

How Successful Are Childcare Subsidy Reforms in Promoting Childcare Usage and Maternal Employment in Australia?

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Abstract

Although it is widely believed that expanding childcare subsidies can increase maternal labour force participation, evidence on the effectiveness of such policies in the Australian context remains limited. We provide new evidence on this relationship using a difference-in-differences approach, leveraging rich Australian panel data and the increase in childcare subsidies introduced by the 2022 Child Care Subsidy (CCS) reform. Our findings show that formal childcare participation and hours of usage increased significantly following the reform; however, there are no robust or significant effects on maternal labour supply, either on the extensive or intensive margin. These results align with a recent body of research suggesting that while childcare subsidies can substantially increase childcare utilisation, their effects on maternal employment are often limited or context-dependent.

Keywords: Child Care Subsidy; Maternal Employment; Childcare Usage; Difference-in-Differences; Australia.

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1 Introduction

Globally, maternal participation in the paid workforce has increased substantially in recent decades, intensifying the demand for accessible and affordable childcare services, particularly among dual-earner families.¹ In response, many governments have implemented or expanded childcare subsidies to support families. For example, in Australia, federal investment in the Child Care Subsidy (CCS) has risen sharply in recent years, reaching \$14.8 billion in 2024, up from \$9.4 billion in 2021 (Department of Education, Australian Government, 2025).

Despite this substantial and growing public investment, a critical question remains: are these subsidies achieving their intended goals? Policymakers often expand childcare subsidies without clear causal evidence that they increase childcare use or parental employment. The scarcity of rigorous causal estimates largely reflects two key constraints. First, many jurisdictions offer little exogenous policy variation suitable for identification; free or heavily subsidised childcare systems in parts of Europe, for example, leave little cross-policy variation (Baker et al., 2008). Second, the comprehensive and linked data required for credible analysis are often unavailable: in the United States, universal preschool programs in Oklahoma, Florida and Vermont remain difficult to evaluate at national scale because of data constraints (Baker et al., 2008). A further challenge is that maternal employment and childcare use frequently respond to concurrent reforms, local conditions and broader economic trends, which complicates efforts to isolate the causal impact of subsidies².

This paper helps close the gap between research and policy by providing new causal evidence on the effectiveness of a major childcare subsidy reform. We examine Australia’s 2022 Child Care Subsidy (CCS) reform, which increased subsidy rates for many families. Using nationally representative Australian longitudinal survey data and quasi-experimental methods that exploit variation introduced by the 2022 reform, we study how this policy change affected mothers’ labour market outcomes and formal childcare use in the short run. Our results indicate that the CCS expansion led to significant increases in formal childcare utilisation, while the effects on maternal labour market outcomes tend to be insignificant. Additional heterogeneity

¹In the United States, 69.3% of children under age six had all available parents in the workforce in 2023, up from 64.6% in 2010 (U.S. Census Bureau, 2024). In Canada, the share of couples with children under six where both parents worked rose from 46.5% in 1991 to 68.3% by 2021 (Battams & Mathieu, 2024). In Australia, childcare attendance among children aged 0–4 increased by around 70% between 1999 and 2017 (Australian Institute of Health and Welfare, 2023)

²See Lefebvre and Merrigan (2008) for a discussion of the importance of isolating childcare policy effects from concurrent reforms and economic trends.

analysis suggests that the impact of the reform varies by household income, with greater effects observed among families with higher income.

Australia is a particularly fitting setting for this study, as it addresses the challenges of data availability and policy variation that often limit causal analysis in other contexts. Moreover, childcare provision remains a prominent policy issue, with Australian families facing some of the highest out-of-pocket costs in the OECD—approximately 26% of average earnings (Organisation for Economic Co-operation and Development, 2022). The economic burden is especially pronounced for women, whose earnings decline by 55% within five years of parenthood (Bahar et al., 2023). Crucially, Australia has a nationally representative longitudinal dataset called the Household, Income and Labour Dynamics in Australia (HILDA) Survey that enables rigorous analysis by providing detailed information on family circumstances, employment, and childcare use. Finally, Australia has implemented a series of major childcare policy reforms since 2004, creating substantial policy variation across families and over time. This combination offers an opportunity to examine the impact of subsidy reforms on maternal labour supply and childcare utilisation.

Historically, Australian subsidies primarily provided generous support to low-income families and tied the number of subsidized childcare hours to the amount of time the least active parent spent working or studying.³ The 2022 reform, however, introduced a distinct policy innovation: it substantially increased subsidy rates for families with two or more children aged 0–5 in formal childcare, while leaving most other eligibility criteria unchanged. This policy shift generates quasi-experimental variation that we exploit to identify the causal effects of increased public investment in childcare.

Our analysis uses longitudinal data from the HILDA survey and applies two complementary difference-in-differences (DID) approaches—one based on child age and one based on calendar year—to estimate the impact of the reform on mothers' labour supply and formal childcare utilisation. To address potential confounding from earlier policy changes, we focus on families with multiple young children, who were uniquely affected by the 2022 reform and largely unaffected by prior subsidy expansions. By employing both age-based and year-based DID specifications, we estimate reform effects in relation to both a child's birth and the timing of the policy change. This dual approach enables us to identify causal impacts and assess the presence of differential pre-trends, thereby strengthening the validity of the parallel trends assumption

³Families with more activity hours are eligible for a greater number of subsidised care hours per fortnight.

underlying the DID analysis.

We find that the 2022 CCS expansion led to substantial increases in formal childcare use, with average hours in formal care increasing by 31–32% (2.38–2.44 hours) and participation rates increasing by 23–28% (8.9–11 percentage points), relative to the control group mean. These effects are robust across alternative models and consistent in both age-based and year-based DID approaches. In contrast, the estimated effects on maternal labour market outcomes are more mixed; however, in the model we consider to be better identified, the results tend to be insignificant. Heterogeneity analyses show that increases in childcare use were concentrated among middle- and higher-income families, while effects for lower-income families were not statistically significant. Effects on maternal labour market outcomes were generally insignificant across all income groups.

