in paid employment. For instance, it may be that those mothers who are more likely to be employed post-separation were previously partnered to men with higher earnings who, consequently, pay higher levels of child support after separation. To the extent to which this occurs, a positive association between the amount of child support received and the post-separation labour supply of the resident parent may be a result of these differences in characteristics rather than the impact of child support payments. While LSAC contains a wide array of observed parental characteristics that we can control for, it is likely that there will be unobserved parental characteristics that will determine both the amount of child support

received by resident parents and their labour market outcomes. The analysis in this report can not therefore be interpreted as demonstrating a causal impact of child support payment on the labour supply of resident mothers.

The Child Support Scheme has recently undergone some of the most significant reforms since its inception in 1988. The reforms arose from the recommendations of the Ministerial Taskforce on Child Support (2005). The taskforce suggested significant changes to the administrative formula used to calculate child support payments, in light of increases in the number of children who are supported by the earned income of both parents. While the process of changing the Child Support Scheme started in mid-2006, the major changes were implemented in July 2008. Since the data used was collected in 2004 and 2006, the estimates presented in this report are relevant to the Child Support Scheme that was in place prior to the reforms that were implemented in full in July 2008.

The remainder of this report is structured as follows. Section 2 provides an overview of the Australian Child Support System and discusses the reasons as to why the receipt of child support payment might influence resident mothers' labour supply decisions. In Section 3, the data used in the report is outlined and in Section 4 descriptive information on the amounts of child support received is provided. In Section 5, the relationship between the amount of child support received and the probability of being employed and number of hours worked where employed are described. Statistical modelling of the impact of receipt of child support on resident mothers' labour supply is presented in Section 6. The final section concludes.

2. The Australian Child Support System

This section provides an overview of the key features of the Child Support Scheme that are likely to affect labour supply decisions of those receiving child support payments, and discusses some of the reasons why the receipt of child support may affect these decisions.

2.1 Overview of the Australian Child Support Scheme

Under the Child Support Scheme, a formula is used to calculate the amount of money that a non-resident parent is required to pay. This is determined by a number of factors, including: the number of children for whom a parent is liable to pay child support; the income of the payer (capacity to pay); whether the care of children is shared or divided between parents; the income of the resident parent, the child support payee (above a relatively high income threshold); and whether the payer has dependent children from a previous or subsequent relationship. If the resident parent re-partners, child support payments are not affected by the income of their new partner.

The discussion of the Child Support Scheme in this section is based on the 2004 policy settings, the time at which the initial wave of data used in this report was collected. There were no significant changes to the child support formula between 2004 and the second LSAC data collection in 2006.

Calculation of the child support formula

Under the child support formula, child support payments are calculated as a percentage of payers' taxable income less an amount of exempt income that is set aside so that payers are able to support themselves.¹ This percentage increases with the number of children being supported, up to a maximum of 5 children. In families in which the resident parent provides sole care, the child support percentages are 18% for one child, 27% for two children, 32% for three children, 34% for four children and 36% for five or more children.

Where the care of the children is shared between the parents (30–70% of nights with each parent) or each parent has a child living with them, a modified child support formula is applied. In this case, each parent is entitled to child support from the other parent. Where a parent is liable for a "part" of a child, the percentage of income payable is taken from a sliding scale based on the amounts

¹ For child support purposes, "income" is annual taxable income plus certain types of income that may be exempt from taxation. While the Child Support Agency uses the term "child support income" to describe the income used to determine child support liabilities, in this paper we use the term "assessable income" in order to avoid confusion with the amount of the child support payment.

payable for whole numbers of children. The child support liability is calculated for each parent and then offset against one another. The reduction in the child support percentage is intended to reflect the costs associated with the care provided by the non-resident parent.² For example, if there is one child support child who spends 30–40% of nights with one parent, then the child support percentage applied to their income falls from 18% to 14%. The other parent with 60–70% of the care of the child has a child support percentage of 8%. In the case of having care for 40–60% of the time, both parents have a child support percentage of 12%.

In the case where the child spends 30–70% of nights with each parent and the modified child support formula is applied, the amount of child support that is required to be paid still increases with the payer's income and the number of children. From the perspective of understanding the impact of child support on labour supply, the same basic structure of incentives applies as in the case where the mother has sole care.

Where the payer has had subsequent children from a new relationship and the children are living with the payer, the costs of these children are recognised by increases in the self-support amount above which the child support percentages are applied. This is increased further depending upon the number and age of payers' dependent children. Dependent children may include eligible children of a child support assessment where a shared care arrangement exists in relation to the eligible child. Children from past or subsequent relationships are also counted as dependent children for the purposes of the child support assessment; however, in most circumstances, step-children are not.

Two other aspects of the child support formula that are relevant to the labour supply incentives created by the Child Support Scheme are the payer income cap and payee income disregard. The payer income cap places a ceiling on the amount of the payer's assessable income, equal to 2.5 times the annual equivalent of average weekly earnings (AWE)—\$126,659 in 2004.

The child support disregard of \$38,168 per annum in 2004 has the effect of reducing the non-resident parent's child support liability where the resident parent has assessable income in excess of this amount. The effect of the disregard is to reduce the adjusted income (taxable income less the self-support amount) of the payer by 50 cents for every additional dollar of the payee's income in excess of the disregard amount. The child support liability of the parent cannot however be reduced to less than 25% of what would have been payable in the absence of the disregard.

It is important to emphasise that the resident parent's income has no impact upon their child support entitlement where their income does not exceed the disregard amount, provided the non-resident parent has less than 30% of care of the eligible child.

There are a number of other factors that may affect child support payments but only apply in limited circumstances or are not relevant to understanding the impact of child support payments on the labour supply decisions of resident mothers. These aspects of the formula are therefore not discussed in this report.

Methods of determining child support liabilities

The previous discussion is relevant to those instances in which the amount of child support paid and received is determined by the child support formula. While the child support formula directly determines child support liabilities of many parents, it does not apply to the entire population of separated parents for a range of reasons. First, the parents may have reached a private agreement (including not entering into an agreement) that results in amounts of child support being paid that differ to those that would result if the formula were applied. Second, one or both of the parents may make an application to the Child Support Agency (CSA) to vary the formula. Third, the child support payer may not make the child support payments they are required to pay, that is they show less than full compliance with their child support liability.³

2 For substantial shared care (30–40% of nights), the level of exempt income (self-support amount) of the parent with 60–70% of nights is higher than that for the non-resident parent. If there is equal shared care (40–60% of nights with each parent), both parents are entitled to the same level of exempt income.

3 Detailed information on rates of non-compliance with child support obligations for 2003–04 is provided in the report of the Ministerial Taskforce on Child Support (2005). In 2003–04, 20% of CSA collect payers failed to pay

Separated parents will be registered with the CSA if either parent makes an application to the CSA for a child support assessment. Parents can choose whether to have child support paid via private arrangement between parents (“private collect agreement”), or have it collected from the non-resident parent by the CSA and paid to the resident parent (“CSA collect agreement”). According to the CSA’s administrative data, 48.2% of child support cases registered with the CSA were CSA collect cases; the remaining 51.8% were private collect.

Alternatively, separating families may determine the amount of child support to be paid without reference to the child support formula and may not register their agreements with the CSA. Some parents enter into an entirely private agreement through negotiation. Others may arrive at an agreement through legal proceedings in the Family Court of Australia. Indeed, some parents will not have any child support agreement, instead relying on ad hoc financial or in-kind support. The CSA terms both of these types of arrangements “self-administration” (CSA, 2004).

Data from the CSA (2004) suggest that the majority of cases registered with the CSA used the child support formula as the basis of determining child support payments (92.3% of CSA collect cases and 94% of private collect cases). Just 0.4% of CSA collect cases and 0.2% of private collect agreements were made via court order.

It is clear that the child support formula is highly influential in determining the child support liabilities of parents who enter into these particular child support arrangements. Furthermore, it is likely that the child support formula influences, at least to some degree, the amounts of child support negotiated by parents who decide to enter into private agreements.

2.2 Features of the Child Support Scheme that may affect labour supply decisions of resident mothers

This section highlights several features of the Child Support Scheme that are important in understanding the likely impacts of child support on the labour supply of resident mothers.

