COVID-19, Child Support, and the Income Packages of Custodial Parents

2020–2022 Child Support Policy Research Agreement: Task 13B

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INTRODUCTION

The COVID-19 pandemic has caused both public health and economic crises in the United States and worldwide. Nationally, the unemployment rate spiked from 3.5 percent to 14.8 percent between February and April of 2020 (Falk et al., 2021). In the fall of 2020, nearly half of U.S. households reported at least some loss of employment income since March 2020, with the largest proportion of households that lost employment income being those with young children and with low incomes (Falk, 2020). Low-earning individuals were disproportionately likely to lose their jobs early in the pandemic, causing an increase in earnings inequality (Cortes & Forsythe, 2020a). High unemployment and other uncertain economic conditions contributed to widespread economic hardship, especially for families with young children, including increased reporting of food and housing insecurity and difficulty paying bills, rent, and mortgage (Bitler et al., 2020; Center on Budget and Policy Priorities, 2021; Moffitt & Ziliak, 2020; Schanzenbach & Pitts, 2020). Indeed, food insecurity increased in 2020 among households with children (Bitler et al., 2020), and renters with children were twice as likely to report being behind on rent as compared to renters without children (Center on Budget and Policy Priorities, 2021). These hardships have hit single-mother families harder. Single mothers experienced a larger decline in employment between 2019 to 2020 than partnered mothers, with steeper declines among Black and Hispanic single mothers (Barroso & Kochhar, 2020). Single-mother families also experienced higher rates of difficulties paying for their basic needs, including housing, food, and utilities, compared to other households (Center for Translational Neuroscience, 2020).

Families and communities across Wisconsin have also faced these economic and public health struggles. At the onset of the pandemic, Wisconsin's state unemployment rate increased from 3 percent to 14 in April 2020 (Wisconsin Department of Work Force Development, 2022).

Following national trends, in fall 2020 just over half of Wisconsin families reported experiencing a loss of employment income since the onset of the pandemic, and approximately 13 percent of Wisconsin families reported not having enough to eat at home (Kids Forward, 2021). The number of Wisconsin families served by the state's FoodShare benefit program increased by 21 percent from February to November of 2020 (Knapp, 2021). Furthermore, more than one in three families in Wisconsin reported having difficulty covering household expenses (Kids Forward, 2021). Although there is no Wisconsin-specific information on how single-mother families have fared during the pandemic, published statistics for the Midwest region show that single-mother families were about 8 times (23.7 percent) more likely to live in poverty than married-couple families (3.2 percent) in 2020 (U.S. Census Bureau, 2021).

Given the dramatic increases in unemployment, declines in earnings, and increase in economic hardship brought on by the COVID-19 pandemic, it is imperative to understand the effects of the economic downturn on families' economic well-being and the extent to which the safety net mitigated these effects. In this report, we focus on examining the effects of the pandemic on separated families because these families were economically vulnerable prior to the pandemic (Semega et al., 2020) and were disproportionately impacted by the pandemic's economic downturn (Center for Translational Neuroscience, 2020). We use administrative records from the Wisconsin Administrative Data Core and a cohort comparison approach to estimate the short-term effects of the COVID-19 pandemic on (1) noncustodial parents' ability to pay child support, (2) noncustodial parents' child support outcomes, and (3) custodial mothers' income packages. Our findings provide insight into the repercussions of the pandemic for noncustodial parents' child support payments and the extent to which increases in unemployment insurance (UI) and tax benefits made up for declines in earnings. For custodial mothers, our

findings show the extent to which a range of social safety net programs—including child support, UI, and the Supplemental Nutrition Assistance Program (SNAP)—buffered declines in earnings and income losses.

Unequal Impact of the COVID-19 Pandemic and Economic Downturn

Although economic hardship has been pervasive and widespread, families of color and other economically vulnerable groups have disproportionately felt the brunt of the pandemic's health and economic effects (Memmott et al., 2021; Perry et al., 2021). Lower-paying job sectors (e.g., retail and leisure), and lower-paying roles within job sectors, experienced higher rates of job loss at the onset of the pandemic (Bartik et al., 2020; Cortes & Forsythe, 2020b). Workers that are overrepresented in these sectors—including single mothers, Black and Hispanic workers, immigrant workers, and workers with lower levels of education—all experienced disproportionally high job loss in 2020 (Bartik et al., 2020; Falk, 2020; Falk et al., 2021; Gelatt & Chishti, 2022; Moffitt & Ziliak, 2020; Park, 2021). In Wisconsin, earnings losses were more severe among families of color: 64 percent of Black families and 71 percent of Latinx families reported losses in earnings, well over the state average of 51 percent of all families (Kids Forward, 2021). Workers in low-paid jobs were also less likely to be able to work from home and to practice social distancing, putting them at greater risk for COVID-19 infection (Papageorge et al., 2021).

Indeed, families of color and immigrant families were disproportionately burdened by COVID-19 cases and deaths (Artiga & Rae, 2020; Hill & Artiga, 2022). In Wisconsin, compared to White residents, the age-adjusted COVID-19 mortality rate was 2.1 times higher for Black residents and 1.9 times higher for Hispanic residents (APM Resesarch Lab, 2022). Although there is no national or Wisconsin data on COVID-19 cases and deaths among immigrant

communities, state level data from Minnesota shows that COVID-19 death rate among foreign-born residents was twice that of U.S.-born residents in 2020 (Gelatt & Chishti, 2022).