Our findings complement the existing literature on the effects of childcare costs on maternal employment and the use of formal care (Connelly and Kimmel, 2003; Doiron and Kalb, 2005; Kalb and Lee, 2008). While earlier international research has found that childcare subsidies tend to increase both childcare participation and mothers' labour supply (Baker et al., 2008; Lefebvre & Merrigan, 2008), more recent studies—particularly from Norway and Australia—suggest that such subsidies do not always translate into higher maternal employment (Black et al., 2014; Clarke et al., 2025). Our results are consistent with this emerging pattern: we observe robust increases in formal care use following the 2022 CCS reform, particularly among higher-income families, but little impact on maternal labour supply. The reasons for this muted response in maternal employment remain an open question. Section 2 provides a more detailed review of existing research in this area.

We contribute to this literature by leveraging Australia's unique policy context, which combines rich longitudinal data with substantial policy variation. By overcoming common limitations in cross-country studies—such as data constraints and challenges in policy identification—our study provides new, robust evidence on the effects of childcare subsidies. Furthermore, we examine a broader reform that specifically targets families with multiple young children, enabling us to address new questions about how large-scale, multi-child oriented subsidies affect maternal employment and childcare usage—an area rarely explored in existing research.

The remainder of this thesis is structured as follows. Section 2 reviews relevant international and Australian literature, identifies key gaps, and frames the contribution of this study. Section

3 describes the institutional context of Australian childcare policy. Section 4 outlines the data and summary statistics. Section 5 details the empirical strategy and identification approach. Section 6 presents the results, including heterogeneity analysis by income group and robustness checks. Section 7 concludes and offers recommendations for future research.

2 Literature Review

A growing body of literature has examined the relationship between childcare costs and maternal employment. This section highlights key findings and methodological approaches from both Australian and international studies, providing context for the current study.

2.1 International Literature

A growing body of international research, particularly from the US and Canada, shows that lowering childcare costs leads to higher maternal employment. Meanwhile, robust causal evidence on the effectiveness of specific childcare reforms remains less common, emerging mainly from quasi-experimental approaches such as difference-in-differences (DiD) designs.

Connelly and Kimmel (2003) use US SIPP data and a bivariate probit model to show that higher childcare costs significantly reduce employment and increase welfare dependency among single mothers, with employment elasticities between -0.3 and -1.1 and welfare elasticities between 1.0 and 1.9. Policy simulations reveal that a 50% universal subsidy would raise employment from 48.5% to 74.7% and reduce welfare reciprocity from 40.2% to 12.9%, while a comparably sized means-tested subsidy yields smaller gains but at lower cost. The study highlights trade-offs between universal and targeted designs and shows that tying subsidies to welfare reductions can yield substantial savings.

Canadian evidence by Baker et al. (2008) using DiD analysis of NLSCY data, finds that the introduction of \$5-a-day care increased maternal employment by 7.7 p.p and formal care use by 14–15 points relative to other provinces. However, they also document negative consequences for child behaviour, parental mental health, and relationship quality. Complementary evidence from Lefebvre and Merrigan (2008), who leverage annual panel data from SLID and explicitly account for pre-policy trends, regional variation, and the gradual rollout of subsidised spaces, finds that the same policy increased maternal labour force participation by 8 percentage points, hours worked by 231 annually, and work weeks by over five per year. Their design

features—including granular controls, dynamic modelling of policy exposure, and discussion of overlapping reforms—offer a methodological blueprint for isolating the effects of childcare changes in complex policy environments.

In contrast, Black et al. (2014) study means-tested childcare subsidies in Norway, exploiting a sharp regression discontinuity at municipal income cutoffs. They find no effect on maternal employment or formal care use—likely because most families were already using formal care. However, the subsidy significantly improved children’s academic outcomes, suggesting that when labour supply is unresponsive, childcare subsidies may function mainly as income support rather than employment incentives.

Finally, Baker et al. (2023), employing a DiD/event-study framework with Canadian administrative tax and labour force data, show that the introduction of the Canada Child Benefit (CCB) reduced child poverty by 11% among single-mother families and 17% among two-parent families, with particularly large gains for multi-child and lower-education households. Crucially, the CCB did not produce significant negative effects on maternal employment, reinforcing the potential for unconditional child payments to improve family outcomes without creating work disincentives.

This study contributes to the international literature on childcare subsidies by examining the effects of a targeted policy reform for families with multiple young children—a group often overlooked relative to the universal or income-targeted approaches that have dominated both policy and research. Leveraging Australia’s distinctive policy environment and rich longitudinal data, we employ quasi-experimental methods to provide robust causal evidence on how large-scale, multi-child-oriented subsidy changes affect maternal employment and childcare use. By illuminating how these alternative subsidy designs function in practice, our findings offer insights into the effectiveness of childcare policies for diverse family types and contribute new perspectives to global debates on supporting maternal labour force participation.

2.2 Australian Literature

Australian studies offer mixed evidence on how childcare costs shape partnered mothers’ employment. Doiron and Kalb (2005), using microsimulation techniques on the 1996 ABS Child Care Survey and SIHC, find that a 10% increase in childcare costs leads to a reduction in labour force participation of about 0.2% for partnered women and 0.5% for lone parents. Building on this work, Kalb and Lee (2008) employ newer data (2002–03 SIH), more sophisticated mod-

elling of cost uncertainty, and improved treatment of subsidies. Their results are similar, with effects on hours and participation remaining very small (less than -0.03).

Similarly, Rammohan and Whelan (2005) use HILDA survey data and statistical models that account for differences in who pays for childcare and who works, examining how predicted childcare costs relate to partnered mothers' participation and hours. They find little impact: a \$1/hour increase in cost reduces the likelihood of employment by 2 percentage points (elasticity ≈ -0.12), though this effect is not statistically significant. Hours worked are likewise unaffected. In a follow-up study, Rammohan and Whelan (2007) investigate whether childcare costs influence the choice between full-time and part-time work, again finding no significant effect and elasticities close to zero.

In contrast to these earlier findings, Breunig et al. (2012) argue that previous estimates were affected by measurement error in childcare prices. Using improved data from HILDA (2005–2007) and the Labour Force Survey, they report statistically significant negative elasticities (0.29 for employment and 0.65 for hours worked), results that are more consistent with international evidence.