The operation of the Child Support Scheme is illustrated here using a hypothetical family, which has:

- one child support child for both the payer (non-resident father) and the payee (resident mother);
- the eligible child is less than 5 years of age;⁴
- neither the payer nor the payee have any Supplementary Income, therefore their assessable income is equal to their taxable income;
- the payer and the payee do not have any other dependent children;
- the payee has sole care of the eligible child; and
- the payee has not re-partnered.

This hypothetical case has been chosen to highlight key aspects of the formula and how it may affect resident mothers’ labour supply decisions. These circumstances were relatively common among those registered with the CSA in 2004.⁵

Figure 1 illustrates how the amount of child support the resident mother receives differs according to the resident parent’s income, after tax and government transfers.⁶ In order to illustrate how the amount of child support received differs according to the earning capacity of the non-resident father, we consider four different levels of taxable income for our hypothetical non-resident father. These are: unemployed and receiving NewStart Allowance (NSA) (\$10,119 per annum); average weekly

any of the child support liability, 43% paid part of the child support liability, and 33% of payers paid more than the required amount of child support liability.

4 The age of the child has implications for the calculation of Family Tax Benefit Part A and B.

5 Most cases (92.2%) registered with the CSA are sole care. Child support assessments most commonly involve a single child—58.87% of cases registered with the CSA (CSA, 2004).

6 This is earned income net of Parenting Payment Single, the low income and pensioner tax offset, income tax and Family Tax Benefit, taking into account the Maintenance Income Test. The non-resident parent is assumed to have zero supplementary income.

income of child support payers registered with the CSA (AWI-CSA) (\$37,039); median male weekly total earnings (MWTE) (\$41,236 per annum); and a high-income father (high income) (\$63,336). The resident mother is assumed to earn average weekly (ordinary time) hourly earnings (AWHE) for female full-time non-managerial employees (\$21.60 per hour).⁷

There are two key points to be taken from Figure 1. Firstly, the effect of an increase in the non-resident parent's income on the amount of the child support payment is to increase the amount of child support for every amount of resident parent income (a vertical shift). Second, an increase in the resident parent's income reduces their child support entitlement once their income exceeds the disregard amount of \$38,168 per annum.⁸ If the father is receiving NSA and hence paying the minimum child support payment (\$260 per annum), then the resident mother's income does not affect the amount of child support they are entitled to receive.

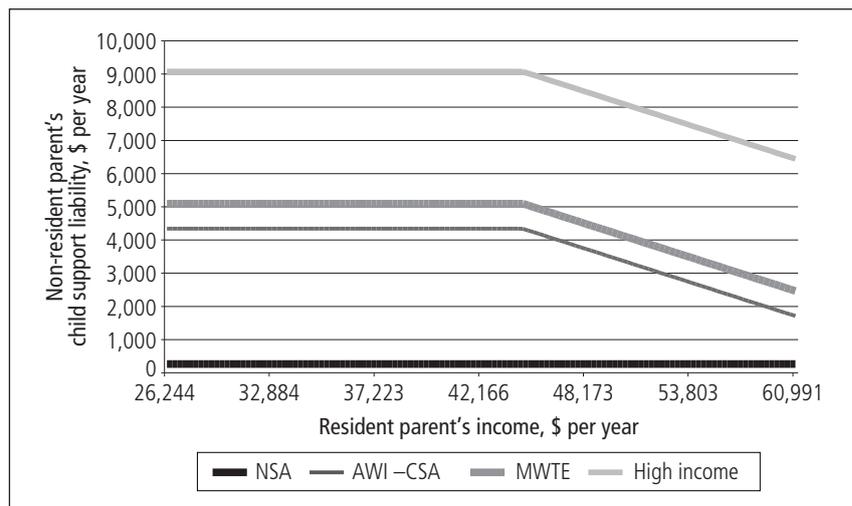


Figure 1 The impact of changes in the non-resident parents' taxable income and the resident parent's taxable income on annual child support liabilities, 2004

The impact on child support received of working increasing hours is calculated for mothers with different earning capacities. The scenarios considered are for mothers earning:

- federal minimum wage (\$11.80 per hour) (Leigh, 2005);
- AWHE (\$21.60 per hour);
- 1.5 times AWHE (\$32.40 per hour);
- 2 times AWHE (\$43.20 per hour).

The non-resident parent is assumed to earn median male weekly total earnings (\$41,236 per annum).

Figure 2 shows how the amount of child support the resident mother receives as the number of hours she works increases and how this varies according to the before-tax amount that she earns per hour. For mothers earning the minimum wage, the amount of child support she is entitled to receive is unaffected by the number of hours she works, even where she works 80 hours per fortnight. For mothers earning AWHE, their earnings exceed the payee disregard when they work 68 hours per fortnight, and earnings in excess of this amount reduce the amount of child support the resident mother receives. At AWHE, each additional hour worked in excess of 68 hours per fortnight reduces the amount of child support they are entitled to receive by \$1.94.

⁷ The amount of NewStart Allowance was the maximum rate as of 20 March 2004 for a single person over 21 years (Australian Government, 2010). Average weekly income of child support payers is sourced from the CSA (2004). Median male weekly total earnings are for all occupations (including managerial employees) in May 2004 (Australian Bureau of Statistics [ABS], 2004). High income is defined as the top 20th percentile of male weekly total earnings for all occupations in May 2004 (ABS, 2004). The source for average weekly hourly earnings is ABS (2004).

⁸ The kink in the schedules displayed in Figure 1 occurs at \$44,656 rather than the disregard amount of \$38,168. This is because the horizontal axis describes resident parent income net of tax and transfers.

For mothers earning twice the AWHE, child support payments are reduced once hours worked reach 35 hours per fortnight. The impact on the amount of child support received can be fairly significant for mothers working long hours and receiving a relatively high hourly wage rates. At this level of earnings, each additional hour worked in excess of 35 hours per fortnight reduces the amount of child support received by \$3.89.

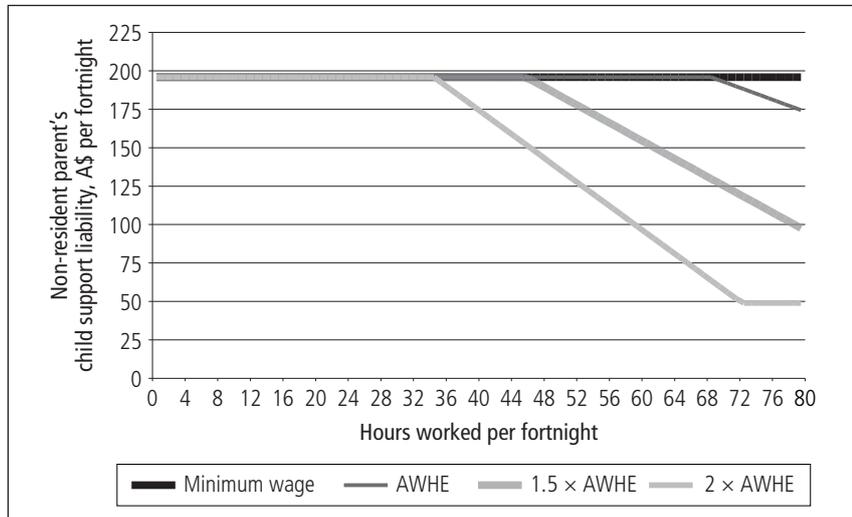


Figure 2 Child support payments, by hours worked per fortnight and amount earned per hour, 2004

The impact of child support payments on labour supply decisions will depend, in part, upon their overall contribution to household income. One way of assessing this is to compare the value of child support payments with the amount of Family Tax Benefit (FTB; Part A and Part B) that families receive.

For a mother receiving the maximum rate of FTB in the financial year 2004–05, the amount of FTB received for a mother with one child aged less than 5 years was about \$270 per fortnight (Ministerial Taskforce on Child Support, 2005). If the non-resident father had a median income of \$41,236 per annum and did not have a second family, then the amount of child support payable was \$196 per fortnight. The application of the Maintenance Income Test reduced the amount of FTB received by about \$65 per fortnight, leaving about \$205 of FTB per fortnight. In cases where the non-resident parent had median earnings, child support payments were of a similar magnitude to the amount of FTB received. Gray and Chapman (2007) provided estimates of the importance of child support to the household incomes of mothers following separation, using a variety of hypothetical examples.

