e61 Research Note | April 1, 2025

CHILD CARE AND MATERNAL LABOUR SUPPLY: LESSONS FROM THE 2018 CHILD CARE REFORMS

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Executive Summary

Government-funded child care subsidies aim to achieve two key objectives: increasing maternal labour force participation and improving access to formal child care, particularly for disadvantaged children. However, the effectiveness of these subsidies depends on policy design. To assess how specific design features influence these outcomes, we examine the effects of a major child care policy reform implemented in 2018.

The 2018 child care reform aimed to expand subsidy eligibility for low- to middle-income households while reducing subsidies for higher-income households. This was paired with a restructured activity test which tied access to subsidised hours of child care to hours of activity, such as work or study.

We find that the reform:

- had no measurable effect on maternal labour supply; and
- led to a limited increase in formal child care use, with no impact on low-income households.

These unintended outcomes stem from two key factors.

- **The interaction between the new subsidy schedule and a more stringent activity test** resulted in minimal overall changes in child care subsidy eligibility across income levels. On average, the majority of households, especially those on low-to-middle incomes, experienced a net reduction in subsidies under the new system.
- **The changes to child care subsidies interacted with the broader tax and transfer system**, created short-term financial disincentives for mothers to increase their labour supply or use formal care.

Investigating the causal effect of the 2018 reform offers valuable lessons for future policy design, including for universal child care (Australian Labor Party, 2024). The recent abolishment of the activity test could increase child care use, particularly among low-income households, but increasing maternal labour force participation requires broader reforms. Addressing financial disincentives in the **tax and transfer system** is essential to unlocking the full economic benefits of child care support.

Early Childhood Education and Care (ECEC) is widely recognized as a crucial policy tool for supporting maternal employment (OECD, 2018) and enhancing a child's development, particularly among disadvantaged households (Heckman & Masterov, 2007; OECD, 2006). In Australia, the federal government invests approximately $13 billion annually in ECEC (Department of Education, 2024a) to support these objectives, mainly through child care subsidies.

But the effectiveness of government-funded child care subsidies hinges on their design. To assess which design features most effectively promote child care use and maternal labour force participation, we analyze the impact of a major reform implemented in 2018.[1] This reform altered the structure of the child care subsidies by:

- Providing higher subsidies, particularly for low- to middle-income households, with the aim of increasing child care use among disadvantaged households; and
- Redesigning the activity test to tie subsidy access more closely to hours spent working, studying, volunteering, or training, thereby boosting maternal participation in these activities.

1 The 2018 reforms offer a unique opportunity for longitudinal analysis, given their implementation over at least five years.

We find that the design of the child care subsidies in 2018 was mostly ineffective. The new scheme led to a small increase in formal child care use overall but did not significantly affect participation rates among children from low-income households.[2] In addition, it had no measurable effect on maternal labour supply.

The reform fell short because of two key factors:

- **Policy design features**: The interaction between the new subsidy schedule and the redesigned activity test meant that **some households actually saw an increase in their cost of child care.** This is because some of these households, particularly those on lower incomes, were excluded from accessing the subsidy as they did not meet the activity requirements.
- **Factors external to the child care system:** The interaction between the child care system and the tax and transfer system, particularly for low-income households, **created potential work disincentives.** As mothers increased their workforce participation, they could lose access to part or all of their transfer payments reducing short-term financial gains from working more hours.

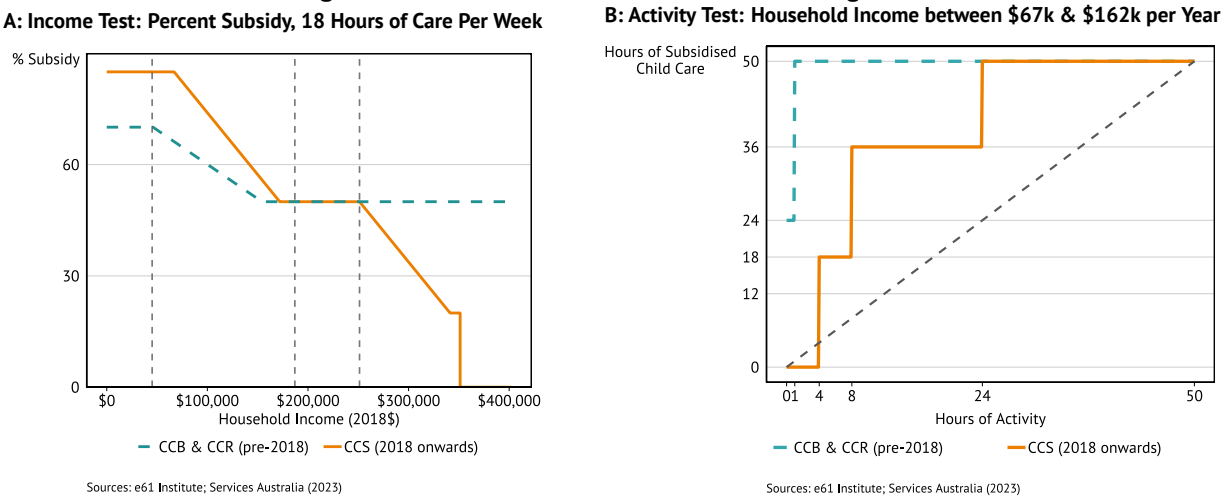
Understanding these policy shortcomings is crucial for designing more effective child care reforms, including the Albanese Government's commitment to universal child care (Australian Labor Party, 2024).

The 2018 Child Care Reform: What Changed?

In 2018, the government introduced a new subsidy schedule through the Child Care Subsidy (CCS) program marking a significant shift in Australia's child care policy landscape (detailed in Appendix A.2).

The new schedule aimed to expand subsidy eligibility for low- to middle-income households, with initial projections promising substantial fee relief for many families. Under this plan, low-income households were expected to see their child care costs reduced by half, while high-income households would face approximately double their previous costs. Figure 1A displays the change in percentage subsidies for families using up to 18 hours of child care per week, illustrating that under the 2018 reforms low-income households were expected to be better off.[3]

Figure 1: The 2018 Child Care Reform Changes



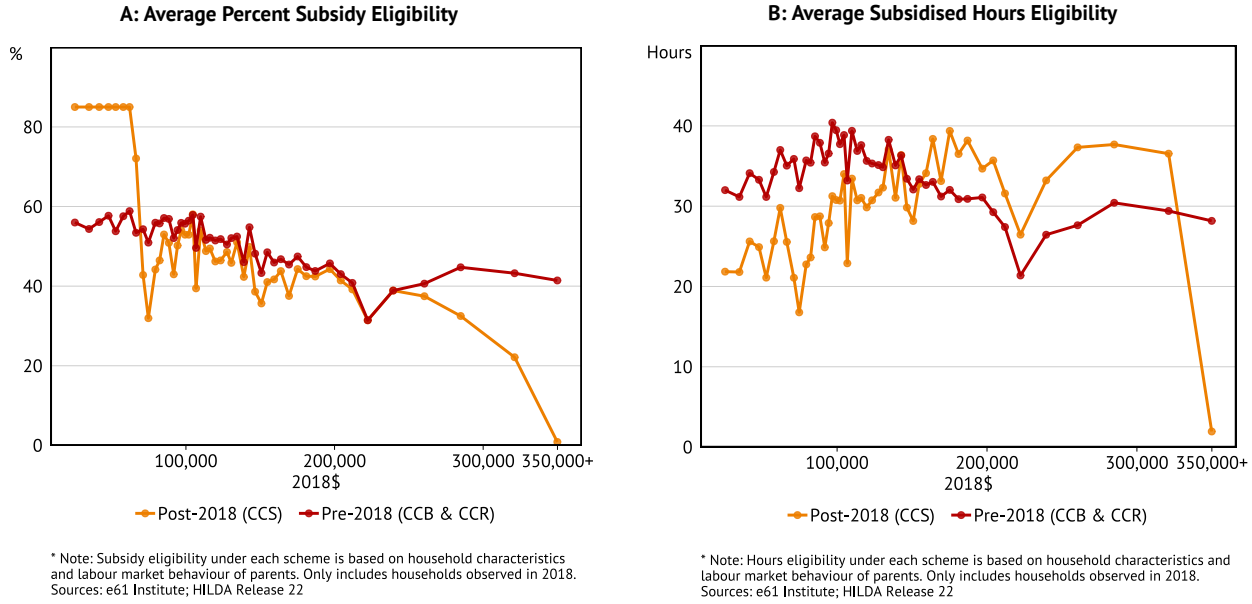
Another key change in the new subsidy schedule was a more stringent activity test, which evaluated hours spent by parents in work, study, training or volunteering.[4] Families needed to meet stricter eligibility criteria to access higher levels of subsidised child care (see Appendix A.3 for details). The revised activity test raised the minimum required activity from "some" hours to a minimum of 4 hours per week, with hours of subsidised care roughly corresponding to hours of activity (Figures 1B, A.3B and A.3C). This change meant that while households could receive increased subsidies given their household income level, whether this increase was realised was entirely dependent on their labour supply.

2 Throughout this note, households are defined by four income categories derived from the subsidies scheme: low-income (income between $0 and $66,958; lower-middle-income (income between $66,959 and $134,370); upper-middle-income (income between $134,371 and $204,146); and high-income (income of $204,147 and above). All of these values are in 2018 dollars.
3 Figures A.2A and A.2B show the changes for households using up to 36 and 50 hours per week, respectively.
4 When introducing a newer form of the activity test, the government wanted to "ensure that taxpayers support for child care is targeted to those who depend on child care to work or work additional hours". (R. Bray et al., 2022).

Low-income households (combined household income of $66,958 or less) were treated slightly differently under both pre- and post-reform policies, and were still eligible for some hours of subsidised care regardless of their labour market status (Figure A.3A). Before the 2018 reform, with no hours of activity, low-income households were entitled to up to 24 hours of subsidised care per week. After the 2018 reform, the eligibility of low-income households with no hours of activity halved to 12 hours of subsidised child care per week.

The interaction between subsidy rates and eligibility criteria set by the activity test produced effects that differed from expectations. To better understand these dynamics, we estimate the percentage of subsidy families were eligible for and the number of subsidised hours based on individual and household characteristics in HILDA. Figure 2 shows the overall impact of the reform by considering both the income and activity test requirements.

Figure 2: Observed Eligibility Change: Percent Subsidy and Subsidised Hours



* Note: Subsidy eligibility under each scheme is based on household characteristics and labour market behaviour of parents. Only includes households observed in 2018. Sources: e61 Institute; HILDA Release 22

* Note: Hours eligibility under each scheme is based on household characteristics and labour market behaviour of parents. Only includes households observed in 2018. Sources: e61 Institute; HILDA Release 22

Our findings suggest that the reform's benefits were more limited than anticipated. In fact, when considering both subsidy rates and hours of eligibility, some households experienced a net reduction, on average, in benefits under the new policy.

Although families earning below $66,958 were exempt from the full scope of the activity test, households across the income distribution faced restricted eligibility due to the activity test. We estimate that approximately 18.5% of households earning between this threshold and $351,248 - the maximum income for subsidy eligibility - did not qualify for subsidised child care after the reform due to a lack of eligible activity hours.[5]

Despite the expected subsidy improvements for low and middle income households, Figure 2A shows that the only households to experience an average increase in subsidies under the reform were those with an income of $66,958 or less.[6] These households remained eligible for some subsidised care hours without needing to meet the activity test. Notably, across all income groups, no part of the distribution experienced simultaneous improvements in both subsidy rates and subsidised hours (Figure 2B).