More recently, Clarke et al. (2025) assessed the 2018 Child Care Subsidy reform, which sought to better support low- and middle-income families through a redesigned subsidy schedule and stricter activity tests. Using HILDA survey data, they apply causal inference and machine learning methods to evaluate policy impacts. Their analysis finds no measurable effect on maternal labour supply and only modest increases in formal childcare use, with low-income households seeing no gains. These muted effects are attributed to design flaws—particularly, stricter activity tests that excluded many low-income families from subsidies, as they did not meet the required hours of work or study—and systemic disincentives in the tax-transfer system that reduced the financial benefits of additional work, such as the loss of tax rebates.

For the Australian context, this research provides the first rigorous causal evaluation of the 2022 Child Care Subsidy reform. By leveraging rich longitudinal data and robust quasi-experimental methods, we disentangle the effects of this recent policy change from those of earlier reforms, addressing the notable lack of rigorous causal analysis of major childcare subsidy reforms in Australia—particularly for policies targeting families with multiple young children. Our approach offers a clearer understanding of how a large-scale, multi-child-oriented subsidy reform influences maternal employment and childcare use, generating actionable insights to inform the development of future childcare policies in Australia.

3 Institutional Setting: The 2022 CCS reform

The following section outlines the policy context and key features of the 2022 CCS reform, providing background for the subsequent empirical analysis.

3.1 Background

The Australian Government has supported early childhood education and care (ECEC) through a series of subsidy reforms since 2004, aiming to address rising costs and encourage maternal employment.⁴ These efforts have culminated in a system that is both means-tested and activity-tested: subsidy rates decrease as household income increases, and the number of subsidised care hours depends on the parent's level of recognised activity (such as paid work, study, or volunteering).⁵ By directly linking subsidy eligibility to labour market participation, the system is designed to promote maternal employment. Further details on past subsidy rates and eligibility criteria are provided in Appendix Table A.1 and Table A.2.

3.2 The 2022 Child Care Subsidy Reform: Key Changes

The core features of the previous subsidy structure—including the means-tested subsidy schedule and activity-based eligibility—remained unchanged with the 2022 reform. The key exception was a substantial increase in subsidies for families with multiple children. Specifically, households with more than one child aged five or under and a family income below \$354,305 became eligible for a subsidy rate up to 30 percentage points higher for the second and subsequent children, with a maximum subsidy of 95%. The first child in care continued to receive the standard subsidy rate. Other key elements of the CCS—such as income thresholds and the activity test—remained unchanged from the previous reform, allowing observed impacts to be attributed to the targeted increase for multiple children. This policy change forms the basis of the empirical analysis in Section 5. Further details on subsidy rates and eligibility under the 2022 CCS are provided in Appendix Tables A.3 and A.4.

⁴This support began with the introduction of the Child Care Benefit (CCB) in 2001 and the universal Child Care Rebate (CCR) in 2004, which provided financial assistance based on income, number of children, and parental work or study activity. In 2018, the CCB and CCR were consolidated into a single, streamlined scheme—the Child Care Subsidy (CCS).

⁵Families only receive the specified number of fortnightly hours of subsidised care if they meet the corresponding activity hours (e.g., 0–8 hours of activity qualifies for 24 hours of subsidised care per fortnight).

4 Data

This study uses data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey, Restricted Release 23, which contains data from the years 2001 to 2023. HILDA is a nationally representative longitudinal panel that tracks approximately 17,000 individuals in 9,500 households annually, collecting detailed information on childcare use, labour market outcomes, income, and household and individual characteristics. For this analysis, we restrict the sample to waves 13 to 23 (2013–2023), spanning periods before and after key childcare subsidy reforms. Key variables include parental education, employment status, household income, childcare usage, child age, household structure, region, and a range of individual and household controls such as gender, occupational code, SEIFA index, and the number of hours spent on work and other activities.

Descriptive statistics for the main variables used in the analysis are presented in Table 1. On average, mothers in the sample work 16.7 hours per week, with an employment rate of 61%. Among those employed, the average weekly hours increase to 27.4. Households report an average of 8.3 hours of formal childcare per week, with 39% of households using formal care. Among families who use childcare, the average usage rises to 21.2 hours per week. The average household has 2.01 children and a mean annual income of \$158,233. In couple families, fathers have an employment rate of 91%.

The descriptive patterns in our sample reflect important features of the Australian labour market that are particularly relevant for understanding maternal employment responses. While maternal employment is relatively high at 61%, mothers work substantially fewer hours than fathers (16.7 hours on average), reflecting a high prevalence of part-time work. This pattern may be driven by structural labour market constraints including workplace inflexibility and the motherhood penalty—lowered working hours and employability after the first child.

Summary statistics from the sample align with national benchmarks. Maternal employment (61%) matches AIFS estimates for couple mothers with children, which range from 58-69% depending on child age (Baxter, 2023). Similarly, fathers' employment (91%) and weekly earnings are consistent with national averages (Baxter, 2023). Formal childcare participation (39%) and average usage among users (21 hours per week) are slightly below national figures of approximately 46% participation and 25 hours per week—likely reflecting differences in measurement or sample composition (Department of Education, Australian Government, 2021). Overall, the sample appears broadly representative of Australian dual-parent households.

5 Empirical Strategy

This section describes our empirical approach to estimating the impact of the 2022 multi-child Child Care Subsidy (CCS) reform on parental labour supply and childcare use. We employ two complementary difference-in-differences (DiD) strategies, comparing changes in outcomes over time between families affected by the reform and those unaffected, while controlling for fixed differences across groups and general time trends. Throughout our analysis, we conduct robustness checks to ensure the credibility of our findings.

We begin by introducing the age-based difference-in-differences (DiD) framework. First, note that children born in 2017 or later are aged 0–5 in 2022 and are directly affected by the 2022 CCS reform, while those born before 2017 are aged 6 or older and are unaffected. In this specification, the treatment group comprises of multi-child households with at least two children in childcare, both born in 2017 or later—ensuring eligibility for the increased subsidy for a second child under the reform. The control group includes multi-child families with, at most, one child in formal childcare in 2022: either only one child born in 2017 or later, or all children born before 2017. These households are not eligible for the increased subsidy for a second young child.