2.3 Why might the receipt of child support affect resident mothers' labour supply decisions?

The potential impacts of the Child Support Scheme on the labour supply decisions of resident mothers can be illustrated using the standard microeconomic model of labour supply. Within this model, labour force status is determined in a two-stage process. In the first stage, an individual decides whether or not to supply their labour in the labour market. In the second stage, they decide on how many hours to work in response to the wage offers that they receive for a given number of work hours.

An individual makes labour supply decisions by maximising a utility function that determines subjective welfare or satisfaction as it relates to the different quantities of work hours and income. This process of optimising occurs depending on their income or budget constraint, which is determined by the wage rate received per hour supplied in the labour market and government policy settings.

An individual's decision to participate in the labour market (and work a desired number of hours) can be explained in terms of their preferences for time spent at home in non-market activities, such as child care and leisure, and the income they can earn from paid work. The decision to work

depends on a comparison between the wage that can be obtained in the market and the individual's reservation wage (the minimum wage at which they will accept a job) (Blundell & McCurdy, 1999).

An important determinant of labour supply decisions is the amount of income received from sources other than from the labour market ("non-labour income"). Examples of this type of income are government benefits, income from investments and child support payments. Microeconomic theory predicts that an increase in income that is not obtained from the provision of labour will decrease the number of hours an individual offers in the labour market.

This behavioural response is what economists term the "income effect" and rests on the assumption that consumption and non-work hours increase one's satisfaction, while work embodies a "psychic" cost relative to time spent in non-market activities. Recent Australian empirical studies found that increases in unearned income have a negative effect on labour supply (Cai, Kalb, Tseng, & Vu, 2005; Kalb, Kew, & Scutella, 2003).

Child support payments increase the amount of income that a mother receives for all hours worked. This means that where the resident parent is in paid employment, her total income (from all sources) is increased if there is no change in the number of hours in her paid employment. Alternatively, the mother could achieve the same total income by spending fewer hours in paid employment. Depending upon the individual preferences of mothers for income and non-work hours, some mothers may in fact withdraw from the labour market altogether in response to the receipt of child support. Where the resident parent is not in paid employment, economic theory predicts that resident parents who receive child support income will require a higher wage rate to enter the labour market, as they now have an additional source of income they receive that is not related to the number of hours they spend in paid employment.

It is important to emphasise that, in the first instance, we are considering the labour supply behaviour of resident parents who participate in the labour market and receive no child support payments with what their labour supply behaviour might be were they to receive child support (or who receive an increased amount of child support payments). In the second instance, we consider the implications of receiving child support payments for the labour supply behaviour of resident parents who do not participate in the labour market. Both instances are examples of the operation of the income effect. The income effect is predicted to reduce both the probability of employment and hours worked where the resident parent is employed.

As shown in Figure 2, for mothers earning less than the payee disregard, whether because their wage rate is low or they work few hours, changes in hours worked do not affect the amount of child support that she is entitled to.⁹ Where the resident parents' earnings exceed the payee disregard, each additional dollar earned in excess of the payee disregard reduces the amount of child support that the non-resident parent is required to pay. In the context of the labour supply behaviour described above, the disregard reduces the intensity of the income effect to the extent that it reduces the amount of income that the resident parents receive.¹⁰

In addition to the income effect described above, microeconomic theory suggests that an increase in child support payments received by women who have assessable income in excess of the payee disregard will involve a substitution effect. This substitution effect involves women substituting work hours for hours spent in non-market activities as a consequence of the tapering of child support payments. This is a consequence of the payee disregard taper rate reducing the financial returns to an hour worked compared to that which she would receive in the absence of the payee disregard.¹¹ While it is theoretically possible that women who have a strong preference for income may increase their hours of work in response to the taper, it is more likely that this substitution

9 Provided that this change in hours doesn't increase their income above the payee disregard.

10 In this report, we do not consider the role that the payee disregard might play in changing the financial returns that accrue from an additional hour of work; that is, the substitution effects that this might generate. This report addresses the question: Do child support payments influence the labour supply decisions of resident mothers? The related, but distinct, questions of the extent to which the administrative child support formula is responsible for the distribution of labour supply that is observed and what the consequences for the labour supply incentives of changes to the formula might be are beyond the scope of this report.

11 Here, we are comparing the return to work of women who receive child support payments determined by the child support formula who move from hours worked at the payee disregard in Figure 2 (see page 6) to some number of hours worked to the right of the payee disregard at a given wage rate.

effect will reinforce the reduction in hours that we would expect to observe as a consequence of the income effect associated with the receipt of the child support payment.

There are two important implications of the income and substitution effects that arise as a consequence of the design of the child support formula. The first is that for resident parents who earn less than the payee disregard, an increase in the non-resident parents' incomes will reduce the number of hours worked by the resident parents or, for those resident parents who are not employed, increase their reservation wage. For those resident parents who have assessable income in excess of the payee disregard, matters are more complex. Here, an increase in the non-resident parents' incomes will increase their child support entitlement. The likely reduction in hours worked in response to this increase in unearned income has the secondary effect of reducing the resident parents' assessable incomes while simultaneously increasing their child support entitlement. This represents what might be described as a feedback loop that continues until the resident parent settles on a steady-state level of labour supply. In the analysis that follows, we assume that our data are the result of resident parents achieving this steady state.

There are several aspects of child support that may mean that the receipt of child support does not have the predicted impact of reducing resident mother's labour supply. First, for many mothers, there is uncertainty as to whether the mother will receive the amount of child support they are supposed to receive and, if they receive it, whether they receive it on time. In addition, the amount of child support the mother is entitled to receive may change due to changes in the circumstances of the payer (such as changes in level of income, having further children). This uncertainty in the amount of child support a mother will actually receive may make her less likely to rely on that income when making labour supply decisions.

3. Overview of LSAC

LSAC is a nationally representative large-scale longitudinal survey of Australian children who were aged 0–1 and 4–5 years when the first wave of interviews was conducted in 2004.¹² The second wave was conducted in 2006, at which time the study children were aged 2–3 years and 6–7 years. In addition, a between-wave mail-out survey was conducted in August 2007 (Wave 2.5). Wave 2.5 included a section with a specific focus on the child support arrangements of separated parents. The focus of LSAC is the focal or “study child”, with much less detailed information collected about siblings.

LSAC provides data on a large sample of separated parents, including detailed information collected on parents' labour force participation (including hours worked), child support received, income from other sources, human capital and demographic information. LSAC is therefore a good source of data for analysing the impact of child support on resident mothers' labour supply decisions.

The majority of information about the study child and their family is collected from the “person who knows the child best” (Parent 1). This person is in most cases the study child's biological mother. In addition, information is collected about the child from “another parent of the study child ... or the partner of Parent 1”. This person, where present, is designated Parent 2 and is generally the biological father of the study child. Parent 1 and Parent 2 are generally the same person in both waves of the study.

At Wave 1, information was not collected from parents of the study child with whom the child did not live (in LSAC terminology, the “parent living elsewhere” or PLE). From the second wave of LSAC onwards, information has been collected from PLEs. In Wave 2, this information was collected via a mail-out survey. Information was only sought from PLEs where the contact details of the PLE were provided by Parent 1. This, combined with the relatively low response rates of PLEs to the mail-out survey, means that information was available from fewer than half of the PLEs at Wave 2. The sample size was insufficient to allow an analysis of the impact of paying child support on the labour supply of non-resident parents.¹³ Although this survey of PLEs is unlikely to be representative

¹² The study children of the infant cohort (B cohort) were born between March 2003 and February 2004. The children of the older child cohort (K cohort) were born between March 1999 and February 2000.

¹³ From Wave 3 onwards, information from PLEs has been collected via a telephone interview, resulting in a substantially higher response rate.

of the full sample of non-resident parents in LSAC, this nonetheless represents the first Australian effort to link child development in separated families with the characteristics of both parents.

This analysis is based on mothers who have a study child with a PLE who is required to pay child support to the resident parent. These parents may or may not have previously lived together and need not have been legally married or in a de facto relationship. An additional criterion for inclusion in the sample is that Parent 1 was the same person in both the first and second wave of the study.