This initial analysis suggests the interaction between the subsidy schedule and the activity test limited the impact of the 2018 reforms. By reducing subsidies for mothers with low activity levels, the reform created a barrier: these mothers could not access child care, limiting their ability to seek employment.[7] This highlights the importance of policy design in achieving outcomes. However, to fully understand the effects of the 2018 reform, it is essential to examine how households responded to these changes in practice. The next section estimates the causal impact of the 2018 reform on child care usage and maternal labour force participation.

5 We use data from HILDA for these estimates.
6 For a detailed description of how the subsidy schedule changed across the income distribution, see Appendix A.2.3.
7 Hours of activity include job search efforts. However, families often find it challenging to provide sufficient evidence of their job-seeking activities (Cleal, 2024).

Estimating the Causal Impact of the 2018 Child Care Reform

In this section, we estimate the causal effect of the 2018 child care reform by measuring how maternal labour force participation and child care use differ between households under the old subsidy scheme and the new one. However, simply comparing outcomes for the same households before and after the subsidy change would not isolate the reform's causal effect. This is because it would also capture other factors, such as broader economic conditions, children ageing into different care needs, and household dynamics.

To isolate the causal effect, econometric tools for causal inference typically compare outcomes between two groups: households receiving the old subsidy (control group) and those receiving the new subsidy (treatment group). However, when a reform affects all households simultaneously, as with the 2018 reform, the lack of a control group presents a challenge.

To address this issue we construct counterfactual outcomes— that is, what would have happened to the affected households in the absence of the reform - based on pre-2018 data. We then estimate the causal effect by comparing these counterfactual outcomes with the observed post-reform outcomes. Our approach builds on the methods used in recent work by Cerqua et al. (2023) and Botosaru et al. (2023).

A Forecasting Approach for Counterfactual Estimation

In this section, we describe the approach used to generate counterfactual outcomes for households affected by the new CCS scheme.

Our algorithms are trained and validated using data exclusively from the pre-2018 period and include two distinct groups of households:

- **Affected group:** Households with children aged 0 to 5 in 2018, who were directly affected by the reform; and
- **Unaffected group:** Households with children older than 5 in 2018, who were not affected by the reform.

For our analysis, we employ a random forest algorithm, incorporating both current and lagged variables for both child and maternal outcomes. We selected the random forest model due to its superior predictive performance, evidenced by achieving the lowest mean squared error (MSE) compared to alternative methods tested, including linear regression and Lasso algorithms.[8] This model is particularly suited to capturing complex, non-linear relationships between maternal and family characteristics—such as the number of children and a partner's working hours—and their impacts on formal child care usage and maternal labour supply.

This approach offers distinct advantages over other methodologies, such as event studies or difference-in-differences, as it explicitly accounts for differences across cohorts and confounding time effects. By integrating the panel data approach with forecasting techniques, our method predicts counterfactual outcomes for children born in 2014—who become affected by the reform upon reaching child care age—by using current observables (analogous to a matching estimator) and lagged variables (analogous to a forecasting estimator).

This combined methodology allows the estimator to be dynamically trained and tuned, effectively balancing matching-based approaches with predictive accuracy. Consequently, our approach mitigates potential biases from confounding time effects that could arise from straightforward comparisons across birth cohorts.

An intuitive explanation may clarify this further. Suppose we aim to understand the effects of the change of child care subsidies on Julia after her birth, specifically the child care hours used and Julia's mother's working hours. To achieve this, we use not only contemporaneous data from households similar to Julia's family around the time of their child's birth but also historical data about Julia's own family prior to her birth.

To validate the model's effectiveness, we use the unaffected group as a benchmark. Specifically, we predict the hypothetical outcomes for these households after the birth of their youngest child in the absence of the reform. Since these households were unaffected, their actual outcomes represent a true counterfactual scenario. By comparing the predicted outcomes with observed outcomes in this control group, we can assess our model's predictive accuracy.

8 We tested linear regression, Lasso, and random forest algorithms.

We test the model's predictive capability across four key outcomes: child care hours, participation in formal care, maternal working hours, and maternal employment. A close alignment between predicted and observed outcomes within the control group indicates strong predictive performance.

Figure A.4 demonstrates minimal differences between the predicted outcomes generated by the machine learning algorithm and actual observed outcomes, reinforcing the model's effectiveness in accurately forecasting counterfactual outcomes.

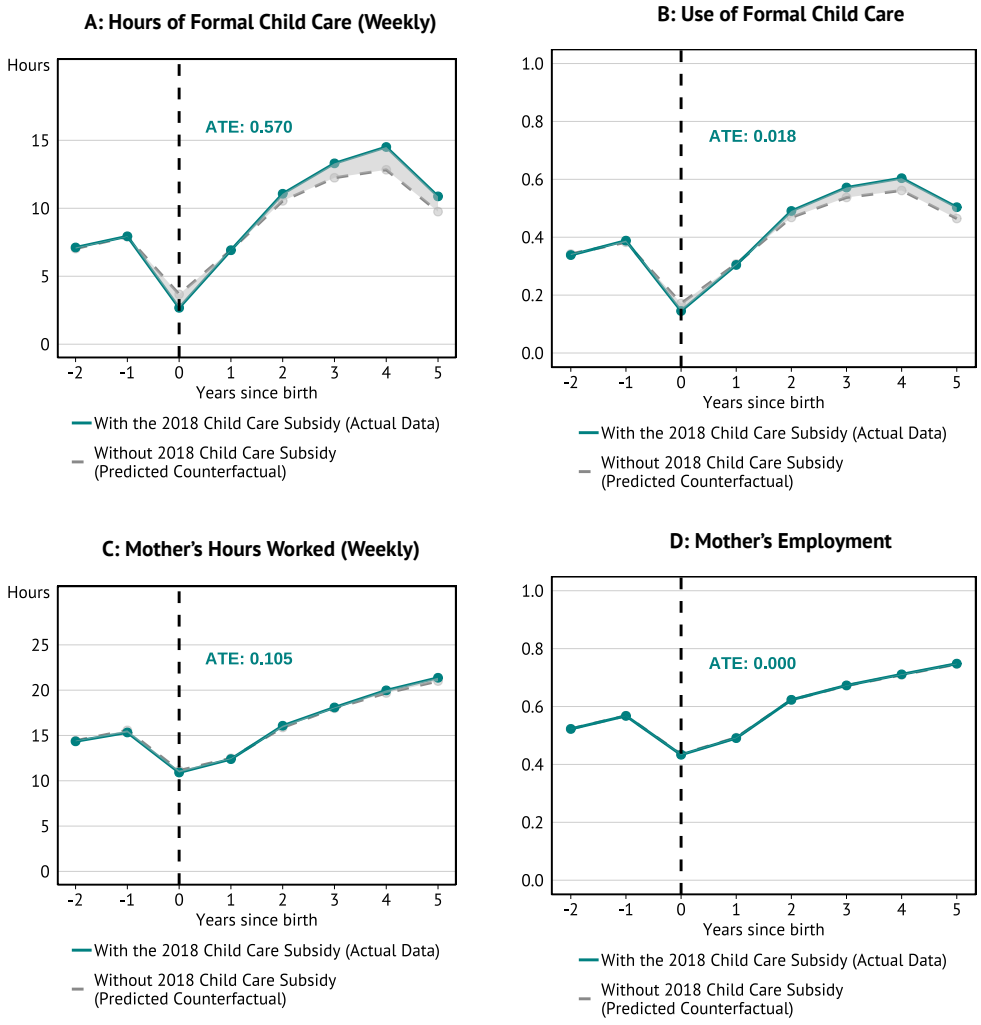
We then apply this validated model to forecast counterfactual outcomes for households affected by the new subsidy scheme following the birth of their youngest child. These counterfactuals reflect predictions of child care use, child care hours, maternal wages, and maternal labour force participation under the hypothetical scenario where the households had not experienced the reform.[9]

Finally, by comparing these predicted outcomes with actual observed data, we estimate the causal impact of the new subsidy scheme on child care hours, maternal wages, and labour force participation.

Impact on Formal Child Care Use and Maternal Labour Supply

Our analysis finds that the reform increased the use of formal care, but had no impact on mothers' labour supply (Figure 3).

Figure 3: Main Results: Effect of the CCS



9 In this context, the unseen data the machine learning model generalises to are future observations of the same households rather than outcomes from new households, differentiating this from conventional out-of-sample prediction tasks. Thus, the model focuses less on traditional accuracy metrics and more on ensuring unbiased forecasts of counterfactual outcomes. By enabling the model to effectively capture pre-intervention trends for each treated household, we generate robust counterfactual predictions under the previous subsidy scheme. This shift is essential for causal inference and distinguishes our approach from standard machine learning applications.

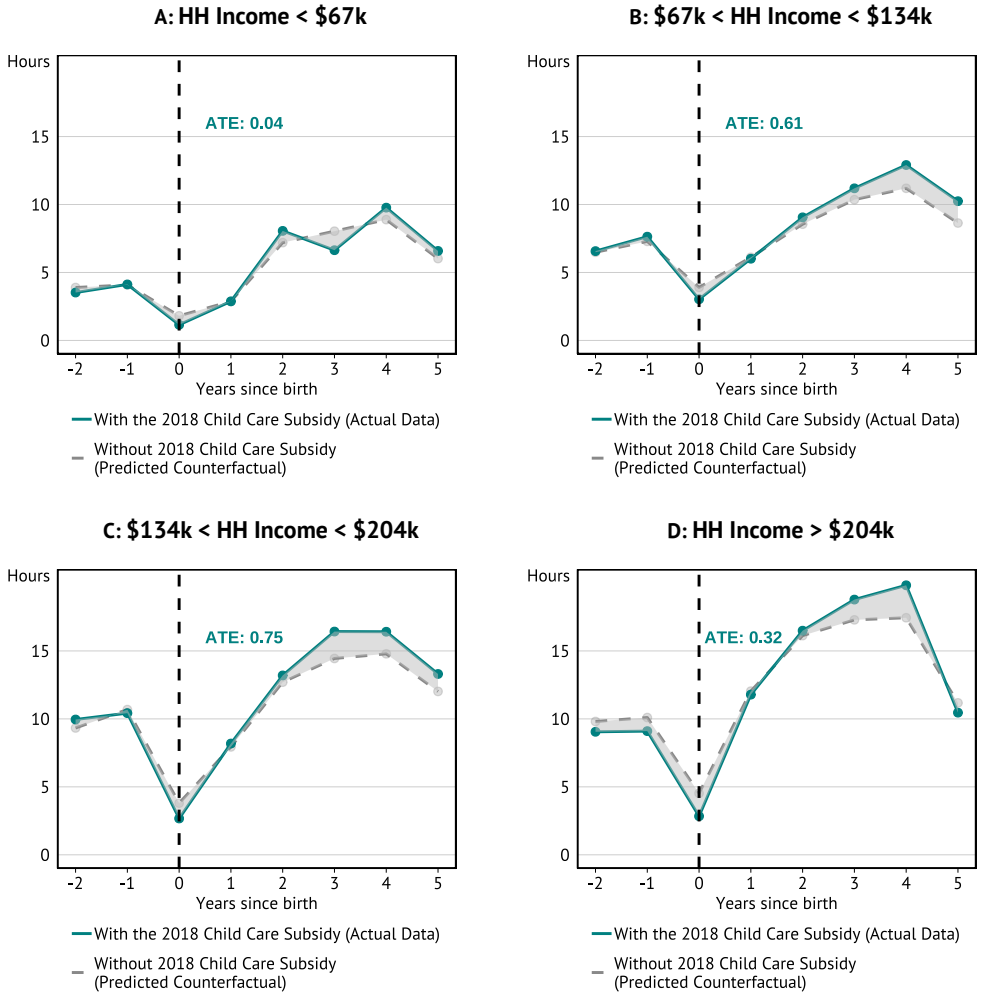
Across all households, we observe a small increase in the demand for formal child care (Figures 3A and 3B). Use of formal child care increased from a 43.3% formal care participation rate to 45.2%, and weekly hours of formal care increased by around half an hour - from 9 hours and 24 minutes to 9 hours and 58 minutes. Much of this effect is concentrated when the child is between 2 to 5 years of age - the time that they are more likely to participate in formal child care.