By focusing on multi-child families and centering the analysis on the eligibility of the second child, we can attribute differences in outcomes to the targeted subsidy increase, since the subsidy for the first child remained unchanged from previous reforms. Specifically, we compare outcomes for the second child in both treatment and control families at various ages, ranging from several years before birth to early childhood (e.g., ages -2, -1, 0, 1, 2, 3). We estimate the following regression:

$$Y_{itk} = \alpha_i + \text{age}_{itk} + \sum_{k=-4}^6 \beta_k (\text{age}_{t-k} \times \text{Treatment}_i) + \theta_k X_{itk} + \varepsilon_{itk} \quad (1)$$

$$\forall k \in \{-3, -2, \dots, 4\}$$

where Y_{itk} denotes the outcome variable of interest (such as weekly hours of formal child care or maternal labour force participation), age_{itk} captures the age k of child i at time t , allowing the model to account for age-specific effects on outcomes. Treatment_i is an indicator variable equal to one if child i belongs to the treatment group and zero otherwise. The vector X_{itk} includes a rich set of control variables, such as parental age, parental place of birth and place of education, state and regional dummies, Indigenous status, number of siblings, and an indicator for whether

the parents are separated. α_i represents child-level fixed effects, which absorb all time-invariant unobserved characteristics of the child and their household. Finally, the coefficients β_k capture how the effect of the reform differs between children in the treatment and control groups at each age k . We limit the analysis to younger children to avoid confounding effects from differences in family composition between groups. Standard errors are clustered at the child level.

Causal identification in our approach relies on the parallel trends assumption: in the absence of the 2022 Child Care Subsidy reform, families in the treatment and control groups would have followed similar trends in parental labour supply and childcare use over time. We support this assumption by presenting event study graphs and appealing to the absence of differential pre-trends between groups. To further strengthen our identification, we restrict the control group to families whose youngest children were born between 2013 and 2017. This ensures that both the treatment and control groups were exposed to previous reforms, such as the 2018 Child Care Subsidy, allowing the difference-in-differences approach to “difference out” any effects of earlier policies that are common to both groups. As a result, we can be more confident that the estimated effect more accurately isolates the impact of the 2022 reform.

We conduct several robustness checks to verify the credibility of our findings. First, we account for children who were only partially exposed to the 2022 subsidy increase—for instance, a child born in 2017 would be eligible for the increased subsidy in 2022 for only one year before turning six. To address this, we implement an Always Treated–Never Treated (AT-NT) analysis, comparing families consistently eligible for the increased subsidy to those never eligible. We also exclude high-income households unaffected by the subsidy, focusing on families for whom the policy change was relevant and enhancing comparability between treatment and control groups. Finally, we assess the sensitivity of our results to different sets of control variables, estimating models both with a comprehensive set of controls and with only exogenous, time-varying characteristics such as child age.

While the age-based difference-in-differences (1) provides valuable insights into the impact of the 2022 Child Care Subsidy reform, it may not fully account for cohort effects, since it compares outcomes for children born in different years. If birth cohorts differ systematically, this could lead to differential trends unrelated to the reform. To address this concern and further strengthen our identification strategy, we complement our analysis with a second, year-based difference-in-differences approach.

In this second specification, the treatment group consists of mothers with multiple children,

with at least two children aged 0–5 years in 2022, while the control group consists of mothers with multiple children but at most one eligible child or whose other children have aged out of eligibility. By comparing outcomes for both groups in the same years before and after the reform, this approach helps isolate the effect of the policy change from potential cohort effects, as it compares mothers of similar ages and family structures. We employ the following regression specification:

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

where Y_{it} represents the outcome variable of interest for mother i in year t , such as maternal employment or childcare usage. $Treatment_i$ is an indicator for whether the mother belongs to the treatment group, $year_t$ is a year fixed effect, and $Treatment_i \times year_t$ captures the interaction effect of the reform. The vector X_{it} contains relevant control variables such as maternal age, educational attainment, birth and education place, Indigenous status, state and regional fixed effects, number of children, age of the oldest child, and a single parent dummy. The coefficient β_3 estimates the causal effect of the 2022 reform on the outcomes of interest.

It is important to note that, in the year-based DiD (2), differences may exist between mothers in the treatment and control groups—for example, some mothers in the control group may have older, school-aged children. However, by comparing mothers with similar ages and family structures across years, this approach helps to mitigate bias from cohort differences. Together, these complementary DiD strategies strengthen the validity and reliability of our estimates of the 2022 reform’s effect.

6 Results

This section presents the main findings of our analysis of the 2022 child care subsidy reform. We report baseline estimates of the policy’s impact on childcare use and maternal labour supply, explore heterogeneity across income groups, and evaluate the robustness of our results using alternative specifications.

6.1 Age-Based DID analysis:

The results from DiD (1) indicate that the 2022 child care subsidy reform (CCS) led to a modest but statistically significant increase in the use of formal childcare. Figure (2) presents the event

study estimates for the main outcomes of interest. Visual inspection of the childcare variables shows that the pre-reform trends appear relatively flat and close to zero, which supports the credibility of the parallel trends assumption underlying our DiD strategy. We also observe clear and sustained increases in both the weekly hours of formal care and the probability of formal care use following the birth of the child. In contrast, for the maternal outcomes, the graphs reveal more mixed results, with some evidence of minor pre-trends. These patterns lend confidence to our analysis for the childcare outcomes, while suggesting that results for maternal labour supply should be interpreted with greater caution.

As shown in Table 2, the coefficient on the interaction term, $\text{Treat} \times \text{After Birth}$, indicates that the policy increased the weekly hours of formal care for treated children by 2.44 hours (significant at the 1% level), corresponding to a 32% increase relative to the control group mean. The likelihood of formal care use increased by 11 percentage points (significant at the 1% level), representing a 28% increase over the control mean. For maternal outcomes, the reform led to a statistically significant increase in labour force participation of 7.4 percentage points (significant at the 1% level), which corresponds to a 12% increase relative to the control mean. However, there was no statistically significant effect on mothers' weekly hours worked.

6.2 Year-Based DID Analysis

The age-based DiD (1) specification may capture systematic differences across cohorts, as children born in different years are compared at the same age. These differences can be problematic if they result in differential trends, as appears to be the case for the maternal labour market outcomes shown in Figure 2. To mitigate this potential cohort effect, we estimate a second DiD model (2) that compares mothers of the same age across years. Inspection of Figure 3 indicates that pre-reform trends are generally small for all outcomes, supporting the parallel trends assumption. Notably, the pre-trends for maternal labour force outcomes is less pronounced than in Figure 2. This provides greater confidence in the validity of the identification strategy for maternal outcomes in this specification.