These sample restrictions may have excluded the small number of partnered mothers who were entitled to receive child support payments that pertained to an eligible child who is a half sibling of the study child. These mothers were excluded on the basis that LSAC only contains information on the child support payments that relate to the study child and their full biological siblings.

Of mothers who responded in both Waves 1 and 2, 89.2% lived with the study child's other parent in Wave 1 and 10.6% had separated from (or never lived with) the study child's other parent. In the remaining cases, the other parent had died prior to the first wave. The mothers who had separated from the study child's other parent were generally entitled to receive child support from the study child's other parent.¹⁴

Just over one in ten (10.2%) of mothers who had been separated from the study child's other parent at Wave 1 had reconciled with the other parent by Wave 2 and were no longer entitled to receive child support payments for the study child. Among mothers who had been partnered to the study child's other parent at Wave 1, 4.3% separated between Waves 1 and 2 and should therefore have been receiving child support at Wave 2. Overall, 13.2% of mothers were separated from the study child's other parent at the time of the Wave 2 interview and were therefore entitled to receive child support payments for the study child.¹⁵

The questions on child support differed slightly between waves. In Waves 1 and 2, the resident parent was asked how much child support they should have received from the study child's other parent in the last month and then how much they actually received in the last month. Where there was more than one child for whom the mother should have received child support payments, the respondent was required to determine how much of the total child support they received was for the study child. Division of the total amount by the number of children relevant to the child support assessment was implicit in Wave 1 and we would expect that most respondents responded accordingly. This approach was made explicit in Wave 2 by including an interview instruction that if the payments were received for multiple children, then the respondent should divide the total amount received by the number of children for whom the payment was made.

The amount of child support received was converted to a fortnightly amount. From the perspective of understanding the impact of child support on mother's labour supply decisions the relevant measure is the total amount of child support received for all children, rather than the notional amount received for the study child. In Wave 1 and 2, the total amount of child support received was calculated by multiplying the amounts given by the number of biological siblings of the study child that reside in the study child's household.¹⁶

As with all longitudinal studies, there was some attrition of families over time. The attrition rate between Waves 1 and 2 was 10%. This is a lower attrition rate than for most other comparable overseas studies (Gray & Smart, 2008). For mothers eligible to receive child support at Wave 1, the rate of attrition (20.7%) was more than double that observed for the full sample of LSAC respondents between the first and second waves. The attrition rate was also higher for mothers who

14 This assumes that liability for all future child support payments was not discharged due to a lump sum payment resulting from the property settlement. This is, of course, likely to occur in only a very small number of instances.

15 In a small number of cases where the parents were separated at Wave 1, the non-resident parent died between Wave 1 and 2.

16 The possibility of split residency for one or more of the children of the partnership may have slightly complicated our measurement of total child support paid in all of the waves. We assume that when the mother provided a per child response to this question that they divided the total payment by the number of children for whom she had residency rather than the total number of children relevant to the child support assessment. It is possible that where separated mothers had split residency arrangements and they divided by the total number of children on the assessment, our measure will overestimate the amount of child support that they received. This is, of course, likely to be of little concern in practice, as we found that only about 15% of our sample had a split residency arrangement at Wave 2.

were not employed and had separated at the Wave 1 interview (almost 30%). The relatively high rate of sample attrition of separated families compared to intact families is one of the challenges facing research in this area.

4. Child support arrangements and the amount of child support received

At the time of the Wave 1 survey, 25.7% of the resident mothers sampled reported not having a child support agreement, 15% had an entirely private arrangement where the CSA did not have any involvement, 29.1% had a CSA collect agreement and 21.1% had a private collect agreement following a CSA child support assessment. The child support arrangements of the remaining 9.2% of mothers could not be determined from their responses to the survey.

Table 1 provides information on the amount of child support received by resident parents at Waves 1 and 2. When comparing the distribution of the amount of child support received, it needs to be borne in mind that the groups of mothers are not exactly the same at Waves 1 and 2. This is a result of separation occurring between Wave 1 and 2, reconciliations between Wave 1 and 2 and sample attrition.

About one-third (33.2%) of mothers who were separated prior to Wave 1 reported that they received no child support in the fortnight prior to the interview, despite their eligibility to receive child support payments.¹⁷ Thus, although the average amount of child support received by all separated mothers in 2004 was \$150.52, the average payment received by those mothers who received child support was considerably higher, at \$224.62 per fortnight. This is slightly greater than the child support liability for women who are not affected by the payee disregard (as shown in Figure 2). Slightly less than 20% of separated mothers received between \$1 and \$49 per fortnight, 16.7% received between \$50 and \$149, and 22.1% received between \$150 and \$499. The remaining 8.4% stated that they received in excess of \$500. The average amount of child support received in 2006 was \$168.85. Overall, the distributions of the amounts of child support received in 2004 and 2006 were similar.

Table 1 Amount of child support received per fortnight by separated mothers, 2004 and 2006

Child support per fortnight	Wave 1 (2004)	Wave 2 (2006)
	% of mothers	
\$0	33.2	36.5
\$1–49	19.9	16.6
\$50–99	8.6	6.8
\$100–149	8.1	6.5
\$150–199	4.6	4.0
\$200–249	7.0	6.6
\$250–499	10.5	12.6
\$500 or more	8.3	10.4
Median	\$31.50	\$30.00
Mean	\$150.52	\$168.85
Mean if receiving child support	\$224.62	\$265.60
Number of observations	956	1,095

Source: LSAC, Waves 1 and 2

¹⁷ We determined child support eligibility on the basis that the child's mother stated that there was a male biological parent living elsewhere at the date of interview.

5. Child support, the probability of employment and working hours

This section provides a descriptive analysis of the relationship between the amount of child support received by separated mothers, their employment rates and the number of hours worked for those mothers who were employed at the date of interview in the first and second waves of LSAC.¹⁸ Employment rates and the number of hours worked by mothers are highly dependent upon the age of their youngest child (Baxter, Gray, Strazdins, & Bittman, 2007). It is for this reason that we analysed these measures of labour supply according to whether the youngest child was younger or older than 3.5 years as of 1 July in the survey year. We choose 1 July as the cut-off date rather than the date of interview to ensure that we classified mothers consistently.¹⁹

5.1 Employment rates

For mothers whose youngest child was aged under 3.5 years at 1 July 2006, there is some evidence that employment rates increased with the amount of child support received, although the pattern is far from clear (Table 2 and Figure 3). The relationship is clearer at Wave 2, perhaps as a consequence of the large number of separated mothers at this wave providing more precise estimates of the amount of support received with their employment rates. While it is difficult to identify a clear relationship between the amount of child support received and the employment rates for mothers whose youngest child was older than 3.5 years, there is some evidence that employment rates were higher for those receiving higher amounts of child support (Table 2 and Figure 4).

Table 2 Employment rates of separated mothers, by amount of child support received per fortnight and age of youngest child, 2004 and 2006

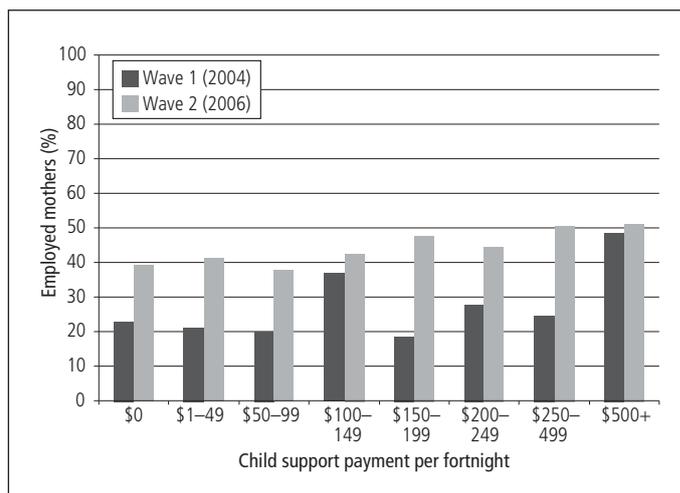
Child support per fortnight	Youngest child younger than 3.5 years		Youngest child older than 3.5 years	
	Wave 1 (2004)	Wave 2 (2006)	Wave 1 (2004)	Wave 2 (2006)
	Employed mothers (%)			
\$0	22.9	39.2	45.0	67.2
\$1–49	21.2	41.1	46.7	66.7
\$50–99	20.0	37.8	56.2	53.6
\$100–149	37.0	42.5	58.1	60.0
\$150–199	18.5	47.8	64.7	61.9
\$200–249	27.6	44.7	64.9	73.5
\$250–499	24.5	50.7	65.2	85.1
\$500 or more	48.6	51.2	54.8	69.4
Average employment rate	25.6	42.5	53.0	68.8

Note: Data restricted to mothers who were employed at the time of the interview. Cut-off date for age of youngest child in Wave 1 was 1 July 2004, and in Wave 2 was 1 July 2006.