As a consequence of the disproportionate health and economic effects of the pandemic, rates of economic hardship have also been higher among low-income families, families of color, and immigrant families (Benton et al., 2021; Noe-Bustamante et al., 2021; Schanzenbach & Pitts, 2020). Nationwide, at the onset of the COVID-19 pandemic, 41 percent of Black households with children and 36 percent of Hispanic households with children reported food insecurity compared to 24 percent of White households with children (Schanzenbach & Pitts, 2020). In December 2020, 28 percent of immigrant families with children reported food insecurity, and rates of food insecurity were higher (37 percent) among immigrant families where at least one household member lacked a green card (Gelatt & Chishti, 2022). In Wisconsin, in the latter half of 2020, nearly three times as many Black families and 2.6 times as many Hispanic families reported trouble meeting household expenses compared to White families (Kids Forward, 2021).

Beyond economic hardship, the pandemic has created unique challenges for families with young children, especially single-parent families. Approximately 13 percent of parents reported quitting their job or reducing work hours in response to school closures and lack of child care, with mothers being twice as likely as fathers to have stopped working due to lack of child care (Modestino, 2020), and single-mother households experienced higher rates of unemployment and material hardship in 2020 compared to other households (Barroso & Kochhar, 2020; Center for Translational Neuroscience, 2020). The pandemic recession's unique, widespread effect of school and child care center closures has not only impacted parental employment, but also contributed to increased mental health challenges and stress reported by parents, especially among low-income families (Benton et al., 2021).

Safety Net Response to the COVID-19 Pandemic

Due to the severity and unprecedented nature of the economic downturn brought on by the COVID-19 pandemic, in 2020, the U.S. government put in place several measures to offset the impact of the COVID-19 economic crisis. The Coronavirus Aid, Relief, and Economic Security (CARES) Act, signed into law on March 27, 2020, put into effect the largest expansion in federal unemployment insurance benefits in U.S. history. It nearly tripled the level of benefits for the typical worker through $600 weekly supplements between April and July 2020; expanded eligibility of UI to include self-employed workers, independent contractors, part-time workers, and those unable to work for COVID-19 related reasons; and extended benefits by 13 weeks (Carey et al., 2021). Once the $600 supplements expired, an executive order allowed states to use federal funds to provide $300 supplements for six weeks. The CARES Act also included a provision for economic impact payments or stimulus checks that were disbursed in April of 2020 to households that had filed taxes in 2018 or 2019 (or who were not required to file taxes and receive Social Security, SSI, or other benefits). Eligible households received up to $1200 per adult and $500 per child. Further, the Tax Relief Act passed in December 2020 authorized additional economic impact payments (EIPs) of up to $600 per adult and $600 per child (U.S. Department of the Treasury, 2022). Notably, only individuals who file taxes using a valid Social Security Number (SSN) were eligible for these payments, thereby excluding unauthorized immigrants and their families (Chishti & Bolter, 2020).

Congress also implemented a series of reforms encompassing expansions in eligibility and program duration for SNAP. The work requirements for working-age beneficiaries with children was waived at the federal level, and states became eligible to extend certifications and waive interview requirements. Moreover, the Families First Coronavirus Response Act (FFCRA) of March 18, 2020, expanded emergency allotment payments that allowed states to issue the

maximum SNAP benefits to all claimants contingent on their household size, with additional

benefits coming from the federal government. The benefits were also quick to reach the

beneficiaries, with all states issuing the emergency allotment benefits by mid-April of 2020

(Ruffini & Wozniak, 2021). The FFCRA also introduced a new program called Pandemic-EBT,

which provided children and families eligible for free or reduced-priced meals via the National

School Lunch Act with an electronic debit card to purchase groceries for the value of the school

meals missed due to pandemic-related school closures; younger children in households receiving

SNAP were also eligible for additional benefits if their child-care program was closed or

operating reduced hours (Bauer et al., 2020). In addition to implementing federal programs,

Wisconsin extended certification periods and waived interview requirements, as well as initial

and recertification interviews for the Pandemic EBT program. It also extended administrative

flexibilities for SNAP through May 2021 (U.S. Department of Agriculture, n.d.).

Although Congress did not mandate any federal changes to the Temporary Assistance to

Needy Families (TANF) program (called W-2 in Wisconsin), states exploited the existing

flexibility in the program to introduce certain reforms during the pandemic (Shantz et al., 2022).

These reforms varied greatly by states but were all aimed at increasing eligibility as well as

benefit levels for program beneficiaries. In Wisconsin, the W-2 program did not count the

supplemental UI benefits ($300–$600 per week) towards determining income eligibility for the

W-2 program (Shantz et al., 2022). It also offered case-by-case exemptions for W-2 work

requirements for good cause and granted an extension if the lifetime limit for receiving W-2

benefits was reached during the pandemic (Shantz et al., 2022).