As shown in Table 3, the 2022 child care subsidy reform led to a statistically significant increase in formal care use among treated cohorts. The policy increased weekly hours of formal care by 2.38 hours (significant at the 1% level), corresponding to a 31% increase relative to the control mean. The likelihood of formal care use rose by 8.9 percentage points (significant at the 1% level), representing a 23% increase over the control mean. In contrast, the estimated

effects on maternal outcomes are small and not statistically significant; there was no meaningful impact on maternal labour force participation or mothers' weekly hours worked. These findings reinforce the robustness of the reform's impact on childcare utilisation, while suggesting limited effects on maternal labour supply under this specification.

6.3 Heterogeneity Analysis

To examine the distributional effects of the 2022 child care subsidy reform, we estimate heterogeneous impacts by income group, using the year-based DiD (2) specification. This approach offers improved identification—particularly for maternal outcomes—due to better pre-trends. Households are classified from low to high income as Groups 1 through to Group 4.

As shown in Table 4, the reform's impact on childcare outcomes increases with household income. All percentage changes below are relative to the control mean for each group. In Group 2, treated children used 1.48 more hours of formal care per week (a 20% increase, significant at the 10% level). This effect is larger in higher-income groups: in Group 3, the increase is 2.74 hours (a 30% increase, significant at the 5% level), and in Group 4, the increase is 3.35 hours (a 37% increase, significant at the 5% level). Similarly, the likelihood of using formal care rises significantly in Groups 2 and 4: by 6.9 percentage points in Group 2 (a 17% increase, significant at the 5% level) and 15.2 percentage points in Group 4 (a 32% increase, significant at the 5% level).

By contrast, the estimated effects on maternal outcomes are generally small and not statistically significant. The only exception is in Group 2, where mothers' weekly hours worked declined by 1.73 hours (a 9% reduction, significant at the 5% level). Across all income groups, there is no evidence of a significant effect on mothers' labour force participation. Additional results from an age-based heterogeneity analysis are provided in Appendix Table B.1, though we do not discuss them in detail here due to concerns about differential pre-trends in maternal outcomes.

6.4 Robustness Checks

The robustness checks further reinforce the main findings of this study. As shown in Table 5, estimates for childcare usage in the age-based DiD (1) specification are highly consistent across alternative model specifications and sample restrictions: the positive and statistically signifi-

cant effect of the 2022 child care subsidy reform on both formal care hours and formal care use persists and remains similar in magnitude throughout. In contrast, the estimated effects on maternal labour supply are more modest and less robust. While the main specification suggests a small but significant increase in maternal employment, this effect weakens or becomes statistically insignificant in several robustness checks, indicating sensitivity to model choice and sample definition. Similarly, results for weekly hours worked are inconsistent across specifications. These patterns may partially reflect concerns about pre-existing trends in maternal outcomes discussed earlier.

Turning to the year-based DiD (2) specification, the results in Table 6 demonstrate that the findings for childcare use are highly robust: significant increases in both formal care hours and participation are observed consistently, regardless of the control variables or sample restrictions applied. Notably, this specification addresses pre-trend concerns and offers a stronger identification strategy for maternal outcomes. Under this approach, the estimated effects on maternal employment and hours worked are uniformly small and statistically insignificant across all robustness checks. These findings indicate that the reform primarily affected childcare utilisation, with minimal impact on mothers' labour supply.

7 Conclusion

To what extent do childcare subsidy reforms promote formal care use and maternal employment? This study provides new evidence on the impact of Australia's 2022 child care subsidy reform, which uniquely targeted families with multiple children. Using longitudinal panel data and robust difference-in-differences methods, we find that the policy significantly increased both formal child care usage and weekly hours among eligible multi-child families. However, effects on maternal employment were limited and generally insignificant. These findings are consistent with existing research, which suggests that while recent childcare subsidies have improved access to formal care, mothers' labour market participation remains constrained.

Several limitations should be acknowledged. Despite rigorous analytic strategies, residual confounding from unobserved factors and the influence of overlapping policies cannot be entirely ruled out. Moreover, focusing on the immediate post-reform years may overlook longer-term impacts. As more data becomes available, future research could expand this analysis.

It is noteworthy that the additional subsidy for multi-child families led to only modest effects on maternal employment. As discussed in Section 4, mothers often adjust their labor

supply after their first child due to structural constraints; consequently, the transition from one to two young children may not fundamentally alter mothers' employment decisions. This pattern is consistent with Black et al. (2014), who found no effect on maternal employment or formal care use following childcare subsidy increases in Norway—likely because most families were already using formal care. In the Australian context, mothers may have already made substantial labor market adjustments after their first child, shifting to part-time work, reducing hours, or exiting employment to balance work and family responsibilities. By the time a second child arrives, these mothers face similar constraints: workplace inflexibility, limited availability of suitable positions with family-friendly arrangements, and the "motherhood penalty" that persists regardless of the number of children. In this environment, additional childcare subsidies for the second child may function primarily as income support—reducing household financial burden and potentially enabling families to access higher-quality care or additional hours that benefit child development—rather than as employment incentives. Nevertheless, increased financial support may yield important benefits for child development, parental wellbeing, and household stability—longer-term outcomes that warrant further investigation. Finally, the limited impact on maternal labour supply suggests persistent barriers beyond childcare access. Future research should explore how childcare policies interact with welfare and tax systems to better understand and address these constraints.