Source: LSAC, Waves 1 and 2

¹⁸ The definition of employment used in the construction of the labour force status variables in LSAC differs slightly from the definition of employment in the ABS Labour Force Survey (ABS, 2010). The primary point of distinction is that women sampled in LSAC who were on paid or unpaid parental leave were classified as being not in the labour force rather than employed. It is possible that some of these women would be classified as employed under the ABS definition, depending upon how long they had been away from work or whether some of this maternity leave was paid leave. Work by Baxter, Gray, Strazdins, and Bittman (2007) indicated that this is likely to result in a different classification in fewer than 1% of cases.

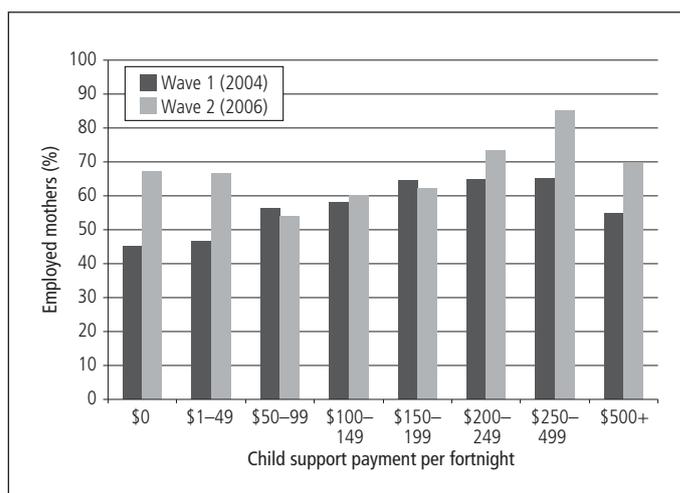
¹⁹ Had we chosen the age of the child at the date of interview, instead of at a specific date, we would have run the risk of classifying mothers whose youngest child had the same birth date differently, depending on the date at which they had been interviewed. This approach also had the additional advantage of providing us with an approximately equal numbers of mothers who were eligible to receive child support for the study child in each group. This ensured that we had sufficient sample sizes to allow statistically reliable estimates.



Note: Data restricted to mothers who were employed at the time of the interview. Cut-off for age of youngest child in Wave 1 was 1 July 2004, and in Wave 2 was 1 July 2006.

Source: LSAC, Waves 1 and 2

Figure 3 Employment rates of separated mothers, by amount of child support received per fortnight, youngest child younger than 3.5 years, 2004 and 2006



Note: Data restricted to mothers who were employed at the time of the interview. Cut-off for age of youngest child in Wave 1 was 1 July 2004, and in Wave 2 was 1 July 2006.

Source: LSAC, Waves 1 and 2

Figure 4 Employment rates of separated mothers, by amount of child support received per fortnight, youngest child older than 3.5 years, 2004 and 2006

Although there is no clear pattern in the relationship between child support payments and employment rates in Figures 3 and 4, for the most part they appear to indicate higher employment rates at higher amounts of child support. This is, of course, contrary to the intuition presented in section 3, and may reflect differences in the labour market characteristics of mothers who receive different amounts of child support. The differences in employment rates between the waves may also reflect differences in the labour market characteristics of mothers who separated between the waves compared to those who had separated prior to Wave 1.

In general, the employment rates of mothers with child support eligibility were higher at the date of interview in Wave 2 compared to Wave 1, irrespective of the amount of child support received. This is probably a consequence of the average age of the youngest child being older at Wave 2 than at Wave 1.

5.2 Number of hours worked

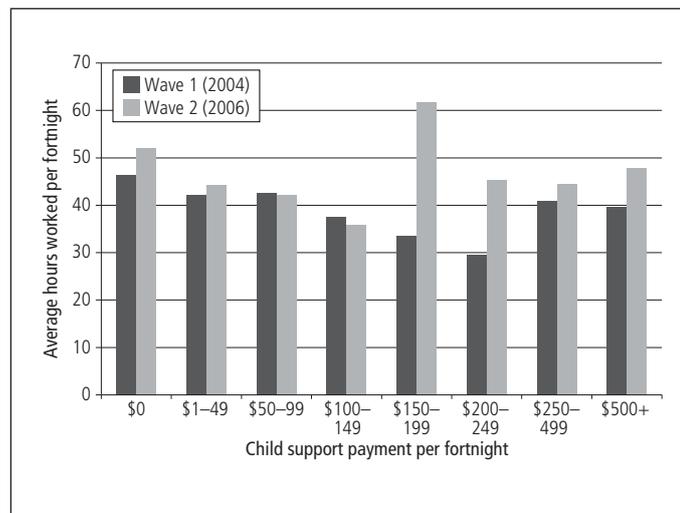
Table 3 provides information on the average number of hours worked by mothers who were employed at the date of interview in each wave, by the amount of child support received. Figures 5 and 6 are presented according to the age of the youngest child in Waves 1 and 2. The average number of hours worked varied little between the waves; however, there is some evidence of a slight upward trend in hours worked as the mother's youngest child grew older. There does not, however, appear to be any clear relationship between the amount of child support received and the average number of hours worked among employed mothers.

Table 3 Average hours worked per fortnight by separated mothers, by amount of child support received and age of youngest child, 2004 and 2006

Child support per fortnight	Youngest child younger than 3.5 years		Youngest child older than 3.5 years	
	Wave 1 (2004)	Wave 2 (2006)	Wave 1 (2004)	Wave 2 (2006)
	Average hours worked per fortnight			
\$0	46.4	52.0	50.2	57.3
\$1–49	42.2	44.2	52.3	53.9
\$50–99	42.6	42.2	59.8	46.4
\$100–149	37.5	35.8	43.9	55.8
\$150–199	33.6	61.8	47.1	51.8
\$200–249	29.5	45.2	57.1	58.8
\$250–499	40.8	44.4	51.3	45.8
\$500 or more	39.7	47.8	45.0	49.4
Average hours worked	41.2	47.4	51.0	53.2

Notes: Data restricted to mothers who were employed at the time of the interview. Cut-off for age of youngest child in Wave 1 was 1 July 2004, and in Wave 2 was 1 July 2006.

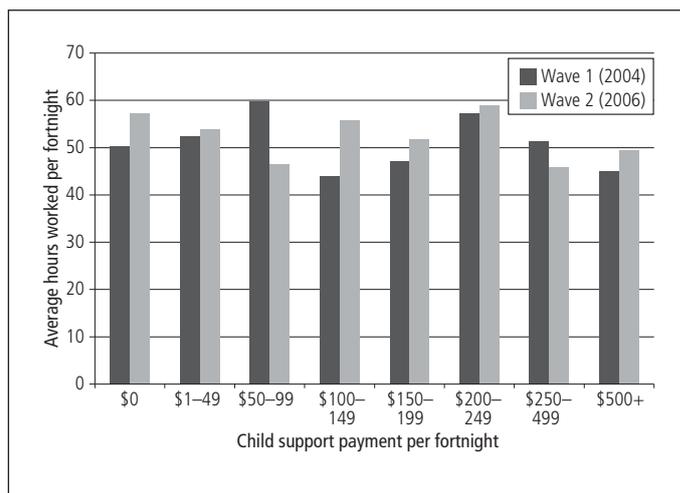
Source: LSAC, Waves 1 and 2



Note: Data restricted to mothers who were employed at the time of the interview. Cut-off for age of youngest child in Wave 1 was 1 July 2004, and in Wave 2 was 1 July 2006.