The effects on maternal labour supply are minimal, with changes in both hours worked and employment rates close to zero (Figures 3C and 3D).

The Differential Effect of the Reform by Household Income

Given the income-contingent design of the child care subsidy, changes in the scheme will have impacted households differentially. When examining the effects of the reform across different income groups, we find that middle-income households show the largest increase in the use and hours of formal care (Figures 4B and Figures 4C), whereas the lowest-income group remains unaffected (Figure 4A). There were no differential effects of the reform on maternal labour supply across the income distribution (Figure 5). In sum, we find that: [10]

Figure 4: The Differential Effect of the Reform by Household Income: Hours of Care



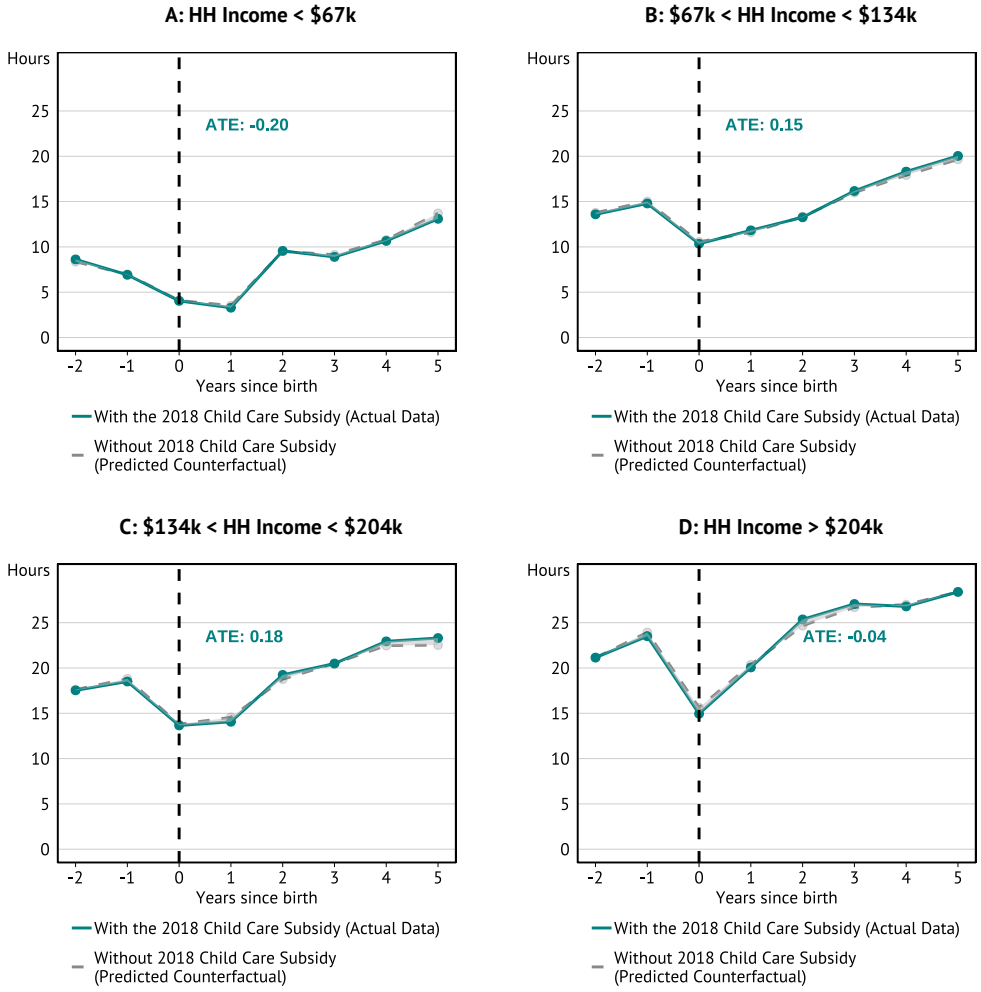
- **Low-Income Households ($0 to $66,958):** The smallest effects across all outcomes were observed for low-income households - despite the fact that they were the only households to experience an increase in subsidies, on average. Their use of formal care and weekly hours in care showed little change (Figures A.5A and 4A), as did maternal employment and hours worked (Figures 5A and A.6A).
- **Lower-Middle Income Households ($66,959 to $134,370)**: These households experienced a slight increase in formal care use. Weekly hours of formal care rose by around 30 minutes, from 8 hours and 6 minutes to 8 hours and 41 minutes per

10 For results of the heterogeneity analysis for outcome variables 'Use of Formal Care' and 'Mother's Employment', see Appendix A.4.

week (Figure 4B), while the share of families using formal care increased from 36.6% to 38.0% (Figure A.5B). However, there was no notable effect on maternal employment or hours worked (Figures 5B and A.6B).

- **Upper-Middle Income Households ($134,371 to $204,146)**: These households saw the largest relative increase in both formal care participation and hours. Weekly hours of care increased by nearly an hour, from 11 hours and 13 minutes to 12 hours and 2 minutes (Figure 4C), while participation in formal care rose from 50.0% to 52.8% of families (Figure A.5C). Maternal employment and hours worked remained largely unchanged (Figures 5C and A.6C).
- **High-Income Households ($204,147 and above)**: These households saw smaller overall effects on formal child care demand. Weekly hours in care increased by about 20 minutes, from 13 hours and 29 minutes to 13 hours and 51 minutes (Figure 4D), and the share of families using formal care rose from 55.4% to 57.7% (Figure A.5D). As with other income groups, maternal labour supply effects were minimal, with little change in employment or hours worked (Figures 5D and A.6D).

Figure 5: Heterogeneity by HH Income: Mother's Hours Worked



The Interaction of Child Care Subsidies and the Tax-Transfer System: Explaining Part of the Lack of Response

A lack of response to the 2018 reforms points to features in the policy's design as discussed above, particularly the interplay between child care subsidies and activity tests which saw many households better off prior to the changes. In addition, there are non-price factors that also shape maternal behaviour. Indeed, child care costs are just one factor influencing a mother's decision to work or use formal child care.

Workforce Disincentive Rates

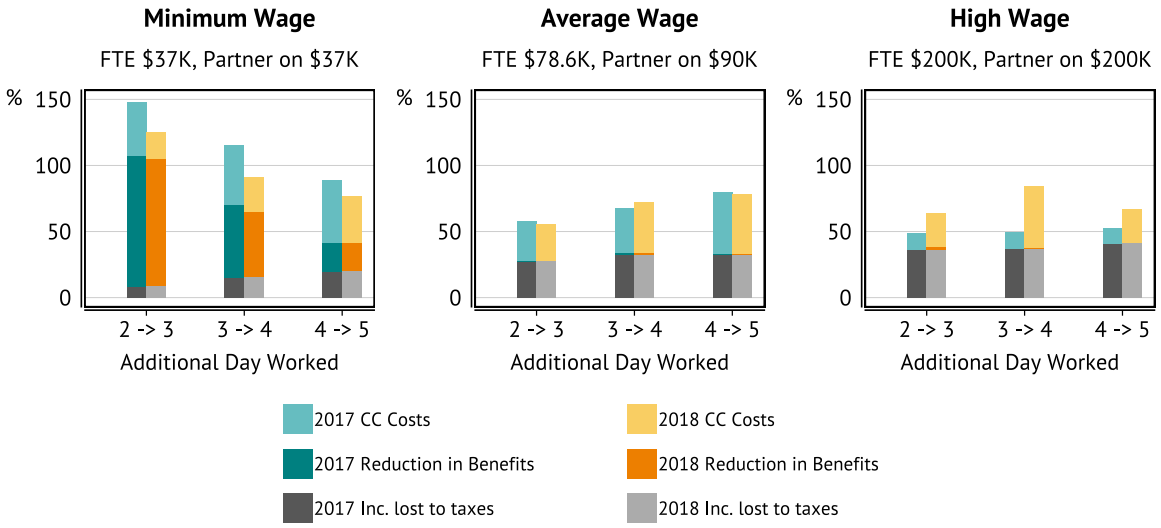
People's response to changes in child care costs - particularly through changes in labour force participation - depends on the interaction between child care subsidies and the tax and transfer system.

Low- to middle-income families may be eligible for various transfer payments and tax offsets, including Parenting Payment, Family Tax Benefit A, Family Tax Benefit B, the Low-Income Tax Offset, and (in 2018) the Low and Middle-Income Tax Offset. Since these benefits are income-tested, working or increasing work hours can affect eligibility for these benefits. Additionally, as income rises, people face higher personal income taxes. Secondary earners in dual-income households—typically mothers—often bear the brunt of these trade-offs, as well as single parents (Cortés & Pan, 2023; Jenkins, 2021).

Therefore, for some mothers, even with higher child care subsidies, there may be little financial incentive to work additional hours or enter the workforce at all. Working more could lead to losing most or all of the extra income earned due to increased taxes and the loss of benefits. While opting out of work may make financial sense in the short term, it can negatively impact long-term career progression and financial security, through lower wage growth and reduced superannuation balances (Austen & Mavisakalyan, 2018; Bahar et al., 2023; Parr et al., 2007).

To investigate how the tax and transfer system influenced the effectiveness of the 2018 child care reform, we examine how workforce disincentive rates were affected by the reform. Figure 6 illustrates the Workforce Disincentive Rates (WDRs)—the percentage of an additional day's pay lost to taxes, reductions in benefits, and child care costs—across different households along the income distribution. These WDRs are calculated under both the 2017 and 2018 tax and transfer systems to highlight the impact of the 2018 reform on these disincentives.

Figure 6: Workforce Disincentive Rates



Note: Constructed households are two-earner households with two young children who are participating in formal child care. WDR's take into account personal income taxes, the Medicare Levy, Low Income Tax Offset, Low and Middle Income Tax Offset" "(2018 only), Family Tax Benefit Part A and Part B, Parenting Payment and child care costs for two children. Child care use is assumed to be equal in days to the number of days the mother is working, where 1 day of child care use is 10 hours. Assumes the household is paying the average hourly cost of care, which was $9.40 in 2017 and $9.90 in 2018.
Sources: e61 Institute; Services Australia.

While the 2018 reforms reduced the WDRs for mothers in low-income households, they remained relatively high, above 100% for the extra day worked on top of two days, that is moving from 2 days to 3 days of paid work. This is because child care costs are not a large share of WDRs for these households, instead benefits are. This suggests that reducing child care costs may not be sufficient to move the needle on labour supply for these mothers. Policymakers will need to further examine the impact of the benefit system on incentives to work if they want to increase the labour supply of these mothers.