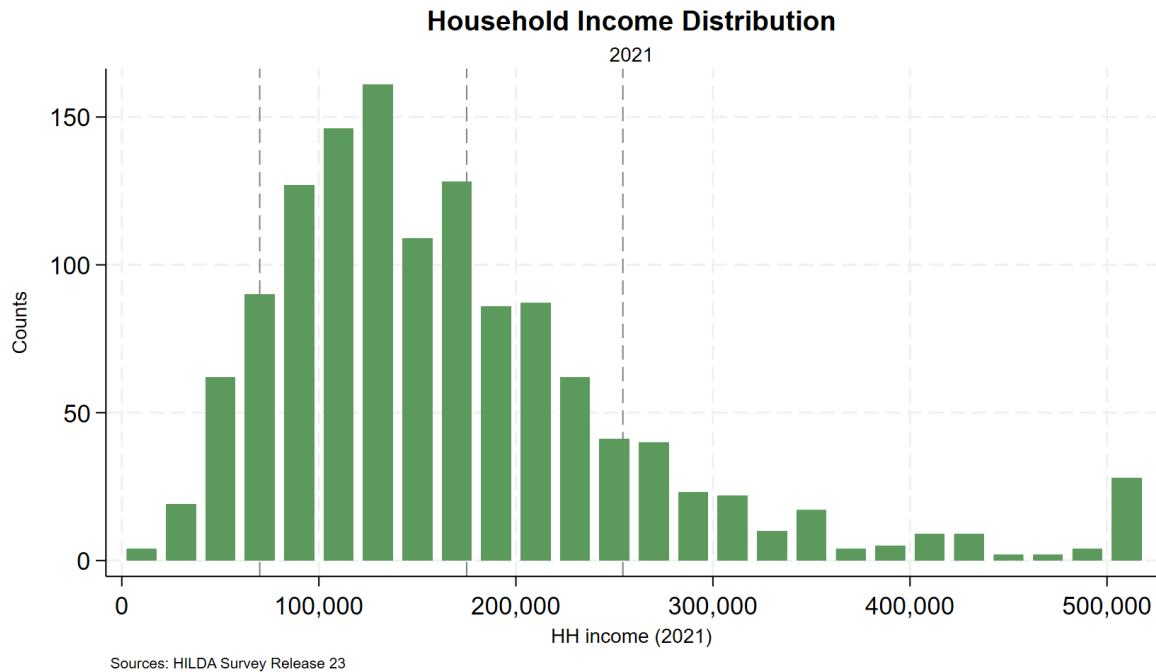
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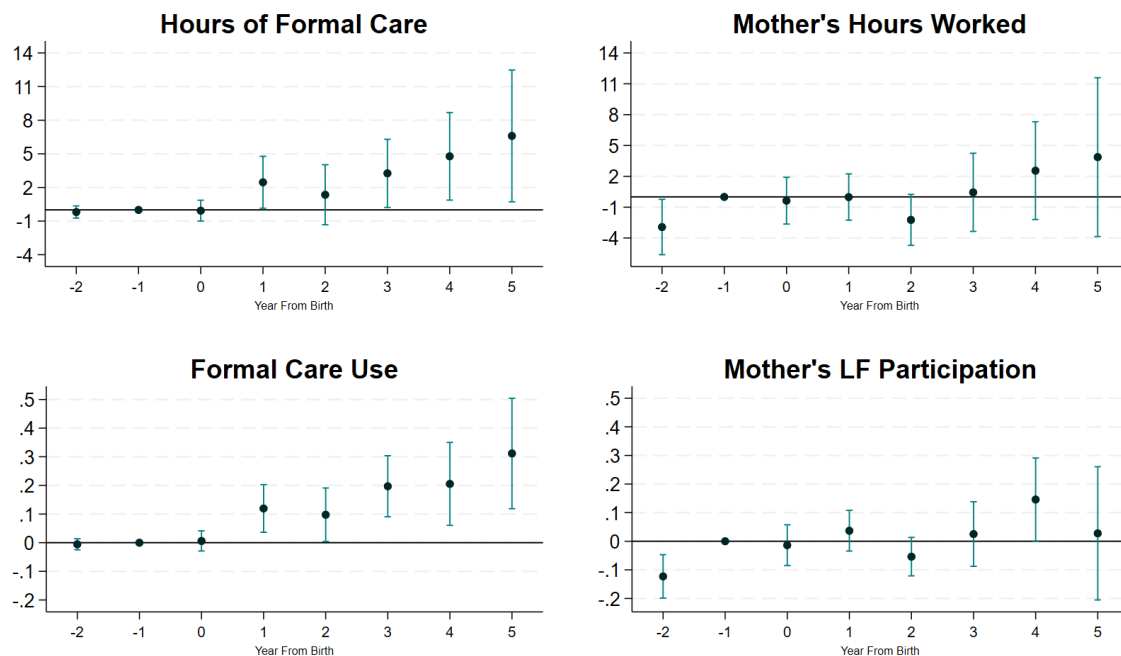
Figures

Figure 1: Household Income Distribution and Subsidy Cutoffs



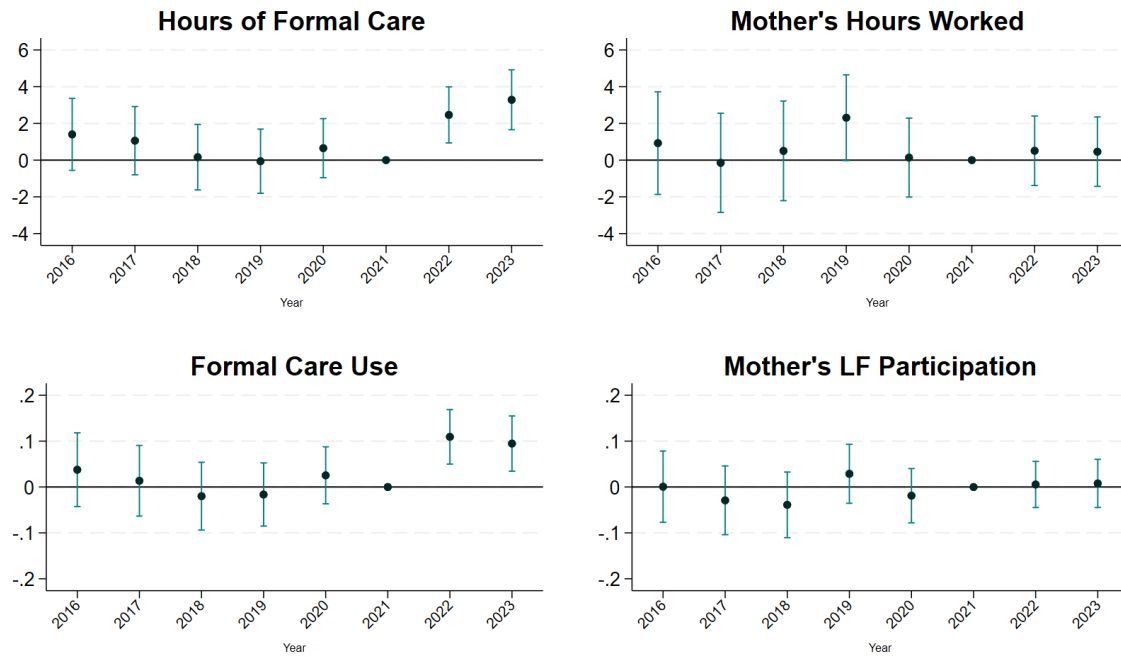
Notes: This figure displays the 2021 household income distribution. Vertical dashed lines mark the main CCS subsidy thresholds (\$70,015, \$175,015, and \$254,305) as defined in Table A.3, which determine subsidy rates and are used to classify households in subsequent analyses.