Source: LSAC, Waves 1 and 2

Figure 5 Average hours worked per fortnight by separated mothers, by amount of child support received, youngest child younger than 3.5 years, 2004 and 2006



Note: Data restricted to mothers who were employed at the time of the interview. Cut-off for age of youngest child in Wave 1 was 1 July 2004, and in Wave 2 was 1 July 2006.

Source: LSAC, Waves 1 and 2

Figure 6 Average hours worked per fortnight by separated mothers, by amount of child support received, youngest child older than 3.5 years, 2004 and 2006

6. Statistical modelling of the impact of the receipt of child support on labour supply

This section presents the results of the statistical (econometric) modelling of the impact of the receipt of child support payments on the labour supply of separated mothers.

The most significant challenge in estimating the impact of child support payments on resident mothers' labour supply is that those mothers who receive larger amounts of child support may have characteristics that make them more likely to be in paid employment, may tend to have higher levels of education and ex-partners with higher earnings. To the extent to which this occurs, a positive association between the amount of child support received and the post-separation labour supply of the resident parent may be a result of these differences in characteristics (such as educational attainment) rather than the impact of child support payments per se.

To the extent that such differences are measured in LSAC, multivariate statistical methods can be used to control for those characteristics that affect both mothers' employment outcomes and the amount of child support that they receive. This enables us to form an estimate of the influence of child support payments, separate from the other observable factors that influence labour supply.

However, to the extent that there are other unobserved differences (at least in the LSAC data) that are correlated with both labour supply decisions and the amount of child support received, our estimates of the impact of child support on resident mothers labour supply will be biased. For these reasons, caution should be exercised in interpreting the estimates in this paper as being of causal effect on the receipt of child support on resident mothers' labour supply.

6.1 Statistical method and specification

The impact of the receipt of child support payments on the probability of employment is estimated using logistic regression, and on the number of hours worked using ordinary least squares regression (OLS).

The existing literature suggests a number of factors that are important determinants of the labour supply decisions of women. These include the income of other household members (Mincer, 1985), educational attainment and past labour force experience (Cain & Dooley, 1976; Carliner, Robinson, & Tomes, 1980; Dooley, 1982; England & Farkas, 1986; Greenhalg, 1980; Heckman & McCurdy,

1980). Another determinant of female labour supply that has received considerable attention is the role that women's fertility decisions play in their labour supply decisions (e.g., Breusch & Gray, 2004).

The following describes and provides a justification for the specification of the econometric models used in this analysis.

Age is included to capture variation in the potential labour market experience of separated mothers. In addition, age-squared is included to allow for a non-linear relationship between age and labour supply.

The highest level of educational attainment achieved is included to capture differences in human capital. Highest level of educational attainment is measured using a set of dummy variables: university qualification (diploma or higher); a vocational qualification; Year 12 certificate; and less than Year 12, the omitted comparison category.

The number of children in the household who are full biological siblings is also captured using a set of dummy variables (1, 2, 3, 4 or 5 or more children). These variables are included to account for differences in the child care costs associated with hours of work and the mother's preference for non-work hours. The measure used is the number of full biological siblings rather than the number of dependent children in the household. This allows us to control for differences in the number of children whom the total child support payment is intended to support. This number is closely, but not perfectly, correlated with the total number of the mother's biological children.

Previous studies have found that the age of the youngest child is an important determinant of mothers' labour supply. We therefore include variables that capture the age of the youngest child in the mother's household. These include the presence of a youngest child aged less than 12 months (omitted category), youngest child aged 1–3 years, youngest child aged 3–4 years, youngest child aged 4–7 years and youngest child aged 7–9 years. These variables will also capture differences in the child care costs associated with hours of work and the mother's preference for non-work hours.

We also control for the presence of other adults in the resident parent's household using two variables. The first indicates whether the mother has a partner (i.e., has re-partnered) and the second, having another adult living in the household (most commonly the mother's own parents or a sibling). The purpose of these variables is to capture differences in the employment outcomes of mothers who share their household with adults who may reasonably be expected to share some of their income with the mother and her children and those who do not. These additional sources of unearned income may embody their own employment disincentives.

It is assumed that household members under 18 years do not earn income that is shared with the mother or her children.

The adults with whom the mother shares her household may also decrease the costs incurred by the mother when entering employment to the extent that they may provide informal child care. This informal child care is likely to reduce the mother's reliance on formal child care purchased in the child care market. Once again, it is assumed that the mother's partner and her immediate family are more likely to provide these services than are unrelated adults.

We also control for the mother's level of spoken English, as this is likely to have a bearing on her labour market outcomes. English proficiency was self-reported in both waves, but only where English was not the mother's first language. We therefore construct a set of indicators that measure the self-reported English proficiency of mothers relative to that of a native English speaker (speaks English very well, speaks English well and does not speak English very well).²⁰ The omitted category is English is the mother's first language. This coding implicitly assumes that native speakers have a greater command of the English language than those from a non-English speaking background.

We also include an indicator that captures differences in the employment outcomes of mothers who live in a non-metropolitan region compared to those who do.

²⁰ Although resident mothers could state that they did not speak English at all, this group was not large enough in the estimation sample to allow estimation of a regression coefficient. Consequently, these cases have been dropped from the estimation sample.

The amount of child support received per fortnight is measured using a set of dummy variables (\$0, \$1–49, \$50–99, \$100–149, \$150–199, \$200–249, \$250–499 and \$500 or more) relative to the category: \$0 received. The amount of child support received is specified as a set of dummy variables in order to allow for a flexible functional form for the relationship between the amount of child support received and labour supply.

Economic theory and previous empirical studies have found that the wage rate that can be earned in the labour market is an important determinant of labour supply (e.g., Killingsworth, 1983). Waves 1 and 2 of LSAC do not include information on hourly wage rates for those mothers who were employed. We cannot therefore use statistical methods to infer how much those who were not employed would earn in the labour market were they to find employment. It is therefore not possible to include this variable in our statistical analysis. However, education, potential labour market experience (as captured by age) and other explanatory variables are all predictors of observed and potential labour market earnings.

The same explanatory variables are included in the logit model of the determinants of the probability of employment and number of hours worked if employed.

As discussed above, a potential empirical issue is that there may be a correlation between unobserved differences of mothers' and their ex-partners' incomes and hence the amount of child support received. If this is the case, the estimates of the impact of child support on the labour supply of resident mothers will be biased. The influence of unobserved heterogeneity can be minimised by incorporating observed characteristics that predict employment outcomes, such as those listed above, as these observed characteristics are likely to be correlated with unobserved characteristics. Previous employment history is also a good predictor of current status as it reflects both the influence of underlying preferences and skills associated with employment as well as the direct effects of having a job on the future likelihood of employment. Employment history, at least in part, reflects characteristics that are not observed, such as the preference for income and motivation.

Previous employment history is captured by a variable that measures employment history from the data of the Wave 1 interview (2004). The measure is: employed at the date of interview or in the previous 12 months, most recently employed 1–2 years prior, most recently employed 2–5 years prior, most recently employed 5 years or more years, and never employed.²¹ For many of the women in our sample period, this measure of previous labour force participation will overlap with the time they spent living with the study child's father and the subsequent separation. This measure of previous employment may in part have been a consequence of the receipt of child support payments. While this variable is an important robustness check for the bias associated with omitted variables, it is possible that it will wash out some of the effects of child support payments that we wish to measure.

The statistical modelling is based upon Wave 2 of LSAC. We prefer Wave 2 to Wave 1 because Wave 2 provides data for mothers with greater variation in the age of youngest child and length of time since separation than the Wave 1 cross-section. Wave 2 also allows the inclusion of information on labour force history collected at Wave 1, which is obviously not possible using the Wave 1 data.²²

6.2 Estimation results

This section presents the results of our statistical modelling, using Wave 2 data, of the impact of the receipt of child support payments on the probability of employment and, where employed, the number of hours worked by separated mothers. Descriptive statistics for the estimation sample are

21 Past employment is used to control for unobserved heterogeneity, as these unobserved characteristics are likely to be reflected in past labour force experience for a given set of observable characteristics.