Although the child support program did not undergo any major reforms during the

pandemic, federal and state agencies had more flexibility for putting in place and enforcing child

support orders. In May 2020, states were allowed to request modifications to timeframes for certain child support activities like paternity and order establishment, initiation of income withholding, and enforcement of child support (Administration for Children and Families, 2020b). In December 2020, OCSE issued a FAQ memorandum informing state child support agencies that certain enforcement actions like income withholding and withholding against unemployment insurance could not be suspended, although states could suspend other administrative enforcement actions such as license suspension and state tax refund offsets (Administration for Children and Families, 2021). Further, the first economic impact payments issued under the CARES Act and disbursed in April 2020 were subject to interception by the federal government to offset NCPs' child support arrears balances (Administration for Children and Families, 2020a).

These pandemic-era reforms to the social safety net had a marked impact on employment, income, consumption, and family well-being. In contrast to prior recessions, when UI benefits replaced about 50 percent of lost income, the UI benefit supplements increased income and spending for unemployed households (Cortes & Forsythe, 2020a; Ganong et al., 2022). Research has found sweeping positive impacts of the COVID stimulus packages—particularly expanded UI and EIPs—on family income and poverty. For example, lower-income households had greater amounts of inflation-adjusted cash in hand at the end of 2021 as compared to 2019 (Cooney et al., 2022). In turn, expanded benefits reduced poverty in 2020 by about 1.5 percentage points, from about 10.8 percent in early 2020 to 9.3 percent in June of 2020 (Han et al., 2020). SNAP program expansions were also instrumental in preventing instances of food hardship in households (Bryant & Follett, 2022). In particular, the Pandemic-EBT program reduced food hardship experienced by low-income households with children by as much as 11 percentage

points, representing a 30 percent decline (Bauer et al., 2020). Even with these benefits, food insecurity increased in 2020 as some benefits were delayed in getting to families and some families, like unauthorized immigrants, were statutorily excluded from programs (Bitler et al., 2020).

Prior Research on the Effects of Economic Downturns on NCP's Child Support Outcomes and CP's Income Packages and Economic Well-Being

Economic crises have clear implications for noncustodial parents' (NCPs') ability to pay child support and economic well-being due to increases in unemployment and declines in earnings and income. The inability of NCPs to pay child support adversely affects not only the NCP but also the custodial parent (CP) as well as their children. Although the child support system typically works as intended for NCPs who are regularly employed and have at least moderate earnings (Cancian & Meyer, 2018), NCPs with low earnings often have lower compliance and pay less in child support than peers who earn more (Bartfeld & Meyer, 2003; Chen & Meyer, 2017; Goldberg, 2015; Huang et al., 2005; Mincy & Sorensen, 1998; Nepomnyaschy & Garfinkel, 2010). They often also have difficulty meeting their own basic financial needs (Brito, 2012; Ha et al., 2018; Hodges & Vogel, 2021; Sorensen & Oliver, 2002; Vogel, 2020).

Prior research shows that NCPs experience greater difficulty paying ordered child support during economic downturns. In the period 1993–2011, which includes the 2001 recession and the Great Recession, increases in unemployment rates were negatively associated with various measures of child support compliance, particularly when the custodial mothers in these families were receiving cash assistance (Mincy et al., 2016). A prior study of NCP's child support outcomes during the Great Recession in Wisconsin found that many noncustodial fathers experienced significant drops in earnings. However, across earnings groups, most fathers' child

support order amounts stayed the same (Wu, 2011). Notably, the proportion of fathers paying support declined over the Great Recession, but among fathers who continued to pay, payment amounts were fairly stable (Wu, 2011).

In a qualitative study of Wisconsin child support agencies' child support enforcement practices during the COVID-19 pandemic, child support agency and court staff reported that they paused enforcement of child support orders at the onset of the pandemic and approached enforcement with more leniency, flexibility, caution, and empathy once enforcement resumed (Vogel et al., 2021, 2022). Although staff perceived that the economic downturn associated with the pandemic led to an increase in joblessness and reduced work hours among NCPs on their caseloads, they also noted that the impact on child support collections was not as severe as expected due to expansions in UI benefits. Similarly, they perceived that the impact of the downturn on arrears was mitigated by the interception of the first economic impact payment by the child support program. These findings suggest that the impact of the COVID-19 pandemic on child support payments, compliance, and arrears might be less severe compared to prior economic downturns, like the Great Recession, due to the pandemic-era social safety net expansions.

Like NCPs, CPs or single mothers also experience increases in unemployment and declines in earnings during recessions. Low-income, single mothers are at a higher risk of gaps in employment and involuntary unemployment during and after economic downturns, as compared to pre-recession periods (Eamon & Wu, 2013). Comparing two cohorts of Wisconsin mothers before and during the Great Recession, Waring and Meyer (2020) found that single mothers' earnings and child support income decreased during the recession, while reliance on social safety net benefits increased (Waring & Meyer, 2020). Moreover, low-income, single

mothers' formal income packages during the Great Recession were slightly higher than those of a pre-recession control group. This research suggests that expansions in social safety net benefits can mitigate declines in earnings and child support receipt during recessionary periods.

The economic downturn brought on by the COVID-19 pandemic differs from prior recessions in key ways. While the spike in unemployment in the spring of 2020 was unprecedented in terms of the speed and magnitude by which unemployment increased, it was driven in large part by public health measures to minimize the spread of COVID-19, and unemployment fell once these measures were lifted. Additionally, the expansions of the safety net were equally unprecedented, and for some families, the combination of UI benefits and EIPs exceeded their earnings prior to the pandemic. These conditions suggest that while we would expect to see large declines in earnings, particularly in the first half of 2020, it is likely that safety net benefits made up for these declines.