Figure 2: Age-Based DiD – Event Study



Notes: This figure reports event study estimates of the impact of the 2022 CCS reform on outcomes multi-child households, using the age-based DID specification (1). Event time is years since the youngest child's birth (year 0). Each panel presents DID estimates for treatment versus control groups. Point estimates are accompanied by 95% confidence intervals, calculated with standard errors clustered at the child level.

Figure 3: Year-Based DiD – Event Study



Notes: This figure reports event study estimates of the impact of the 2022 CCS reform on outcomes for multi-child households, using the year-based DID specification (2). Event time is defined by calendar year, with estimates shown relative to the year prior to the reform, 2021. Each panel presents DID estimates for treatment versus control groups. Point estimates are accompanied by 95% confidence intervals, calculated with standard errors clustered at the individual level.

Tables

Table 1: Descriptive Statistics

Variable	Sample Control Mean
Mother's hours worked per week (all)	16.11
Mother's hours worked per week (working mothers)	26.94
Mother's Employment	0.60
Weekly hours of formal care (all)	7.76
Weekly hours of formal care (families using formal care)	20.13
Formal care participation	0.39
Mother's hourly wage	39.38
Husband's employment	0.91
Husband's weekly earnings (2022\$)	1711.85
Total Household Income (2022\$)	155042.60
Mother's Age (as of June 30, 2001)	33.63
Highest educational attainment: University qualification	0.37
Highest educational attainment: Vocational qualification	0.30
Highest educational attainment: Finished year 12 only	0.18
Highest educational attainment: Did not finish year 12	0.15
Educated but not born in Australia	0.13
Not educated nor born in Australia	0.07
Speaks language other than English	0.14
Aboriginal or Torres Strait Islander	0.04
Number of children	2.01
Observations	14,266

Notes: Sample means are reported for partnered mothers in households with young children aged 0–14. Employment, participation, and education variables are proportions. Monetary values are in 2022 AUD and indexed to CPI annually.

Table 2: Multi-Child Policy DID Effects (1)

	Formal Care Hrs/wk	Formal Care Use	Mother LF	Mother Hrs/wk
Treat $\times$ After Birth	2.435*** (0.629)	0.113*** (0.023)	0.074*** (0.028)	1.048 (0.832)
Mean (Control)	7.67	0.39	0.60	16.11
Observations	9,350	9,350	9,350	9,350
Child FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: This table presents the estimates for the interaction term, Treat $\times$ After Birth, in the age-based DID regression (1), showing the main baseline regression results. The controls are parental age, education, birthplace, language, Indigenous status, state/region, sibling age, and separation status. All models include child and year fixed effects. Standard errors are clustered at the child level. Control means are shown for reference. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 3: Multi-Child Policy DID Effects (2)

	Formal Care Hrs/wk	Formal Care Use	Mother LF	Mother Hrs/wk
Treat $\times$ AfterBirth	2.376*** (0.548)	0.089*** (0.020)	0.011 (0.018)	-0.215 (0.681)
Mean (Control)	7.67	0.39	0.60	16.11
Observations	19,005	19,005	19,005	19,005
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: This table presents the estimates for the interaction term Treat $\times$ After Birth in the year-based DID regression (2). The controls are parental age, education, birthplace, language, Indigenous status, state/region, sibling age, and separation status. All models include year fixed effects. Standard errors are clustered at the individual level. Control means are shown for reference. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 4: Income Group Heterogeneity (Year-Based DID)

	Formal Care Hrs/wk	Formal Care Use	Mother Hrs/wk	Mother LF
Group 1 (0–70k)				
Treat×Birth	1.514 (1.730)	0.074 (0.067)	-1.387 (1.401)	-0.006 (0.034)
Control Mean	2.63	0.19	9.20	0.48
Observations	1,474	1,474	1,474	1,474
Group 2 (70–175k)				
Treat×Birth	1.480* (0.807)	0.069** (0.028)	-1.726** (0.817)	-0.022 (0.016)
Control Mean	7.38	0.41	20.01	0.71
Observations	8,414	8,414	8,414	8,414
Group 3 (175–254k)				
Treat×Birth	2.743** (1.172)	0.060 (0.045)	1.971 (1.294)	0.017 (0.027)
Control Mean	9.01	0.43	26.35	0.88
Observations	3,798	3,798	3,798	3,798
Group 4 (254–400k)				
Treat×Birth	3.349** (1.648)	0.152** (0.064)	0.959 (2.078)	-0.007 (0.039)
Control Mean	8.95	0.48	30.79	0.91
Observations	2,011	2,011	2,011	2,011
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: This table reports estimates from the year-based difference-in-differences regression (2) by household income groups. The coefficient for Treat × Birth shows the average effect of the 2022 CCS reform on treated multi-child households within each group. Income segments are based on real household income in 2021. All models include year fixed effects. The controls are parental age, education, birthplace, language, Indigenous status, state/region dummies, sibling age, separation status. Standard errors are clustered at the individual level. Control means are shown for reference. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 5: Robustness Check DID (1)