22 This is a consequence of the way in which mothers are routed through the "Paid Work" section of the Parent 1 interview in both waves of LSAC. Parent 1 is only asked for the period of time since they were last employed for two weeks or more if they were not employed at the date of interview. It is not therefore possible to include such a variable in a regression that predicts employment at Wave 1 as this will perfectly predict employment at this wave. Constructing a similar variable using the Wave 2 data would lead to precisely the same problem for probability of employment at Wave 2. Using Wave 1 employment history to predict Wave 2 employment avoids this problem.

provided in Appendix Table A1 and the coefficient estimates are included in Appendix Tables A2 and A3.

As outlined above, the probability of employment is modelled using logistic regression. The impact of explanatory variables on the probability of employment can be illustrated using marginal effects. The marginal effects show the impact of a change in the explanatory variable on the probability of employment, while holding constant the value of all other explanatory variables. In this report, we hold the value of the other explanatory variables constant at the average for the sample of separated mothers.

Table 4 shows the marginal effects for the estimates of the probability of employment, using two models to control for unobserved heterogeneity. Model 1 excludes employment history and Model 2 includes employment history.

The results are generally intuitive and broadly consistent with the results of other studies. Increases in educational attainment are estimated to increase the probability of being employed. Those with a child aged less than 12 months are estimated to have the lowest probability of employment relative to otherwise similar women. The estimated probability of employment increases with the age of the youngest child. Re-partnering is also found to be associated with a higher probability of employment.

Beginning with the results of the regression that omits previous labour force participation (Model 1), we find only a single statistically significant coefficient estimate in our set of child support indicators. Table 4 suggests that the receipt of child support payments of between \$250 and \$499 per fortnight is associated with a 13.9% increase in the probability of employment at the date of interview in 2006. We cannot, however, reject the hypothesis that all of these indicators are jointly equal to zero at conventional levels of significance, and therefore not too much weight should be placed on the fact that one of the coefficients is statistically significant.

When we include previous labour force participation (Model 2), we find none of the set of dummy variables measuring child support amounts to be statistically significant without having to conduct a joint test of significance. This suggests that the effect of child support payments on the probability of employment is not statistically significant.

Table 4 Impact of amount of child support received on probability of employment, marginal effects, 2006		
Child support payment per fortnight (ref. = \$0)	Model 1 (excludes employment history)	Model 2 (includes employment history)
\$1–49	3.5	–0.3
\$50–99	–3.0	–0.1
\$100–149	0.2	–3.3
\$150–199	–4.9	–7.0
\$200–249	3.3	–2.8
\$250–499	13.9*	6.8
\$500 or more	2.3	–8.0

Notes: * $p < .05$.

Source: Derived from Appendix Tables A1 and A2

For those separated mothers who were employed, there is a statistically significant relationship between the amount of child support they received and the number of hours worked, and also between their receipt of large amounts of child support and working a smaller number of hours (Table 5). Including employment history is found to strengthen the estimated impact of child support payment on hours worked, if only slightly.

Given the overall similarity of the results of the two models, we focus on the estimates that include employment history as an explanatory variable. Receiving \$250–499 per fortnight is estimated to reduce the number of hours worked, if employed, by 24.8 hours per month, and receiving \$500 or more per fortnight to reduce the number of hours worked by 21.8 hours per month. This would

suggest that potentially quite large increases in the amount of child support paid are associated with a smaller reduction in hours worked per month.

There is, however, one exception. Receipt of \$100–149 of child support per fortnight is estimated to reduce the number of hours worked per month by 20.2 hours. While smaller than the effect we find at between \$250 and \$499, it is nonetheless larger than that found for payments in excess of \$500 per fortnight. This is the only other statistically significant child support indicator.

The lack of a relationship between child support and the probability of employment may be a consequence of mothers' uncertainty about the amount of child support that they will actually receive relative to their entitlement. This uncertainty in the amount of child support mothers will actually receive may make them less likely to rely on that income when deciding upon whether or not to be employed, but it may still affect the number of hours worked, which can in many cases be more easily adjusted than a move from non-employment to employment.

Table 5 Impact of amount of child support received on number of hours worked per month, if employed, 2006

Child support payment per fortnight (ref. = \$0)	Model 1 (excludes employment history)	Model 2 (includes employment history)
\$1–49	–8.8	–9.2
\$50–99	–16.8	–14.1
\$100–149	–18.3*	–20.2*
\$150–199	–1.6	–0.5
\$200–249	–6.7	–6.2
\$250–499	–20.5*	–24.8*
\$500 or more	–19.4*	–21.8*

Notes: * $p < .05$.

Source: Derived from Appendix Tables A1 and A3

In summary, increases in the amount of child support received reduce the number of hours worked, at least for those receiving a substantial amount of child support. The amount of child support received, however, does not appear to have an impact on the probability of being employed.

The categories used to measure the amount of child support received differ in size. These categories cover a range of \$49 for amounts of child support up to \$249 per fortnight. Then the next category covers a \$249 gap, from \$250 to \$499 per fortnight, and then an open-ended upper category of \$500 or more. The differing sizes of categories makes interpreting the magnitude of the estimated impact of child support on the number of hours worked complex. One way of illustrating the magnitude of impacts is to convert the impact of child support into the average reduction in the number of minutes worked per dollar of child support received. In order to do this calculation, we pick the midpoint of each child support category.

We estimate that for employed mothers receiving \$124.50 of child support per fortnight, labour supply is reduced by 9.7 minutes per month per dollar of child support received. For employed mothers receiving \$374.50 per fortnight child support, each dollar of child support is associated with a reduction in labour supply of 4 minutes per month. For employed mothers receiving \$500 child support per fortnight, each dollar of child support reduces labour supply by 2.4 minutes per month.

Our finding is that when employment history is not included as an explanatory variable, there is a positive impact of the receipt of substantial amounts of child support on the probability of employment, something which is not found when employment history is excluded. This is suggestive of unobserved heterogeneity; specifically, the correlation between these unmeasured characteristics and the receipt of high amounts of child support may well determine the higher employment rates of these mothers. One potential explanation for the correlation between previous employment and child support payments may be that those separated mothers who are employed at Wave 2 were previously partnered to men with a higher level of labour market earnings who pay more child support after separation. This phenomenon is sometimes termed “positive assortative mating” based on income (Becker, 1991) and has been found to be relevant in the Australian

context (Worner, 2006). This selectivity may be more influential at larger amounts of child support than at lower amounts, thereby offsetting the negative income effect described in Section 2.

Unobserved heterogeneity of this type might also explain the pattern of effect sizes that we observe in Table 5 for resident mothers who are employed. If it is the case that large child support payments are predominantly the result of non-resident parents' high assessable income, we might then expect that there would be a threshold of child support receipt above which these work disincentives are observed to be statistically significant.

7. Conclusion

Whether the receipt of child support payments decreases resident mothers' participation in the labour market is an important policy question. It is important because paid employment can significantly increase both the short- and long-term economic wellbeing of separated mothers. This is a question on which there appears to be no published Australian research and only a handful of international studies.

In this report, we have used data from an important new Australian data source, the Longitudinal Study of Australian Children, to estimate the impact of the receipt of child support payments on the labour supply of resident mothers. The impact of receipt of child support on the probability of employment of resident mothers and the number of hours worked if employed was modelled using multivariate statistical methods. The modelling is based on information available from two waves of LSAC and is therefore broadly applicable to families where young children are present.

The estimates suggest that whether a resident mother receives child support and the amount of child support received does not have an impact upon the probability of employment. Furthermore, there is no clear relationship between the amount of child support received and the number of hours worked. There is, however, some evidence that receipt of larger amounts of child support (in excess of \$250 per fortnight) reduces hours worked by between 10 and 12 hours per fortnight. In the LSAC data (at Wave 2), about one in four mothers received child support of this magnitude.

The estimates in this paper suggest that receipt of child support will not have an impact upon the labour supply of most resident mothers, although for mothers receiving larger amounts of child support, there is evidence of a modest negative impact on the number of hours worked, but not the probability of employment.

The data used was collected in 2004 and 2006 and therefore the estimates are for the Child Support Scheme that was in place prior to the reforms that arose from the recommendations of the Ministerial Taskforce on Child Support. These reforms include efforts to increase the compliance of non-resident parents with their child support obligations and changes to the child support formula, which will result in variations in child support obligations. The impact of the reforms on the amount of child support paid will depend upon a range of factors, including the effectiveness of the efforts to increase compliance with child support obligations and the behavioural impact of the reforms in terms of labour supply, care arrangements and the living arrangements of children.