Research Questions

With the goal of describing changes in NCPs' ability to pay child support, child support outcomes, and CPs' income packages and economic well-being during the COVID-19 pandemic, this study addresses the following research questions:

1. How did noncustodial parents' earnings, UI benefits, and tax benefits change during the COVID-19 pandemic?

2. How did noncustodial parents' child support outcomes change during the COVID-19 pandemic?

3. How did custodial mothers' income sources—including earnings, child support receipt, and safety net benefits—change during the COVID-19 pandemic? How did their total income and rate of poverty change?

4. For both noncustodial parents and custodial mothers, did these changes differ by parents' race and ethnicity and nativity?

To address these research questions, we use a cohort comparison approach that compares a cohort of parents that were impacted by the COVID-19 pandemic to a similar cohort of parents prior to the pandemic. The pandemic or treatment cohort includes noncustodial parents and custodial mothers with a nonmarital birth in 2018. We examine their outcomes in the months preceding and immediately following the COVID-19 outbreak in 2020. We compare the outcomes of this treatment cohort to those of a comparison cohort of parents with a nonmarital birth in 2017. The comparison cohort provides a counterfactual for what might have happened to noncustodial parents' ability to pay child support and child support outcomes and custodial parents' income sources if the COVID-19 pandemic had not happened.

We hypothesize that compared to the comparison cohort, treatment cohort noncustodial parents will have lower earnings, but due to the COVID-19 UI and tax benefit expansions, we expect they will have higher levels of UI and tax benefits relative to the comparison cohort. We also examine changes in child support outcomes. Based on prior research and the unprecedented size of the UI and tax benefit expansions, we expect that NCPs in the treatment cohort will have similar, or perhaps even better, child support outcomes—including payments, compliance, and arrears—relative to the comparison cohort. For custodial mothers, we also expect that they will have lower earnings but will have higher levels of safety net benefit receipt, driven primarily by increases in UI, SNAP, and COVID-19 economic impact payments. Based on prior research on the Great Recession and the unprecedented level of safety net expansion of 2020, we expect that safety net benefits will mitigate these income losses. Given the disproportionate impact of the COVID-19 pandemic on Black and Hispanic families and immigrant families, we hypothesize that Black, Hispanic, and immigrant noncustodial and custodial parents in the treatment cohort

will have experienced steeper declines in earnings and child support outcomes and will have received lower amounts of benefits relative to White and U.S.-born parents.

METHOD

Data and Samples

We used data from the Wisconsin Administrative Data Core (WADC), which includes a large array of administrative data linked across multiple programs. This system was developed and is maintained by the Institute for Research on Poverty in collaboration with Wisconsin state agencies. We used administrative records for the years 2017 through 2020 for the following programs: child support, UI, TANF, SNAP, Supplemental Security Income (SSI), and Social Security and Social Security Disability Insurance (SS/SSDI). The WADC data also contain individuals' demographic information, including month and year of birth, sex, and race and ethnicity.

The WADC data includes births that meet at least one of the following criteria: i) the child's paternity was established, ii) child support was ordered, or iii) the parents or the child were participating in at least one of the programs included in the WADC. Births that do not meet any of these criteria are excluded from WADC and therefore excluded from our analytic samples. Prior research suggests that approximately 86% of all nonmarital births—the focus of our study—in the state of Wisconsin are included in the child support system database (Brown & Cook, 2008; Cancian et al., 2011), although not all of these nonmarital births are necessarily included in the WADC. Thus, nonmarital births that are excluded from WADC might differ from those in the WADC data given their lack of involvement with public programs.

We constructed two cohorts of nonmarital births: nonmarital births in 2018 made up the treatment cohort (N=24,639) and nonmarital births in 2017 (N=26,598) made up the comparison

cohort (N=51,238 total nonmarital births). We selected nonmarital births in 2018 for our treatment cohort so that we could observe parents' earnings and income when the child is at least 10 months old (and most mothers will have returned to work) during the baseline (or pre-COVID-19) period in 2019, and observe their outcomes during the COVID-19 pandemic in 2020. To select the comparison cohort, we aimed to select a cohort of parents that would face a similar economic context and found that 2018 and 2019 were very similar in terms of GDP growth and unemployment rates in Wisconsin. Therefore, our comparison cohort included parents with a nonmarital birth in 2017, who are observed at baseline in 2018 and at follow-up in 2019. See Figure 1 for an overview of the research design.

Figure 1. Research Design

Year	2017				2018				2019				2020			
Quarter	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Treatment Cohort					Nonmarital birth				Baseline period				COVID follow-up period			
Comparison Cohort	Nonmarital birth				Baseline period				Follow-up period							

Noncustodial Parent Sample

Our sample of noncustodial parents (NCPs) includes parents who were unmarried at the time of the child's birth and who had a child support order as a noncustodial parent during the baseline period (i.e., 2018 for the comparison cohort and 2019 for the treatment cohort). This excludes NCPs who were unmarried at the time of the child's birth and live apart from their children but do not participate in the child support program; these NCPs either do not show up in

the WADC data or the WADC data lacks the necessary information that would allow us to identify these cases. Because of this, our sample of NCPs is most comparable to our sample of custodial mothers who have a child support order at baseline as a custodial parent (described below).