For average and high income households, their WDRs actually increased post the 2018 reforms. This means that the 2018 reforms did not financially incentivise additional days of work for these households who were better off under the previous system. For high income households, this was as intended by the policy.

Other factors

Supply side

The 2018 reforms were a demand-side intervention, that did not address supply-side considerations. For instance, the limited number of child care centres,[11] paired with higher subsidies, led to an increase in child care prices by 9.2% nationwide (Department of Education, 2024b), with some states and territories experiencing even sharper increases. This outcome suggests a misalignment between policy intentions and market realities – while the government sought to reduce costs for families, the subsidy's design seems to have inadvertently increased provider revenues without achieving meaningful improvements in affordability.

Preferences and norms

People's preferences and social norms may also make them unresponsive to changes in the cost of child care. For example, traditional gender norms may prevent mothers with young children from participating in paid work or increasing their work hours. In HILDA, 64% of mothers with young children and 42% of fathers, strongly agree that "If both partners in a couple work, they should share equally in the housework and care of children". In addition, families may have a preference for grandparents to provide informal care, particularly when children are really young. Grandparental care is the second most common type of care for Australian children who don't attend school, covering 26% of young children (Akyol & Atalay, 2025; Australian Bureau of Statistics, 2017).[12]

Together, these highlight the many factors that affect mothers' decisions to work and use formal child care. Understanding these dynamics is essential for designing policies that support families' diverse needs and enable families to achieve their desired balance of paid work and caregiving.

Lessons for future reform

Our analysis shows that the 2018 reforms led to a modest increase in child care use but did not improve maternal labour supply. This outcome results from the design of the child care subsidy. The new activity test did not improve subsidy eligibility for low-to-middle-income households, leaving many better off under the previous system. Additionally, the interplay between child care costs and the tax and transfer system meant that some households faced higher work disincentives.

What are the key lessons for future child care reforms? Different households face unique challenges when deciding whether to work, both within and beyond the child care system. Specifically:

- For mothers who are marginally or not attached to the labour force, the stringency of the activity test is unlikely to incentivise them to work, as their barriers to employment extend beyond child care.
- For low-income households, steep benefit abatement is likely a larger disincentive to work than child care costs.
- For middle-to-high-income households, lower child care costs could increase labour supply, as child care expenses make up a significant share of their workforce disincentives. However, this would come with increased fiscal costs that primarily benefit higher-income families.

11 "Child care deserts" – areas where demand far exceeds available places – create significant challenges for families, particularly in rural and regional communities (Hurley et al., 2022; Malik & Hamm, 2017).
12 Long day care (LDC) is the most common type of care for Australian children who don't attend school, with 37% of children aged 0-5 enrolled in LDC.

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APPENDIX

A.1. Data

The data for our analysis comes from Release 22 of the Household, Income and Labour Dynamics in Australia (HILDA) Survey. HILDA is a household-based, longitudinal panel that began in 2001 with a large national probability sample of Australian households, following approximately 13,000 people across 7,500 households.

The vast majority of the HILDA data are collected through face-to-face interviews, with a small fraction obtained from telephone interviews. The data collection itself consists of a household form and a personal questionnaire. The household form is completed by one member of the household and mainly covers child care arrangements, housing, household spending and household wealth. The person questionnaire is administered to every member of the household aged 15 years and over and includes questions on a broad range of topics, including family background, educational attainment, and employment history. The person questionnaire is supplemented by a self-completion questionnaire, covering topics that respondents may not feel comfortable answering in a face-to-face interview.

The HILDA survey represents an ideal dataset for studying the effects of changes in child care subsidies on child care use and the labour force. The survey contains detailed observations on both formal and informal child care use, as well as labour market characteristics and outcomes (such as weekly hours of work, hourly wage, and employment status) for individuals and households. Additionally, it provides information on a wide range of socio-economic aspects, focusing on family and household characteristics, income, and employment.

The relevant variables used for the analysis include the location of the household (state, postcode, urban versus rural), socio-economic information (parental education, household total income, government benefits, SEIFA index for economic resources, hourly wages, reasons for unemployment, type of employment contract, job tenure), household characteristics (household size, number of adults and children, amount of rent paid), and individual demographic characteristics for each household member (date of birth, gender, level of education, 2-digit ANZSCO occupational code). The dataset also tracks the number of hours spent on various activities such as working, training, volunteering, studying, household errands, travelling to and from work, and playing with children.

The data used in this analysis is drawn from waves 8 to 20 of the HILDA Survey, covering the period 2008-2020. Waves 2008-2020 were chosen to ensure sufficient pre- and post-reform observations.[13] The final sample size is 1,095 households (596 children born after 2013, and 499 born before 2013) with 13,046 observations. Table A.1 presents summary statistics for the main variables of interest among children affected by the reform (born in 2013 or later) and those not affected by it. Figure A.1 illustrates the distribution of household income for the sample in 2017.

A.1.1 Sample characteristics

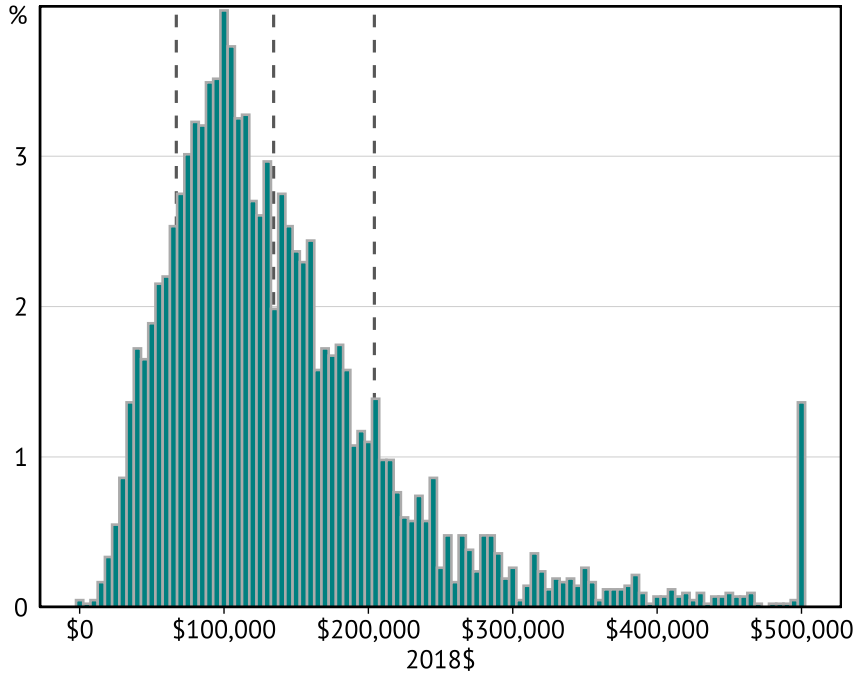
13 The CCS reform was implemented in July of 2018. Each year HILDA data collection begins in early August, with a large majority of households responding by early December. Wave 18 is therefore considered a post-reform year in this analysis.

Table A.1: Sample characteristics

	Affected Households (children born 2013 or later)	Unaffected Households (children born before 2013)
Mother's hours worked per week (all)	15.98	15.59
Mother's hours worked per week (working mothers)	27.31	26.52
Mother's Employment	0.59	0.59
Weekly hours of formal care (all)	8.32	7.25
Weekly hours of formal care (families using formal care)	22.10	19.35
Formal care participation	0.38	0.37
Mother's hourly wage	36.63	33.76
Husband's employment	0.91	0.91
Husband's weekly earnings (2018$)	1531.45	1506.65
Total Household Income (2018$)	140070.11	135643.28
Mother's Age	32.58	33.68
Highest educational attainment: University qualification	0.39	0.36
Highest educational attainment: Vocational qualification	0.32	0.28
Highest educational attainment: Finished year 12 only	0.16	0.18
Highest educational attainment: Did not finish year 12	0.13	0.18
Educated but not born in Australia	0.11	0.14
Not educated nor born in Australia	0.05	0.07
Speaks language other than English	0.12	0.15
Aboriginal or Torres Strait Islander	0.05	0.04
Number of children	2.02	1.99
Observations	7429	8677

Notes: Based on the eligibility criteria for 2018/19. Income thresholds are indexed to CPI annually.

Figure A.1: Distribution of Household Income (2017-2018)



* Includes households observed in HILDA in 2017 and 2018. Households are topcoded to a household income of $500,000 if their income exceeds that amount. Household income is indexed to 2018$.
Sources: e61 Institute; HILDA Release 22

A.2. Institutional Setting

The Australian child care market is heavily privatised, with around 85% of ECEC delivered by privately owned and operated centres.[14] Over the last 20 years, the average cost of formal care for young children has risen by almost 70 per cent, from

14 These data are obtained from the ACECQA, in the March quarter of 2023

$6.45 per hour in 2002/03 to $10.90 per hour in 2021/22, in 2022$ (Australian Government Department of Education, 2024). To alleviate the burden of child care costs, especially for disadvantaged families, the Australian government has implemented various family and tax policies subsidising child care over the past 25 years.

A.2.1 The Child Care Benefit and Child Care Rebate

Before July 2018, the Australian child care subsidy system consisted of two policies, the Child Care Benefit (CCB) and the Child Care Rebate (CCR). The CCB commenced in 2000 and was a means-tested subsidy scheme aiming to reduce the hourly cost of formal child care for low-income families.[15] The CCB decreased with family income. In 2017, households with an income of $45,114 or less were eligible for the base subsidy rate of $4.24 per hour (for up to 50 hours per week) for a single child. This represented 47 per cent of the average price for formal care in 2017 (Department of Education and Training, 2017). The minimum hourly rate in 2017 was $0.492 (5 per cent of the 2017 average price of formal care), and households with a combined income of over $154,697 were ineligible for any subsidy. CCB was dependent on the number of children in care and the number of paid child care hours - the hourly rate was higher if more children were in care or if less than 38 hours of care were used weekly. Additionally, CCB had work and training requirements: up to 50 hours of approved child care per week would be subsidised under the scheme provided the "least active" parent satisfied an activity test of at least 15 hours of activity per week. In households where the activity test was not met, the maximum subsidised hours were limited to 24 per week.

The CCB was supplemented with the universal Child Care Rebate (CCR), introduced in 2004. The CCR, which was not means tested, covered 50% of out-of-pocket costs (that is, costs in excess of CCB payments received) that could be claimed as an hourly fee reduction or as a direct payment to the household. The annual per-child cap for the payment was $7,500 in 2017 and could only be claimed by families with children in accredited care. Parents were required to have some work, training or study commitments during the week, but no minimum hours of activity were necessary.

A.2.2 The 2018 Child Care Subsidy

In 2018, the government implemented the Child Care Subsidy (CCS) to assist families in accessing high-quality early learning, foster increased workforce participation, streamline child care payments, and direct aid towards low and middle-income households. The objective was to make child care services easier to navigate, more cost-effective, readily available, and adaptable to families' needs (J. R. Bray, 2022).

At the time of its introduction, low-income households (with a combined total income of $66,958 or less) saw the maximum subsidy rate, with 85% of their out-of-pocket child care costs covered under the scheme. The CCS gradually decreased with family income, and those households with a combined annual income of over $351,248 in 2018 were not eligible for any fee support. An annual subsidy cap of $10,190 per child was applied to all households earning over $186,958 annually. Further details regarding household income levels and corresponding subsidy rates for 2018 are outlined in Table A.2.[16]

Table A.2: The 2018 Child Care Subsidy: Household income and per cent subsidy eligibility

Household Annual Income ($)	Percent subsidy (%)	Per-child cap ($)
0–66,958	85	n/a
66,959–171,957	Decrease of 1p.p for every $3,000 earned	n/a
171,958–186,957	50	n/a
186,958–251,247	50	10,190
251,248–341,247	Decrease of 1p.p for every $3,000 earned	10,190
314,248–351,247	20	10,190
351,248+	0	n/a

Notes: Based on the eligibility criteria for 2018/19. Income thresholds are indexed to CPI annually.