These changes were implemented in three stages throughout 2006, 2007 and 2008. The most significant changes came into effect in July 2008 with the inception of a new child support formula (CSA, 2009).

The main change from a labour supply perspective is that increases in resident parents' income reduces the amount of child support they are entitled to receive at lower income levels than that which occurred under the payee disregard in the pre-2008 scheme. However, the impacts of changes in income of the resident parent on the amount of child support received are relatively small over most ranges of income.

As the estimates presented here are for the pre-July 2008 Child Support scheme, some caution needs to be exercised when generalising them to the new system. On balance, we believe that they are likely to be broadly applicable; however, this is an empirical question that could be explored in the future using data from the fourth wave of LSAC (collected in 2010, after the changes were fully implemented).

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Appendix: Descriptive statistics and regression models

Table A1. Descriptive statistics

	Employment model	Hours worked model
	%	
Employed	55.1	100.0
Hours worked per month	51.9	101.5
Child support received per fortnight		
\$0	36.5	34.6
\$1–49	16.7	15.7
\$50–99	6.7	5.5
\$100–149	6.5	5.9
\$150–199	4.0	4.0
\$200–249	6.6	7.0
\$250–499	12.5	15.4
\$500 or more	10.4	11.9
Educational attainment		
Tertiary (academic)	23.2	32.4
Tertiary (vocational)	37.5	36.5
Year 12	13.8	14.2
Less than year 12	25.4	16.9
Age of youngest child (less than 12 months)		
Less than 12 months	7.6	3.2
1–3 years	31.1	25.3
3–4 years	16.0	13.9
4–7 years	32.5	39.6
7–9 years	12.8	18.1
Number of child support children		
1	44.6	44.5
2	36.2	39.6
3	13.1	11.9
4	4.2	3.0
5 or more	1.9	1.0
Age	33.1	34.2
Age ²	1134.6	1209.2
Other adults in household		
Single	63.0	58.7
Partner	37.1	41.3
No related adult	83.6	86.1
Related adult	16.4	13.9
English proficiency		
English-speaking background	90.7	92.1
Speaks very well	6.0	5.7
Speaks well	2.1	1.7
Does not speak well	1.2	0.5
Region		
Metropolitan	57.0	60.4
Non-metropolitan	43.0	39.6
Employment history		
Employed at Wave 1 or 12 months prior	58.1	80.1
Employed 1–2 years ago	10.1	6.9
Employed 2–5 years ago	11.9	6.4
Employed 5 years or more ago	14.8	6.0
Yet to enter employment at Wave 1	5.1	0.7
Number of observations	1,085	598

Source: LSAC, Wave 2

Table A2 Logit model estimates of determinants of the probability of employment

	Model 1		Model 2	
	Coefficient	Z-stat	Coefficient	Z-stat
Child support payment per fortnight (ref. = \$0)				
\$1–49	0.14	0.69	–0.02	–0.06
\$50–99	–0.13	–0.42	–0.01	–0.01
\$100–149	0.01	0.03	–0.13	–0.39
\$150–199	–0.20	–0.48	–0.29	–0.69
\$200–249	0.14	0.44	–0.11	–0.31
\$250–499	0.59	2.68	0.28	1.20
\$500 or more	0.09	0.38	–0.32	–1.16
Educational attainment (ref. = Less than year 12)				
Tertiary (academic)	1.65	7.55	1.11	4.37
Tertiary (vocational)	0.68	3.74	0.23	1.02
Year 12	0.82	3.57	0.51	1.95
Age of youngest child (ref. = Less than 12 months)				
1–3 years	1.28	4.15	1.71	4.89
3–4 years	1.46	4.37	1.91	5.10
4–7 years	2.09	6.57	2.53	7.03
7–9 years	2.58	7.09	2.94	6.90
Number of child support children (ref. = 1 child)				
2	–0.10	–0.58	0.13	0.66
3	–0.39	–1.70	0.12	0.45
4	–0.75	–2.16	0.42	1.02
5 or more	–1.10	–2.16	0.03	0.06
Age	0.24	2.29	0.18	1.55
Age ²	–0.00075	–1.99	–0.00051	–1.22
Other adults in household (ref. = No partner or related adults)				
Partner	1.15	5.71	1.42	5.53
Related adult	0.28	0.65	0.21	0.34
English proficiency (ref. = English-speaking background)*				
Speaks very well	–0.49	–1.67	–0.17	–0.49
Speaks well	–0.72	–1.54	–0.81	–1.55
Does not speak well	–1.63	–1.75	–0.46	–0.40
Region (ref. = Metropolitan)				
Non-metropolitan	–0.37	–2.54	–0.48	–2.95
Employment history (ref. = Employed in the 12 months prior to Wave 1)				
Employed 1–2 years ago			–1.38	–5.31
Employed 2–5 years ago			–2.07	–8.12
Employed 5 years or more ago			–2.67	–10.40
Yet to enter employment at Wave 1			–3.51	–5.41
Constant	–6.46	–3.79	–4.80	–2.54
Number of observations	1,088		1,085	
McFadden (1974) R ²	0.18		0.32	
Percent or predictions correct	69.39%		77.51%	

Notes: For binary explanatory variables, the omitted category is indicated in brackets. * Cases where the mother did not speak English were dropped in estimation. robust standard errors are used to account for heteroscedasticity of a general nature (White, 1982).

Source: LSAC, Wave 2

Table A3 OLS estimates of determinants of the number of hours worked

	Model 1		Model 2	
	Coefficient	t-stat	Coefficient	t-stat
Child support payment per fortnight (ref. = \$0)				
\$1–49	–8.83	–1.26	–9.17	–1.34
\$50–99	–16.84	–1.83	–14.11	–1.63
\$100–149	–18.30	–2.09	–20.22	–2.20
\$150–199	–1.55	–0.15	–0.53	–0.06
\$200–249	–6.69	–0.69	–6.24	–0.65
\$250–499	–20.52	–3.09	–24.77	–3.68
\$500 or more	–19.38	–2.83	–21.80	–3.24
Educational attainment (ref. = Less than year 12)				
Tertiary (academic)	22.68	3.32	17.26	2.59
Tertiary (vocational)	1.26	0.20	–2.96	–0.48
Year 12	3.69	0.44	–1.83	–0.22
Age of youngest child (ref. = Less than 12 months)				
1–3 years	27.20	2.61	32.53	3.22
3–4 years	31.31	2.86	35.31	3.33
4–7 years	33.43	3.30	38.98	3.96
7–9 years	45.42	4.29	50.14	4.89
Number of child support children (ref. = 1 child)				
2	–4.04	–0.74	–1.60	–0.30
3	–15.76	–2.27	–10.95	–1.58
4	–27.83	–2.55	–17.55	–1.40
5 or more	–50.83	–2.60	–39.61	–2.01
Age	7.79	2.32	6.13	1.84
Age ²	–0.11	–2.27	–0.09	–1.85
Other adults in household (ref. = No partner or related adults)				
Partner	10.12	1.96	11.81	2.33
Related adult	57.22	4.09	58.07	4.86
English proficiency (ref. = English-speaking background)*				
Speaks very well	–2.64	–0.24	0.14	0.01
Speaks well	7.09	0.47	8.19	0.62
Does not speak well	–51.00	–5.83	–44.30	–3.18
Region (ref. = Metropolitan)				
Non-metropolitan	–8.79	–1.89	–8.40	–1.84
Employment history (ref. = Employed in the 12 months prior to Wave 1)				
Employed 1–2 years ago			–2.98	–0.32
Employed 2–5 years ago			–26.15	–3.45
Employed 5 years or more ago			–44.21	–5.42
Yet to enter employment at Wave 1			–51.21	–3.74
Constant	–59.50	–1.01	–27.18	–0.46
Number of observations	599		598	
R²	0.15		0.19	

Notes: For binary explanatory variables, the omitted category is indicated in brackets. * Cases where the mother did not speak English were dropped in estimation. Robust standard errors are used to account for heteroscedasticity of a general nature (White, 1982).

Source: LSAC, Wave 2