To identify NCPs who are fathers, we started with the full sample of nonmarital births in 2017 and 2018 (N=51,237) and imposed the following sample exclusion criteria.[1] First, we excluded 8,261 nonmarital births with a missing father identifier (N=42,976 nonmarital births); this resulted in 39,717 fathers with a nonmarital birth in 2017 or 2018 as some fathers had multiple births in the same year. Next, we dropped 2,280 fathers who had a birth in both 2017 and 2018, and 24 fathers who had both a marital and nonmarital birth in the same year (N=37,413 NCP fathers). Third, we excluded 6,359 fathers with a missing SSN because these fathers are excluded from the UI records wage and benefits data (N=31,054). Fourth, we took into account NCP's orders for current support in the baseline year. We excluded 19,213 fathers who had no child support order in the baseline year or who had an order as a custodial parent, and 2 fathers who had percent of income orders only.[2] This results in 11,839 NCP fathers in our sample. Our full NCP sample also included 871 NCP mothers with a child support order in the baseline year (see below for sample construction) so that the full sample of NCP parents is 12,710. Finally, we excluded from this sample 50 NCPs (mothers and fathers) whose focal child (i.e., the child [or children] born in 2017 for the comparison cohort or 2018 for the treatment cohort) became deceased during the observation period, one NCP with missing data on sex, 108

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[1]We refer to parents whose sex is identified as male in the data as fathers and parents whose sex is identified as female as mothers; we have no additional information about parents' gender and note that some parents who we have labeled as fathers might identify as mothers and vice-versa.

[2] The final analytic sample included 3 non-custodial parents who had both fixed and percent of income child support orders at baseline or follow-up.

NCPs who were below age 18 years at the time of the focal child's birth, 73 NCPs who became deceased at some point during baseline or follow-up, and 995 NCPs who moved out of state during this period (N=11,483). Due to missing data in our covariates (race and ethnicity and multi-partner fertility), we dropped an additional 282 NCPs from our analyses. Our final analytic sample of NCPs included 11,201 NCPs, 5,293 in the treatment cohort and 5,908 in the comparison cohort.

Custodial Mother Sample

Our sample of custodial mothers (CMs) includes those who were unmarried at the time of the child's birth, regardless of whether they have an order for child support as a custodial parent. Ideally, we would further restrict the sample to cases in which the mother and child were living apart from the child's biological father; however, the WADC data do not have information on household composition that would allow us to identify these cases. Therefore, we used this broad definition, which includes some families in which the child's biological father might be living in the household. We also conducted analyses that restrict the custodial sample to mothers who had a child support order as a custodial parent during the baseline period. This approach ensured that families in our sample have noncustodial fathers, but it excluded families with noncustodial fathers that do not participate in the child support program.

Starting with 51,237 nonmarital births in 2017 and 2018, we employed many of the same exclusion criteria as described above for the NCP samples. First, we excluded 6 nonmarital births with a missing mother identifier (N=51,231 nonmarital births); this resulted in 47,763 unique mothers with a nonmarital birth in 2017 or 2018 as some mothers had multiple births in the same year. Next, we dropped 2,501 mothers who had a birth in both 2017 and 2018, and 24 mothers who had both a marital and nonmarital birth in the same year (N=45,238 mothers). Third, we

excluded 6,851 mothers with a missing SSN (N=38,387). Of this sample, 13,829 mothers had a child support order at baseline as a custodial parent, and 1,359 had a child support order as a noncustodial parent (488 mothers had both types of orders). The 1,359 mothers with a NCP child support order were excluded from the custodial mother sample (N=37,028); 871 mothers with a NCP child support order only were included in the NCP sample. Finally, from the custodial mother sample, we excluded 174 mothers whose focal child (i.e., the child [or children] born in 2017 for the comparison cohort or 2018 for the treatment cohort) became deceased during the observation period, 1,030 mothers who were under the age of 18 years at the time of the focal child's birth, 5 mothers with missing data on sex, 56 mothers who became deceased during baseline or follow-up, and 2,034 mothers who lived outside of Wisconsin at baseline and/or at follow-up (N=33,729). Due to missing data in covariates (race and ethnicity), we excluded an additional 242 custodial mothers from our analyses. Our final analytic sample of custodial mothers included 33,487 mothers: 16,335 in the treatment cohort and 17,152 in the comparison cohort. In supplementary analyses, we estimated models restricted to 12,346 custodial mothers (5,888 in treatment cohort and 6,458 in comparison cohort) with an order as a custodial parent at baseline. This smaller sample of custodial mothers is analogous to our analytic sample of noncustodial parents.

Measures

Below we describe each set of outcome measures and covariates used in the NCP and custodial mother analyses, noting which measures are used with one or both of the samples. In our descriptive analyses, we measured each outcome in each quarter of the baseline (i.e., 2017 and 2018) and follow-up (i.e., 2019 and 2020) years. In our analytic models, we used annual measures of these outcomes. All of the measures that are in dollar amounts (e.g., total child

support payments, earnings) were adjusted for inflation to 2020 dollars using the quarterly Consumer Price Index from the U.S. Bureau of Labor Statistics.