15 The subsidies were indexed to the Consumer Price Index (CPI).

16 Since its introduction in 2018, there have been some changes to the CCS. The $10,190 cap for higher-earning households was scrapped in Dec 2021. Changes in the taper rates came into effect in July 2023. These changes are detailed in Appendix A.2.5. They will not impact our results as our analysis only uses data up to 2020.

With the introduction of the CCS in 2018, low-income households were to be eligible for more generous subsidies, significantly reducing their child care costs, and high-income households saw a substantial reduction in subsidy eligibility due to the reform.

With the introduction of the CCS, the activity test became more stringent. The number of child care hours eligible for subsidy under the CCS depends on the activity level of the 'least active' member of a partnership, with approved activity hours including work, study, and training commitments. The activity requirements and subsequent hours of eligibility are described in Table A.3. Only formal child care is eligible for subsidy.

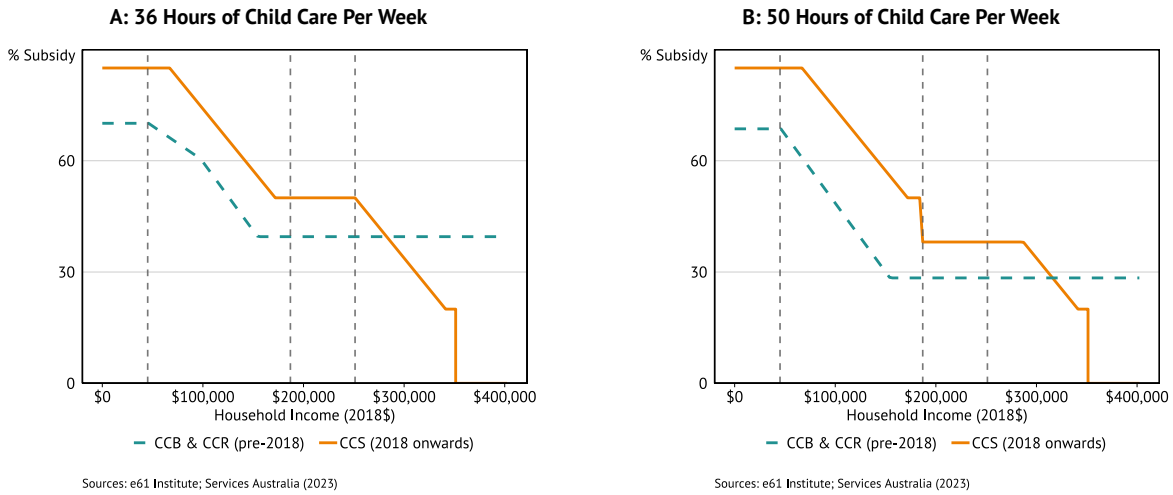
Table A.3: The 2018 Child Care Subsidy: Hours of activity and hours of subsidised care eligibility

Household Annual Income ($)	Fortnightly hours of activity	Fortnightly hours of subsidised care
0–66,958	0–8	24
66,959–351,247	0–8	0
0–351,247	8–16	36
0–351,247	16–48	72
0–351,247	>48	100

Notes: Activity level of the 'least active' member of a partnership determines fortnightly eligibility under CCS. Approved activity includes work, study, and training commitments. If you are receiving Carer Allowance you can access 72 hours of subsidised care per fortnight. If you have mutual obligation requirements you can access 36 hours of care per fortnight if you are getting one of either; NewStart Payment (replaced with JobSeeker in 2020), Parenting Payment, or Special Benefit.

A.2.3 What changed?

Figure A.2: Percentage of Subsidies by Household Income, and Hours of Child Care



The changes affected three key areas:

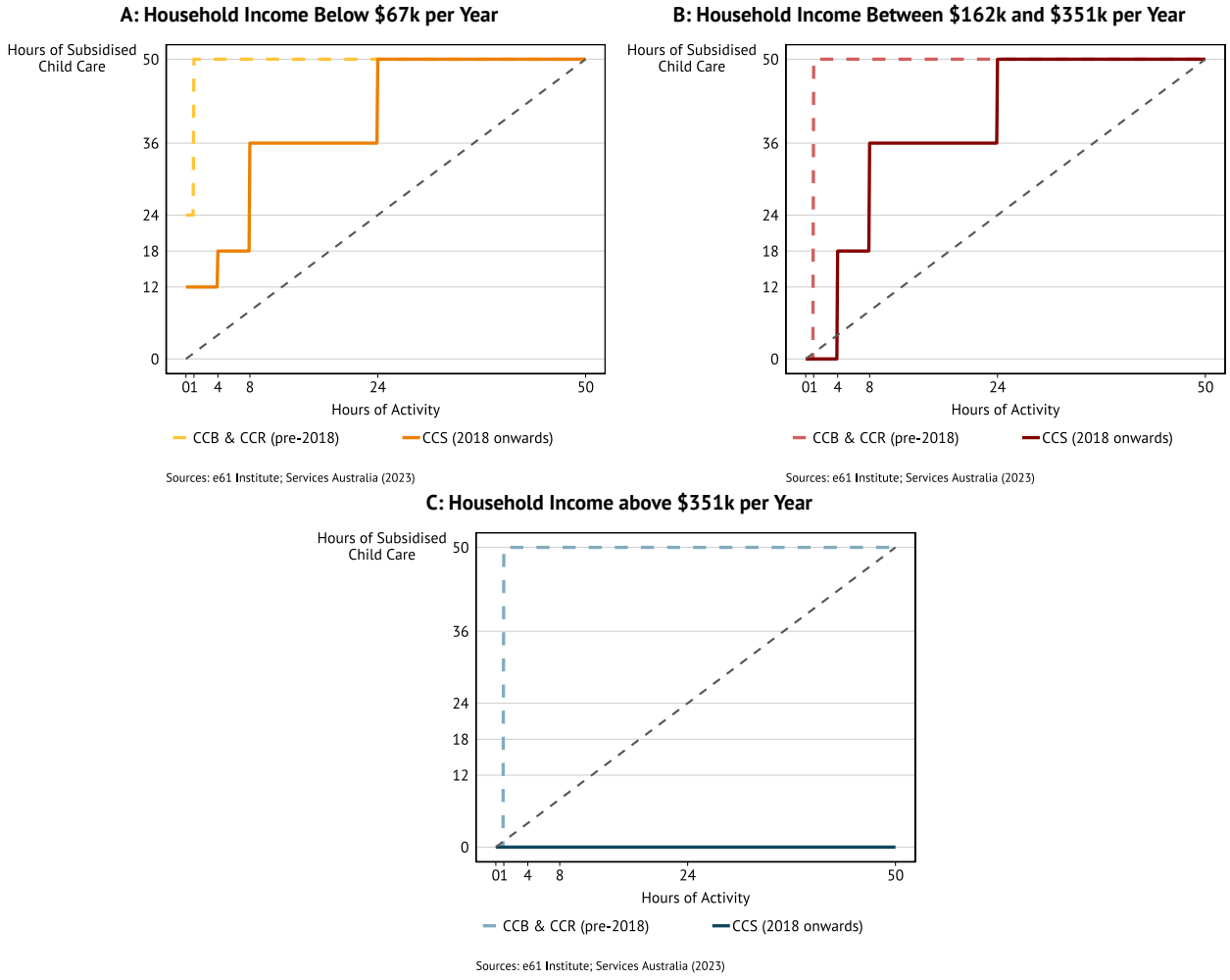
1. **Percent subsidy**: At the time of its introduction, low-income households (with a combined total income of $66,958 or less) saw the maximum subsidy rate, with 85% of their out-of-pocket child care costs covered under the scheme. The CCS gradually decreased with family income, and those households with a combined annual income of over $351,248 in 2018 were not eligible for any fee support. An annual subsidy cap of $10,190 per child was applied to all households earning over $186,958 annually. Further details regarding household income levels and corresponding subsidy rates for 2018 are outlined in Appendix Table A.2.[17] Figure 1A illustrates the percentage of child care subsidies families who use 18 hours of child care per week, are entitled to, across different household income levels, before 2018 (blue dashed line) and after 2018 (orange line). Overall, the 2018 reform provided more generous subsidies and made child care more affordable for households with a combined income below $200,000 per year. However, it reduced the generosity of subsidies, making child care relatively more expensive for households with a combined income of $250,000 per year.

17 Since its introduction in 2018, there have been some changes to the CCS. The $10,190 cap for higher-earning households was scrapped in Dec 2021. Changes in the taper rates came into effect in July 2023. These changes are not relevant for this analysis as we observe data until 2022.

2. **Annual cap**: the introduction of a higher annual cap meant that households could use more hours of care at their full subsidy rate every year. In general, higher-income households receive higher average subsidies if they use more hours of child care. Figure A.2A illustrates pre-and post-2018 Child care Subsidy introduction, showing shifts in the percentage of subsidies for households with different incomes when using 36 or 50 hours of child care per week.

3. **Activity Test Requirements**: in 2018 a new activity test was introduced. The number of child care hours eligible for a subsidy depends on the activity level of the "least active" member of a partnership, with hours of approved activity including work, study and training commitments. Figure A.3 shows the different hours of subsidies child care that parents with different household incomes were entitled to, by household income, before 2018 (dash line), and with the introduction of the 2018 reform (solid lines). Low-income households, namely those with a combined household income below $66,958, before the 2018 reform, with no hours of activity, were entitled up to 24 hours of child care per week. With the new reform in 2018, this household were only entitled to 12 hours of subsidies child care per week. The hours of subsidies child care per week would increase to 18 if the least active parents can demonstrate at least 4 hours of activity per week, and to 36 hours of subsidies child care if the hours of activity goes to 8 (Figure A.3C).

Figure A.3: Change in Activity Tests with the 2018 Child Care Reform



A.2.4 Other Australian Family and Welfare Payments

Each of these subsidies is part of a larger system of tax and transfer payments. For the sample of interest, other important payments include Family Tax Benefit Part A, a tax credit for households with children, which is means-tested and capped; Family Tax Benefit Part B, an additional tax credit for families where one partner does not work; Parenting Payment for low-income families with children; the Additional Child Care Subsidy (ACCS), targeted fee assistance in addition to the CCS available only to vulnerable families and children that meet specific criteria; and Newstart Allowance, an unemployment

benefit that was essentially a minimum income payment for low/no income individuals that could pay indefinitely, conditional on income and job search.

There were no significant changes to other relevant welfare payments during the years observed in our sample (2016-2021). Therefore, this paper focuses on the transition from the Child Care Benefit (CCB) and Child Care Rebate (CCR) to the Child Care Subsidy (CCS) as the primary child care subsidy. However, the relationship between child care subsidies and other welfare schemes likely affects mothers' incentives to work and the effective marginal tax rate.

A.2.5 Changes to the CCS since 2018

Since the implementation of the Child Care Subsidy in 2018, several key policy changes have been enacted with the aim of enhancing the subsidy system and improving access to child care.