Outcome	Main Reg. (1)	AT/NT (2)	Full Controls (3)	Excl. High Inc. (4)	Exog. Controls (5)
Formal Hours of Childcare (per Week)					
Treat × After Birth	2.435*** (0.629)	3.007*** (0.752)	2.213*** (0.624)	2.193*** (0.635)	2.487*** (0.574)
Formal Childcare (Use)					
Treat × After Birth	0.113*** (0.023)	0.113*** (0.028)	0.104*** (0.023)	0.108*** (0.023)	0.117*** (0.020)
Mother Employment					
Treat × After Birth	0.074*** (0.025)	0.098*** (0.028)	0.025* (0.014)	0.031** (0.014)	-0.006 (0.022)
Maternal Labour Supply: Hours Worked per Week					
Treat × After Birth	1.048 (0.832)	1.841* (0.979)	0.012 (0.669)	0.028 (0.670)	-3.346*** (0.821)
Obs	9,350	5,660	9,350	8,864	11,124
Controls	Yes	Yes	Full	Full	Exogenous only
Year FE	Yes	Yes	Yes	Yes	Yes
Mother FE	Yes	Yes	Yes	Yes	Yes

Notes: This table presents the DID estimates for the interaction term, *Treat × After Birth*, for all model specifications of DID (1). Column 1 displays the baseline regression results. Column 2 reports the results when the treatment group is restricted to always/never treated. Column 3 includes additional controls for child year of birth, maternal occupation, and grandparents' proximity. Column 4 excludes higher-income households, and Column 5 uses only time-varying exogenous demographic controls. Standard errors are in parentheses. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Table 6: Robustness Check DID (2)

Outcome	Main Reg. (1)	AT/NT (2)	Full Controls (3)	Excl. High Inc. (4)	Exog. Controls (5)
Formal Hours of Childcare (per Week)					
Treat $\times$ After Birth	2.376*** (0.548)	1.863*** (0.636)	2.273*** (0.535)	2.261*** (0.567)	1.584*** (0.545)
Formal Childcare (Use)					
Treat $\times$ After Birth	0.089*** (0.020)	0.093*** (0.024)	0.085*** (0.020)	0.087*** (0.021)	0.056*** (0.020)
Mother Employment					
Treat $\times$ After Birth	0.011 (0.018)	0.009 (0.021)	-0.010 (0.012)	0.012 (0.019)	-0.015 (0.019)
Maternal Labour Supply: Hours Worked per Week					
Treat $\times$ After Birth	-0.215 (0.681)	-0.282 (0.806)	-0.722 (0.597)	-0.234 (0.690)	-0.996 (0.699)
Obs	19,005	16,847	19,005	17,460	29,367
Controls	Yes	Yes	Full	Full	Exogenous only
Year FE	Yes	Yes	Yes	Yes	Yes
Mother FE	Yes	Yes	Yes	Yes	Yes

Notes: This table presents the DID estimates for the interaction term, *Treat $\times$ After Birth*, for all model specifications of DID (2). Column 1 displays the baseline regression results. Column 2 reports the results when the treatment group is restricted to always/never treated. Column 3 includes additional controls for child year of birth, maternal occupation, and grandparents' proximity. Column 4 excludes higher-income households, and Column 5 includes only exogenous controls. Standard errors are in parentheses. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Appendices

A CCS Reform Details

Table A.1: The 2018 CCS: 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: In July 2018, the Child Care Subsidy (CCS) replaced previous schemes, consolidating support into a single, means- and activity-tested program. Based on the eligibility criteria for 2018/19. Income thresholds are indexed to CPI annually.

Table A.2: The 2018 CCS: Hours of activity and 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: Eligibility is based on the activity level of the least active partner. Approved activity includes work, study, and training. Carer Allowance recipients get 72 hours of subsidised care per fortnight. Those with mutual obligation requirements can access 36 hours if receiving JobSeeker, Parenting Payment, or Special Benefit.

Table A.3: 2022 CCS: Household income and percent subsidy eligibility

Household Annual Income (\$)	Standard CCS (%)	Second+ Child CCS (%)
0–70,015	85	95 (capped)
70,016–175,014	Decreases by 1% for every \$3,000 earned	Decreases by 1% for every \$3,000 earned
175,015–254,304	50	80
254,305–344,304	Decreases by 1% for every \$3,000 earned	Decreases by 1% for every \$3,000 earned
344,305–354,304	20	50
354,305+	0	0

Notes: Based on eligibility criteria for 2021/22. Income thresholds are indexed to CPI annually.

Table A.4: 2022 CCS: Hours of activity and subsidised care eligibility

Household Annual Income (\$)	Fortnightly Hours of Activity	Fortnightly Hours of Subsidised Care
0–70,016	0–8	24
70,016–354,305	0–8	0
0–354,305	8–16	36
0–354,305	16–48	72
0–354,305	>48	100

Notes: Eligibility is based on the activity level of the least active partner. Approved activity includes work, study, and training. Carer Allowance recipients get 72 hours of subsidised care per fortnight. Those with mutual obligation requirements can access 36 hours if receiving JobSeeker, Parenting Payment, or Special Benefit.

B Additional Tables and Figures

Table B.1: Income Group Heterogeneity (Age-Based DID)

	Formal Care Hrs/wk	Formal Care Use	Mother Hrs/wk	Mother LF
Group 1 (0–70k)				
Treat×Birth	-1.322 (1.393)	-0.010 (0.051)	-1.830 (1.805)	-0.016 (0.024)
Control Mean	2.73	0.21	10.43	0.51
Observations	554	554	554	554
Group 2 (70–175k)				
Treat×Birth	1.730** (0.849)	0.106*** (0.031)	-0.077 (0.873)	0.031* (0.018)
Control Mean	6.91	0.38	18.95	0.65
Observations	4,199	4,199	4,199	4,199
Group 3 (175–254k)				
Treat×Birth	3.707** (1.547)	0.134** (0.053)	-0.868 (1.593)	0.013 (0.039)
Control Mean	8.67	0.41	24.02	0.86
Observations	1,442	1,442	1,442	1,442
Group 4 (254–400k)				
Treat×Birth	2.618 (3.499)	0.104 (0.114)	0.545 (3.735)	0.103* (0.054)
Control Mean	8.91	0.47	29.70	0.89
Observations	460	460	460	460
Year FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: This table reports estimates from the age-based difference-in-differences regression (1) by household income groups. The coefficient for Treat × Birth shows the average effect of the 2022 CCS reform on treated multi-child households within each group. Income segments are based on real household income in 2021. All models include year fixed effects. The controls are parental age, education, birthplace, language, Indigenous status, state/region dummies, sibling age, separation status. Standard errors are clustered at the individual level. Control means are shown for reference. Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.