Child Support Outcomes

Noncustodial Parents. For the NCP analyses, we examined several key outcome measures related to child support enforcement. First, we used an indicator for whether a *child support order* was in place at some point during the observation period (i.e., quarter or year). The second measure was an indicator for whether the NCP paid any child support; we also constructed a continuous measure of the total amount of *child support payments* made by the NCP during the observation period, and we estimated this outcome for payers only and all NCPs. Third, we measured compliance using a categorical variable for no payment, partial payment, and full payment. To construct this variable, we created a ratio of the total amount of child support payments made relative to the total amount of support the NCP is ordered to pay. We defined full payment as paying 90% or more of the amount owed. Fourth, we measured the total amount of *arrears* owed, as well as the amount owed in principal and interest. The total amount of arrears owed is the amount owed in the last month of the observation period (i.e., quarter or year).

Custodial Mothers. We constructed a similar set of measures for the custodial mothers analyses. First, we used an indicator for whether the mother had a *child support order* in place at some point during the observation period (i.e., quarter or year) as a custodial parent. The second measure was an indicator for whether the custodial mother *received any child support*; we also constructed a continuous measure of the total amount of *child support received* during the observation period, and we estimated this amount for recipients and all custodial mothers. Third, we measured *child support regularity* as an indicator for receiving regular child support

payments versus irregular or no payments. In the quarterly measures, regular child support was defined as receiving child support payments in all 3 months in the quarter. In the annual measure, regular child support was defined as receiving payments in at least 10 out of 12 months.

Earnings

This is a continuous measure of total taxable earnings from the UI wage records used in the NCP and CM analyses. We also used an indicator for whether the parent had any earnings in the observation period.

Unemployment Insurance (UI) Benefits

From the UI records, we created an indicator for whether the parent received any UI benefits in the observation period. We also used a measure of total UI benefits received during the observation period in both the NCP and CM analyses.

Tax Benefits

We used NBER's TAXSIM program to estimate benefits delivered through the tax system, including the Earned Income Tax Credit (EITC), the Child Tax Credit, and the economic impact payments authorized by the CARES Act of 2020 and by the Tax Relief Act of 2020. The TAXSIM program uses demographic and income information available in the administrative data—including number of children, earnings, income from SS/SSDI and UI benefits, and ages of self and children—to estimate the parent's federal and state tax liability (amount of tax benefits received or taxes owed).[3] Due to the limited information about family characteristics in

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[3]TANF and SSI benefits do not count as taxable income. We also did not include amount of child support payments made or received because income from child support is not taxable and child support payments made are not deductible: https://www.irs.gov/faqs/filing-requirements-status-dependents/dependents/dependents-6#:~:text=Child%20support%20payments%20are%20neither,for%20federal%20income%20tax%20purposes.

the WADC data, we made the following assumptions about parents' tax claims: we assumed parents filed as single; had taxable income comprised solely of wages and benefits from SS/SSDI and UI programs; and had no mortgage or child care deductions or state property tax rebates. We assumed that custodial mothers claimed as dependents the focal child born in 2017 or 2018 as well as other children below age 19. We assumed NCPs claimed no children as dependents.

We used the prior year's income to estimate tax liability in a given year; for example, to estimate tax benefits received in 2019, we used 2018 income and the 2018 tax code. For the treatment cohort, we estimated economic impact payments based on 2019 income because these were distributed in 2020 before families had filed their 2020 taxes.[4] Because the Tax Relief Act was passed in December 2020, some families might not have received these benefits until early 2021, and therefore, our estimate of tax benefits received in 2020 may be an overestimate. Importantly, our estimates of tax benefits are based on the benefit amounts that families are eligible for (according to their income and family size) but are not a measure of how much tax benefits families actually received. For example, with respect to the EITC, approximately 78% of eligible families in Wisconsin received the benefits (Internal Revenue Service, 2021).

Custodial Mothers' Safety Net Benefits

In the custodial mother analyses, we examined mothers' participation in—and benefits received from—other cash and in-kind safety net programs. We used these benefit amounts in constructing mothers' total income. For each of these programs, we constructed measures of an

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[4]The economic impact payments were administered differently than other tax benefits. These are part of the 2020 tax schedule but were distributed before families filed their 2020 taxes. The IRS estimated the amount of economic payments based on families' tax filing from 2018 or 2019. For families whose income changed substantially between 2019 and 2020, their CARES payments would be adjusted in 2021 when they filed their 2020 taxes; this means they may have received additional benefits or owe more in taxes. Because we are interested in the amount of income that families had in 2020, we focus on the CARES payments that families would have received in 2020 rather than the adjusted CARES payments in 2021.

indicator for any benefits received during the observation period and the total amount of benefits received among both recipients and all custodial mothers: Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), Supplemental Security Income (SSI), and Social Security and Social Security Disability Insurance (SS/SSDI).

Custodial Mothers' Income and Economic Hardship

We constructed two measures of total income. First, *total personal cash income* included income from cash sources only: earnings and child support, UI, TANF, SSI, and SS/SSDI programs. This measure of income is similar to the measure used to estimate the official poverty measure and excludes near-cash benefits and post-tax transfers. Second, we measured *total personal cash income plus near-cash and tax benefits* as the total amount received from cash income as well as from SNAP and estimated tax benefits in order to examine the role of these programs in mothers' total income.