A.2.5.1 Removal of the Annual Cap (2021)

Prior to December 10, 2021, families with a combined annual income exceeding $190,015 (indexed from the original 2018 threshold of $186,958) were subject to an annual cap of $10,655 per child on CCS payments. Once this cap was reached, families were required to cover the full cost of child care services. The Australian Government removed the annual cap in December 2021, allowing eligible families to receive subsidies without a yearly limit. This policy change was particularly beneficial for higher-income households with significant child care expenses, reducing their overall out-of-pocket costs and increasing affordability.

A.2.5.2 Higher subsidies for additional children (2022)

The Australian Government introduced higher Child Care Subsidy (CCS) rates for families with multiple children aged 5 or under on 7 March 2022. Under this measure, families earning under $354,305 per year, with more than one child aged 5 or younger in child care, became eligible for an increased CCS rate of 30% for their second and younger children, up to a maximum subsidy rate of 95%.

A.2.5.3 Cheaper Child Care Reforms (2023)

In July 2023, further reforms were implemented to increase subsidy rates and expand eligibility for the CCS, aiming to alleviate financial pressures on families and improve access to early childhood education. Income thresholds were expanded, with households earning up to $530,000 now eligible for some subsidy (up from the previous maximum income threshold of $356,756). The maximum subsidy rate was increased to 90% for families earning less than $80,000 per year, while the subsidy tapered gradually (reducing by 1% for every $5,000 earned) for families earning up to $530,000 per year. The higher rate for second and subsequent children remained, but it no longer applied to families with incomes over $356,756. These reforms were designed to make child care more affordable across a broader range of income groups.

A.2.5.4 Current Settings

Below are tables detailing the current structure of the Child Care Subsidy (CCS). These reflect all the changes described above, with slightly higher income thresholds. The indexation of income thresholds occurs annually, in line with the Consumer Price Index (CPI) adjustment.

Table A.4: Current CCS Settings: Household income and per cent subsidy eligibility

Household Annual Income ($)	Percent subsidy (%)
0–83,280	90
83,281–533,280	Decrease of 1p.p for every $5,000 earned
533,281+	0

Notes: Based on the eligibility criteria for 2024/25. Income thresholds are indexed to CPI annually.

Table A.5: Current CCS Settings: Household income and per cent subsidy eligibility for second and subsequent children

Household Annual Income ($)	Percent subsidy (%)
0–141,321	95
141,322–186,320	Decrease of 1p.p for every $3,000 earned
186,321–265,610	80
265,611–355,610	Decrease of 1p.p for every $3,000 earned
355,611–365,611	50
365,611+	Higher CCS rates no longer apply, all children in the family will get the standard CCS rate

Notes: Based on the eligibility criteria for 2024/25. Income thresholds are indexed to CPI annually.

Table A.6: Current CCS: Hours of activity and hours of subsidised care eligibility

Household Annual Income ($)	Fortnightly hours of activity	Fortnightly hours of subsidised care
0–83,280	0–8	24
83,281–533,280	0–8	0
0–533,280	8–16	36
0–533,280	16–48	72
0–533,280	>48	100

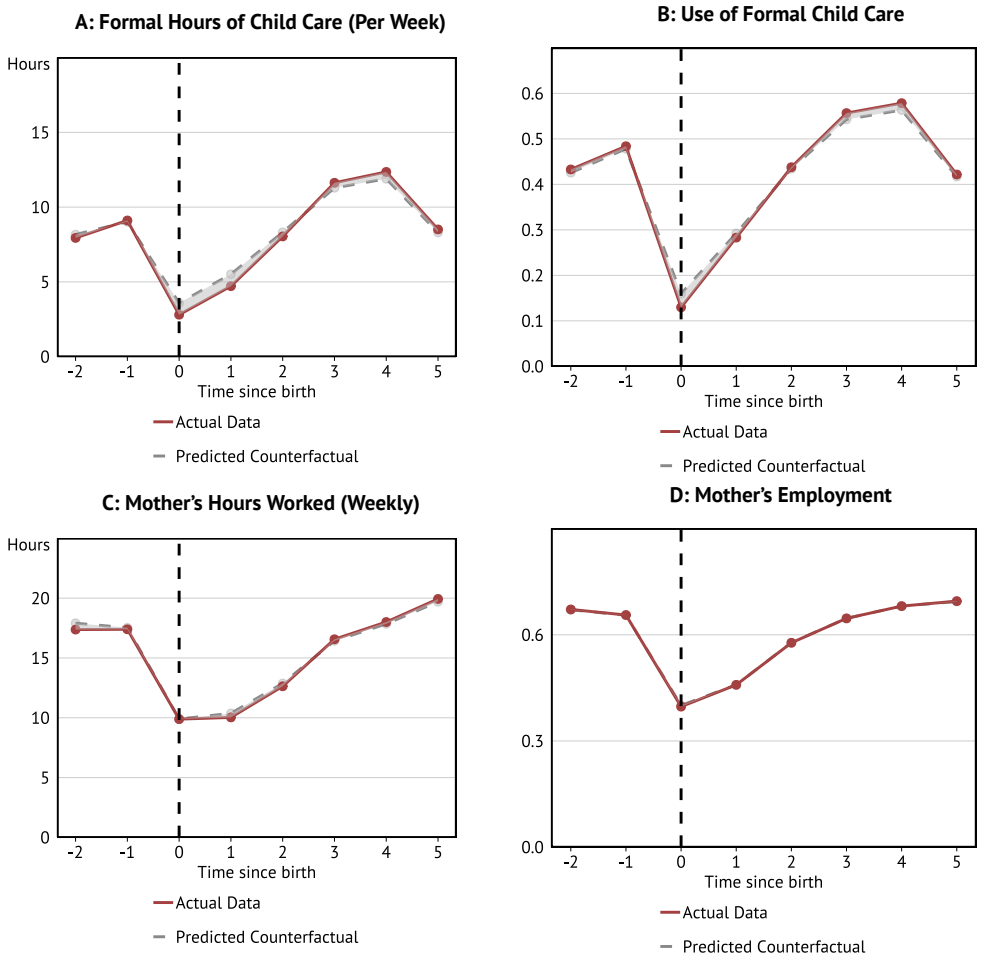
Notes: Activity level of the 'least active' member of a partnership determines fortnightly eligibility under CCS. Approved activity includes work, study, and training commitments. If you are receiving Carer Allowance you can access 72 hours of subsidised care per fortnight. If you have mutual obligation requirements you can access 36 hours of care per fortnight if you are getting one of either; JobSeeker Payment, Parenting Payment, or Special Benefit.

A.3. Model Effectiveness

To validate our approach for estimating counterfactual household behaviour, we compare the model's predictions against observed outcomes for households *unaffected by the reform*. This validation strategy relies on a simple principle: if our model effectively captures the relationship between household characteristics and outcomes (formal child care usage, maternal employment, and working hours), it should accurately predict the behaviour of untreated households.

The graphs demonstrate that our predicted outcomes closely match the observed behaviour of households unaffected by the Child Care Subsidy (CCS). This strong alignment between predictions and actual outcomes for the unaffected households suggests that our model successfully captures the complex relationships between household characteristics and behavioural outcomes. The model's accuracy in predicting untreated households' behaviour strengthens our confidence in its ability to estimate counterfactual outcomes for treated households – that is, how these households would have behaved in the absence of the 2018 reform. This validation provides robust support for our estimated treatment effects.

Figure A.4: Model Effectiveness - Comparison of Out-Of-Sample Prediction



A.4. Heterogeneity Analysis Results

To supplement the heterogeneity analysis discussed in Section , below we present the remaining heterogeneity results graphs for the outcome variables: use of formal child care and mother's employment.

Figure A.5: Heterogeneity by HH Income: Use of Formal Care

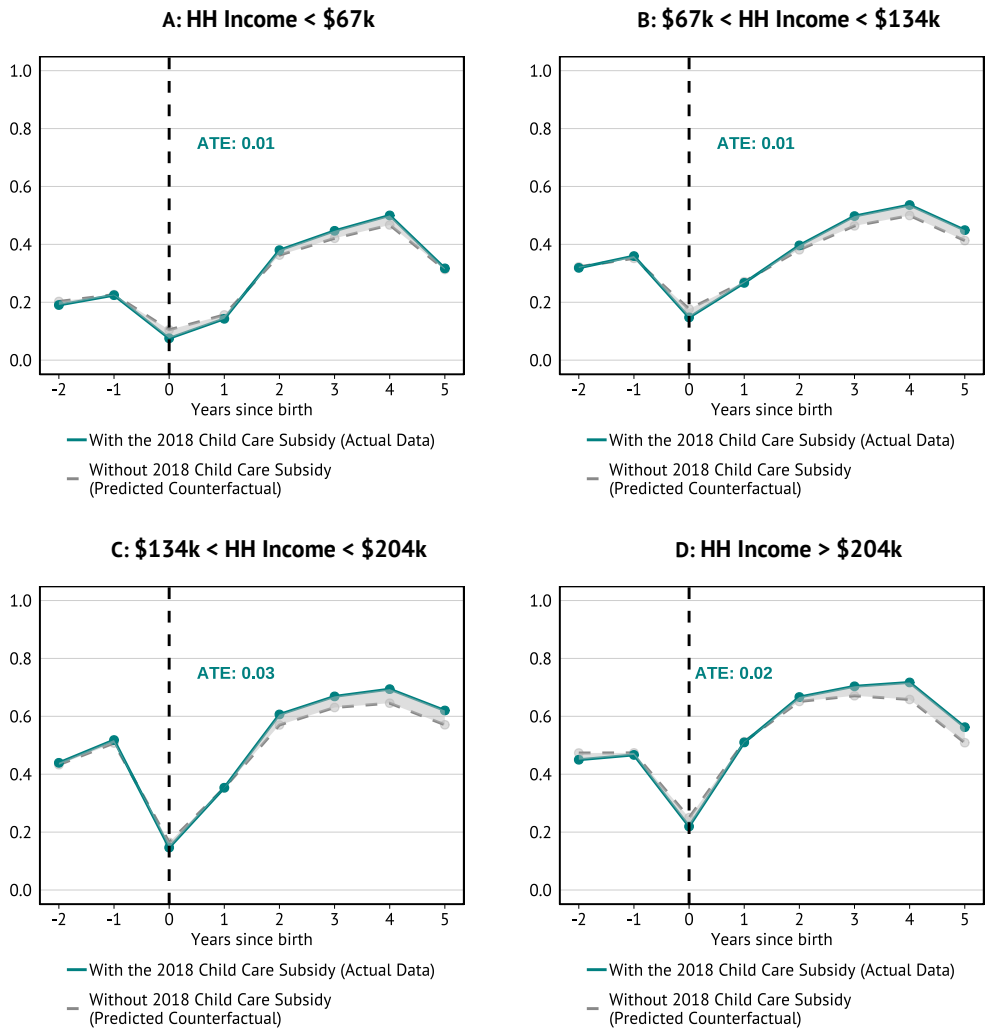
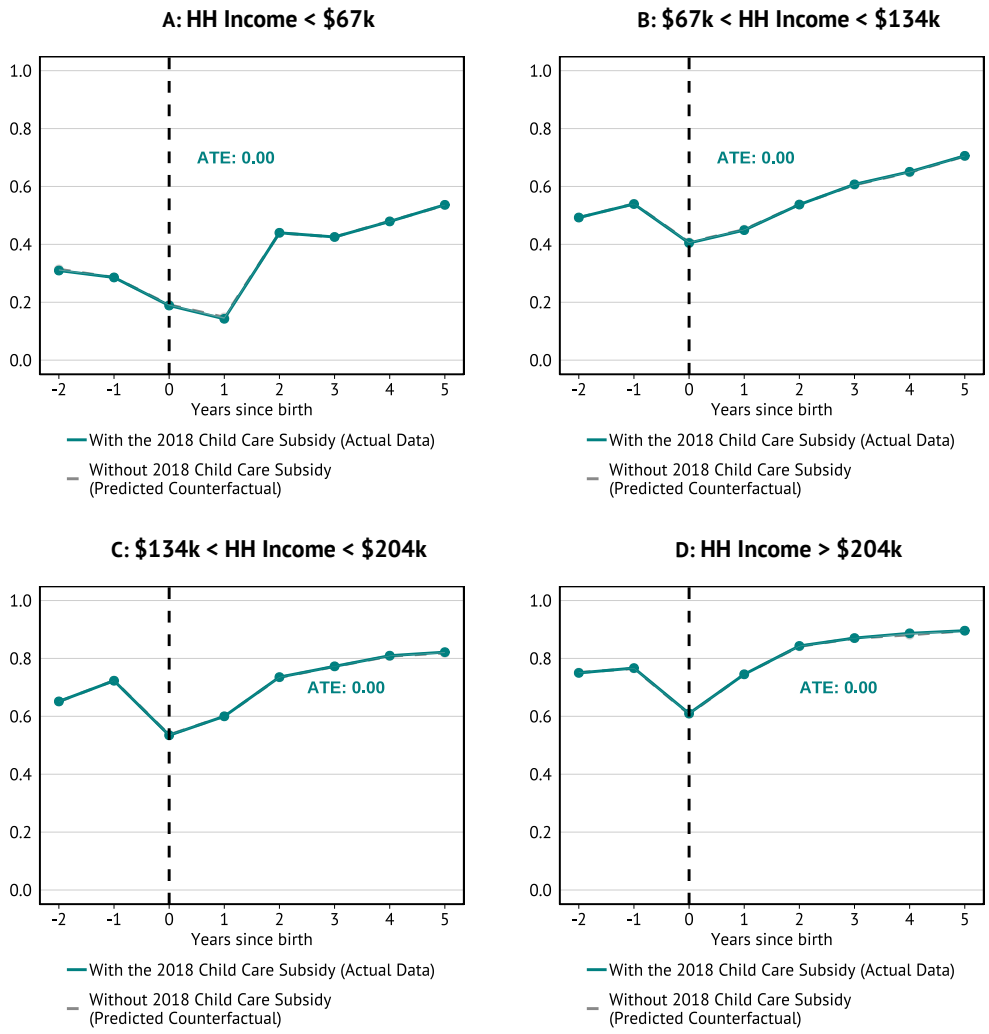


Figure A.6: Heterogeneity by HH Income: Mother's Employment



A.5. Supplementary Empirical Analysis

Identifying the effect of changes in child care subsidies on child care use and maternal labour outcomes is complex.

First, although different households experience varying changes in subsidies, these changes are endogenously dependent on the amount of child care used and household income. For instance, families with a household income of $200,000 experience different changes in child care subsidies based on the number of child care hours used (see Figure A.2). This means that a regression discontinuity analysis comparing households around a specific cut-off would not reveal the effect of child care subsidies because the thresholds depend on both household incomes and the number of child care hours used.

Secondly, because the reform affected all individuals in Australia simultaneously in 2018, identifying an appropriate control group is challenging. Consequently, our main analysis employs a machine learning approach to forecast counterfactual outcomes for affected households.

Yet, to further validate our estimates, we supplement our primary analysis with two additional empirical strategies. This additional analysis confirms the robustness of our findings and reinforces our confidence that we have isolated the causal effect of child care costs on both child care use and maternal labor market outcomes.

A.5.1 Event Study: Child-Side Analysis

In this empirical strategy, we compare children born before 2013, who at the time of the reform (2018) were too old to be in child care and therefore affected, with children born in 2013 or later, who were young enough to be in child care at the time of the reform, when they are 0 years old, several years before they born and when they are 1,2,3...-years old.

In particular, we estimate the following regression:

$$Y_{itk} = \alpha_i + age_{itk} + \sum_{k=-4}^{7} \beta_k age_{t-k} \times Treatment_i + \theta_k X_{itk} + \epsilon_{itk} \quad \forall k \in \{-3, -2, ..., 4\} \tag{1}$$

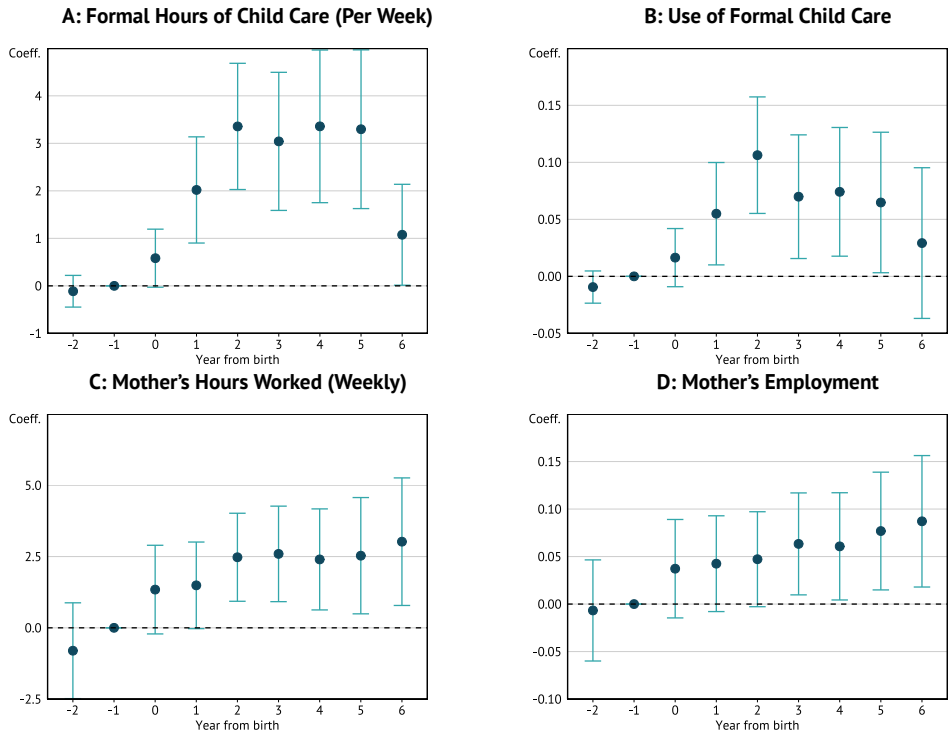
where α_i represents child *i* FE, age_{itk} represent the age of child *i* at time *t* at age k *k*, Treatment is a dummy variable indicating whether the children below to the treatment group as opposed to the control one. We include only younger children, as we want to avoid differences in fertility between control and treatment to drive our results. X_{itk} represents a set of controls like a second-order polynomial function for maternal and paternal age, parental educational attainment, a dummy for parental place of birth and place of education, language spoken at home and a dummy for indigenous status, state dummies, regional dummy, number of siblings, average age of siblings, parents separated dummy. Standard errors are clustered at the child level.

β_k represents how the reform affects children in the control and treatment groups at different ages for each of the outcome variables of interest (formal and informal care use and hours, the use and hours spent by the children with grandparents as informal child care, and maternal labour force participation, hours worked and wages).

There are two important aspects that may prevent this method from capturing the causal effect of change in child care subsidies. Firstly, in our specification, we compare children in the control and the treatment cohort at the same age from five years before they were born and seven years after. Namely, we are comparing children born in different years. Since the use of child care is likely to have a time dimension effect, this estimation is likely to capture both the causal effect of the reform and a cohort effect. The identification strategy presented in Appendix A.5.2 aims to overcome this issue by isolating the effect of the reform from a cohort effect.

Secondly, children in the treatment group born between 2013 and 2018 will be affected by the reform only for a short period. For example, a child born in 2013 could be 5 years old in 2018 and therefore will be in child care only for the next year. This is likely to downward bias our estimate, as a group of children in the treatment group are only partially treated. Nevertheless, we run a robustness check where we include in the treatment group only children born after 2018, who will be affected by the reform for the entire time they spend in child care.

Figure A.7: Event Study Results



A.5.1.1 Event Study: Results

The coefficient on the interaction term, *TreatXAfter Birth*, measures the direction and magnitude of the child care demand and labour supply effects due to the implementation of the CCS. Below, Table A.7 presents the impact of the 2018 reform on the child care demand and labour supply decisions of the mothers of treated children, and Graph A.7 presents a graphical representation of the results.

The results of this analysis are somehow similar to the one of the main analysis. The CCS has significantly but small impacted the weekly demand for formal care of those treated by the policy. The CCS increased the weekly hours of formal care demanded by 2.67 hours (2 hour and 40 minutes) per week. This effect is statistically significant at the 1 per cent level. Participation in formal care also increased by 7.6 percentage points for this group, significant at the 1 per cent level.

Treated mother's weekly hour's worked increased by 2.88 hours (2 hours 53 mins), significant at the 1% level, and mother's labour participation increased by 6.8 percentage points, also significant at the 1% level.

While this alternative event study specification yields larger effect sizes compared to our baseline estimates, this methodological approach has notable limitations in controlling for cohort effects that may influence our outcome variables. The cross-sectional comparison of mothers with same-aged children across different years inherently incorporates wider trends in maternal labour force participation and child care demand, potentially confounding our estimates. Although this supplementary analysis provides valuable contextual insights, we maintain methodological reservations about it's capacity to isolate the causal effect of the Child Care Subsidy (CCS) from broader temporal patterns.

Table A.7: Supplementary Estimation Results: Event Study

	Main Reg.	Always/Never Treated	Full Controls	Excl. High Inc. HHs
	(1)	(2)	(3)	(4)
		Formal Hours of Childcare (per Week)		
Treat X After Birth	2.667***	3.689***	2.539***	2.610***
	(0.414)	(0.528)	(0.416)	(0.431)
		Formal Childcare (Use)		
Treat X After Birth	0.076***	0.109***	0.070***	0.072***
	(0.017)	(0.019)	(0.017)	(0.017)
		Informal Hours of Childcare (per Week)		
Treat X After Birth	0.206	0.344	0.138	0.129
	(0.264)	(0.340)	(0.264)	(0.257)
		Informal Childcare (Use)		
Treat X After Birth	0.048***	0.081***	0.038**	0.036**
	(0.017)	(0.020)	(0.017)	(0.018)
		Mother Employment		
Treat X After Birth	0.068***	0.080***	0.021**	0.023**
	(0.019)	(0.020)	(0.010)	(0.011)
		Maternal Labour Supply: Hours Worked per Week		
Treat X After Birth	2.881***	2.977***	1.944***	2.091***
	(0.615)	(0.669)	(0.507)	(0.539)
Obs	17,727	12,702	17,727	16,158
Controls	Yes	Yes	Full	Full
Year FE	Yes	Yes	Yes	Yes
MotherFE	Yes	Yes	Yes	Yes

Notes: This table presents the estimates for the interaction term, TreatXAfter Birth, in model (1). Column 1 displays the baseline regression results. Column 2 reports the results when the treatment group is restricted to children born after 2018, who are expected to be affected by the reform throughout their entire period in child care. Column 3 shows the results when a full set of controls is included, while Column 4 shows the results when higher-income households—who never experience cheaper child care after the 2018 reform—are excluded from the analysis.