We used these two measures of income to create two measures of *poverty.* We used income, family size (custodial mother plus her total number of children), and the poverty thresholds from the U.S. official poverty guidelines to create a measure of income relative to the federal poverty line (FPL). The first measure of poverty uses total personal cash income, and the alternative measure uses total personal cash income plus near-cash and tax benefits. We defined poverty as having an income below 100% of the FPL, and deep poverty as having an income below 50% of the FPL. Because our income sources for these measures exclude income from informal sources, potential cohabiting spouses or partners, and other relatives and non-relatives co-residing with the custodial mother, our estimates of poverty will be higher than in other data sources.

Covariates

We used the following demographic characteristics as covariates in our analyses (shown in Table 1). We used these covariates to adjust for differences in characteristics between the treatment and comparison cohorts that are theoretically associated with NCPs' earnings, income, and child support payments, and with CMs' earnings and income. We included parents' age, number of children, race and ethnicity, an indicator for being born outside of the United States, and SSI/SSDI receipt as a proxy for having a disability or a family member with a disability. We also included an indicator for whether the parent has children with multiple partners, which we refer to as multi-partner fertility. In the CM sample, we lacked information to determine multi-partner fertility for a substantial number of cases, and therefore, we coded these cases as undetermined and included them in our analyses. Finally, in the NCP analyses, we controlled for the sex of the parent. Time-varying covariates—age, number of children, SSI/SSDI receipt, and multi-partner fertility—were measured at the time of the child's birth.

Analytic Plan

We conducted a series of descriptive and multivariate analyses. Our unit of analysis in all models is the NCP or CM. In our descriptive analyses, we first compared the demographic characteristics of parents in the treatment and comparison cohorts to ensure they are comparable to one another. Similarly, we next compared NCP and CM outcomes in the treatment and comparison cohorts during the baseline period (i.e., 2019 and 2018, respectively) to determine whether there were any substantive and statistically significant differences between the two cohorts at baseline. In these analyses we examined parents' outcomes annually and in each quarter of the baseline year. Third, we tested for differences in parents' outcomes between the treatment and comparison cohorts in the follow-up period, both at the annual and quarterly level.

These analyses show the unadjusted changes in parents' outcomes for the treatment cohort versus the comparison cohort.

In our next set of analyses, we used regression models to approximate the effects of the pandemic on parents' outcomes. Isolating the short-term effect of the COVID-19 pandemic on parents' child support and economic outcomes poses several analytic challenges. Our cohort-comparison approach assumes that parents with a nonmarital birth in 2018 are similar to parents with a nonmarital birth in 2017 and that earnings and income growth for both groups would be the same in absence of the COVID-19 pandemic. We used three different identification strategies to minimize these potential sources of bias.

- Model 1, our most basic model, controlled for observed variables to adjust for differences between cohorts. In these models, each of our outcomes (e.g., earnings) was regressed on an indicator for being in the treatment cohort and covariates measured at the time of the child's birth and during the baseline period; this model also adjusted for the month of the child's birth.

- Model 2, a lagged dependent variable model, adjusted for pre-existing differences between cohorts in the outcome. This model is the same as Model 1 but included a measure of the outcome variable measured one year prior, during the baseline period. This model adjusts for time-invariant unobserved factors that have the same impact on the outcome at baseline and at follow-up in the treatment cohort as in the comparison cohort.

- Model 3, a simple change model, further adjusted for time-invariant unobserved variables by assessing the average *change* in the outcome variable between the treatment and comparison cohorts. Specifically, in this model, our outcome variable was the difference between outcomes in the post-COVID period and baseline period (i.e., post-COVID outcome minus baseline outcome). This model does not adjust for unobserved factors that differentially affect an outcome at baseline and follow-up. Like in Model 1, this outcome variable was regressed on an indicator for being in the treatment cohort and covariates measured at the time of the child's birth and during the baseline period. For continuous outcomes (e.g., total amount of CS payments), the results from this model have a similar interpretation as Models 1 and 2; for dichotomous outcomes (e.g., whether the CM's income is below the poverty line), however, the results have a different interpretation and

are not directly comparable.[5] Therefore, we only present Model 3 for our continuous outcomes.

To address our fourth research question—whether the effects of the pandemic differ by parents' race and ethnicity and place of birth—we added a set of interactions to Model 2 (described above). We added an interaction between being in the treatment cohort and parents' race and ethnicity measured as non-Hispanic White, non-Hispanic Black, Hispanic, and non-Hispanic and other race. Next, in separate models, we added an interaction between being in the treatment cohort and being born outside the United States. To determine whether the associations between treatment cohort and parents' outcomes vary at a statistically significant level, we use an F-test or joint significance test for the race and ethnicity interaction terms and a t-test of the interaction term for place of birth.

We conducted two sensitivity analyses using Model 2. First, we excluded from our CM sample mothers who did not have a child support order at baseline; by excluding these mothers we were able to examine the potential impact of the pandemic on child support outcomes among participants in the child support program. Second, we added county fixed effects to our models to adjust for variation in county-level conditions (e.g., unemployment) across counties at the time of the child's birth. Because of missing data on county of residence, the samples for these models are smaller.