A.5.2 Difference in Differences: Mother-Side Analysis

To isolate the effect of the change in child care costs, we adopt an alternative identification strategy. We employ a difference-in-differences framework, using women whose youngest children were born before 2013 as the control group. At the time of the reform, these mothers were unaffected because their youngest child was too old for child care.

The treatment group consists of mothers whose youngest children were born in 2013 or later; these mothers were affected by the reform, as their children were young enough to be in child care when the policy change took place.

Unlike our previous approach—which compared outcomes in different years relative to the child's birth—this strategy compares outcomes for both groups in the same years before and after the reform. This design allows us to isolate the causal impact of the reform on child care use and related outcomes.

In particular, we estimate the following model:

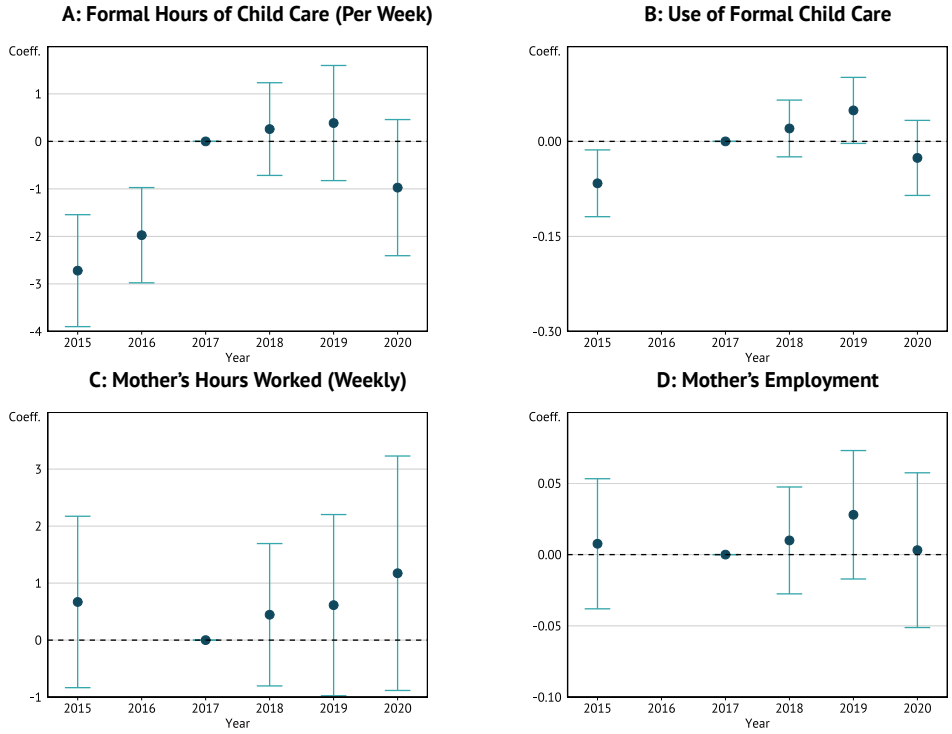
$$Y_{it} = \beta_0 + \beta_1 Treatment_i + \beta_2 year_t + \beta_3 Treatment_i \times year_t + \theta X_{it} + \epsilon_{it} \quad (2)$$

where Y_{it} represent the outcome of mother i in time t. *Treatment* is a variable indicating whether the mother belongs to the treatment group, as opposed to the control one, year is a variable indicating the year, while X_{it} represent a set of controls like a quadratic function for maternal age, educational attainment, birth and education place, indigenous status, state and regional FEs, number of children, age of the oldest child, and a single parent dummy.

One possible concern with this identification is that women in the treatment and control groups are different. First, women with school-aged children will be more able to participate in paid work. Secondly, child care use within this group is very limited and not comparable with the one of mothers in the treatment group. Yet, this strategy is likely to isolate the effect of the reform from the cohort effect, as it compares mothers of same age in different years.

A.5.2.1 DiD: Results

Figure A.8: Difference-in-Differences Results



The coefficient on the interaction term, *TreatXPost*, measures the direction and magnitude of the child care demand and labour supply effects due to the implementation of the CCS. Below, Table A.8 presents the impact of the 2018 reform on the child care demand and labour supply decisions of women with children aged 0-5 who are not yet at school, and Graph A.8 presents a graphical representations of the results.

The results indicate that the CCS has significantly impacted the weekly demand for formal care of women with preschool-aged children. The CCS increased the weekly hours of formal care demanded by 1.54 hours (1 hour and 32 minutes) per week. This effect is statistically significant at the 1 per cent level. Participation in formal care also increased by 5 percentage points for this group, significant at the 5 per cent level.

The results for out main regression suggest that the labour supply response of mothers with preschool children was not statistically different from zero, similar to the results in our main analysis.

Table A.8: Supplementary Estimation Results: Difference in Differences

	Main Reg.	2015-2019	Full Controls	Excl. High Inc. HHs
	(1)	(2)	(3)	(4)
	Formal Hours of Childcare (per Week)			
TreatXPost	1.532***	1.148**	1.514***	1.631***
	(0.510)	(0.490)	(0.503)	(0.516)
	Formal Childcare (Use)			
TreatXPost	0.051**	0.028	0.050**	0.052**
	(0.021)	(0.021)	(0.021)	(0.022)
	Informal Hours of Childcare (per Week)			
TreatXPost	-0.453	-0.273	-0.473	-0.451
	(0.337)	(0.343)	(0.336)	(0.343)
	Informal Childcare (Use)			
TreatXPost	-0.027	-0.035	-0.028	-0.028
	(0.023)	(0.025)	(0.023)	(0.023)
	Maternal Labour Supply: Hours Worked per Week			
TreatXPost	0.439	0.064	0.339	0.631
	(0.758)	(0.718)	(0.673)	(0.774)
	Mother Employment			
TreatXPost	0.013	0.004	0.009	0.017
	(0.020)	(0.020)	(0.012)	(0.021)
Obs	10,770	7,829	10,770	10,264
Controls	Yes	Yes	Full	Yes
Year FE	Yes	Yes	Yes	Yes

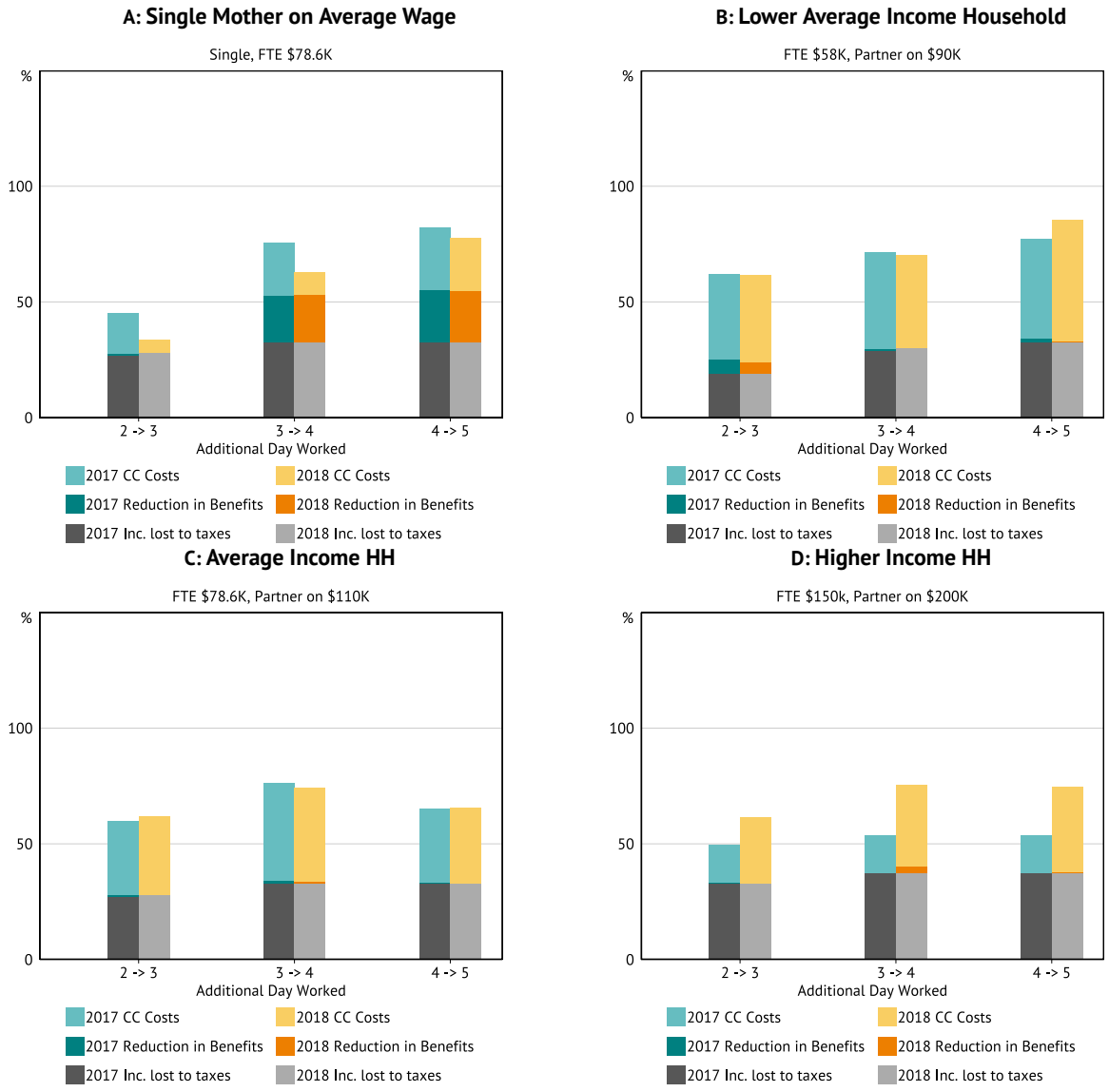
Notes: This table presents the estimates for the interaction term, TreatXPost Birth, in model (2). Column 1 displays the baseline regression results. Column 2 reports the results when the treatment group is restricted to children born after 2018, who are expected to be affected by the reform throughout their entire period in child care. Column 3 shows the results when a full set of controls is included, while Column 4 shows the results when higher-income households—who never experience cheaper child care after the 2018 reform—are excluded from the analysis.

A.6. Workforce Disincentive Rates : Other household types

The Workforce Disincentive Rates (WDRs) for additional workdays across various household structures are presented below. Consistent with the patterns illustrated in Figure 6, our analysis reveals that the Child Care Subsidy (CCS) implementation had minimal impact on WDRs for households in the lower to middle-income segments. Notably, the fourth and fifth workdays

consistently exhibit higher WDRs across all income levels, suggesting a structural bias toward part-time employment among secondary earners (predominantly mothers in heterosexual partnerships) and single parents. This pattern indicates persistent barriers to full-time workforce participation for these demographic groups.

Figure A.9: Workforce Disincentive Rates



A.7. HILDA Data Use Disclaimer

This document uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The unit record data from the HILDA Survey was obtained from the Australian Data Archive, which is hosted by The Australian National University. The HILDA Survey was initiated and is funded by the Australian Government Department of Social Services (DSS) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views based on the data, however, are those of the authors and should not be attributed to the Australian Government, DSS, the Melbourne Institute, the Australian Data Archive or The Australian National University and none of those entities bear any responsibility for the analysis or interpretation of the unit record data from the HILDA Survey provided by the authors.