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[5]For dichotomous outcomes, Model 3 tells us about the association between being in the treatment cohort and experiencing a change in the outcome between the baseline and follow-up period, but doesn't tell us about the direction of the change. For example, with respect to poverty, the model would tell us whether being in the treatment cohort is associated with the CM being more likely to either become poor or exit poverty between baseline and follow-up, but does not tell us whether the CM is more or less likely to experience poverty at follow-up.

RESULTS

Describing Treatment and Comparison Cohorts at Baseline and Follow-Up

Sample Composition

The demographic composition of our samples of NCPs and CMs is shown in Table 1. In both treatment and comparison cohorts, NCPs were nearly all male (about 93.5% in each cohort) and most were between the ages of 25–34 at the time of the child's birth (54% in each cohort), with an average age of 29 years old. Racial composition was very similar across cohorts: the majority of NCPs were White non-Hispanic (42.5–43.5% in each cohort), followed by Black non-Hispanic (34.0–36.1%), and Hispanic (11.5–12.7%); a smaller proportion of the sample of NCPs identified as mixed race (7.6% in each cohort) or Native American, Asian or Pacific Islander (2.3–2.4%). In each cohort, multiple-partner fertility was high (65.9%). Noncustodial parents in both cohorts had about 3 children, on average, with nearly half having three or more children. In each cohort, about 5% of parents were born outside the United States and about 2% were receiving SSI/SSDI at the time of the child's birth.

Table 1. Characteristics of samples at the time of child's birth

	Noncustodial Parents			Custodial Mothers		
	Treatment Cohort (2018 births)	**Comparison Cohort (2017 births)**	**Difference**	**Treatment Cohort (2018 births)**	**Comparison Cohort (2017 births)**	**Difference**
Male	93.48%	93.42%	0.07			
Age (years)	29.64	29.32	0.32**	26.15	26.09	0.06
	(6.5)	(6.51)		(5.36)	(5.31)	
Age Categories						
18–24 years	23.73%	25.58%	-1.85*	44.16%	44.76%	-0.60
25–34 years	54.49%	54.23%	0.26	47.28%	47.14%	0.15
35+ years	21.78%	20.19%	1.59*	8.55%	8.10%	0.45
Race/ethnicity						
White, non-Hispanic	43.53%	42.45%	1.08	48.92%	49.60%	-0.68
Black, non-Hispanic	33.97%	36.07%	-2.10*	25.50%	25.43%	0.07
Native American, Asian or Pacific Islander, non-Hispanic	2.25%	2.37%	-0.12	2.64%	2.48%	0.16
Mixed (multiple races excluding Hispanic selected), non-Hispanic	7.58%	7.57%	0.01	8.69%	8.55%	0.14
Hispanic (any race)	12.68%	11.54%	1.13	14.25%	13.95%	0.31
Has children with multiple partners						
Yes	65.94%	65.91%	0.03	33.55%	34.41%	-0.86
No	34.06%	34.09%	-0.03	52.07%	53.06%	-0.98
Undetermined	0.00%	0.00%	0.00	14.38%	12.53%	1.85***
Number of children	2.78	2.88	-0.10**	2.13	2.21	-0.08***
	(1.66)	(1.75)		(1.32)	(1.35)	
Number of Children Categories						
One	23.28%	20.84%	2.44**	41.46%	37.51%	3.95***
Two	28.36%	29.40%	-1.04	27.98%	29.59%	-1.61**
Three or More	48.37%	49.76%	-1.40	30.56%	32.90%	-2.34***
Born outside of US	4.52%	4.79%	-0.27	6.15%	6.30%	-0.15
SSI/SSDI receipt	2.34%	1.96%	0.38	2.47%	2.45%	0.02
N(parents)	**5,293**	**5,908**		**16,335**	**17,152**	

Notes: Means (and standard deviations) or proportions presented. Statistical significance of bivariate tests for mean difference between treatment cohort and comparison cohort: *$p<0.05$, **$p<0.01$, ***$p<0.001$

The demographic composition of CMs was consistent across the treatment and comparison cohorts. At the time of the child's birth, mothers in both cohorts were 26.1 years old on average. Racial composition was similar across the two cohorts: 48.9–49.9.6% were White non-Hispanic and 25.4–25.5% were Black non-Hispanic. As in the NCP sample, a smaller proportion identified as Hispanic (14.0–14.3%), mixed race (8.6–8.7%), or Native American, Asian or Pacific Islander (2.5–2.6%). In both cohorts, 33.6–34.4% of mothers had children with multiple partners, but multi-partner fertility was undetermined for slightly more mothers in the treatment cohort (14.4% versus 12.5% in the comparison cohort). Mothers in the treatment cohort were slightly more likely to have only one child (41.5% versus 37.5%) compared to the comparison cohort. Six percent of mothers in each cohort were born outside of the United States, and about 2.5% received SSI/SSDI at the time of the child's birth.

Comparing Outcome Variables at Baseline

In Tables 2 and 3, we show the values of the outcome variables *at baseline* in the treatment and comparison groups and whether there are statistically significant differences between the two cohorts. The purpose of these analyses is to determine whether these groups were similar *at baseline* on our key outcomes. If the cohorts are similar at baseline, this gives us more confidence that the differences we observe at follow-up are driven by changes due to the pandemic rather than differences in the characteristics of the two cohorts. We show outcomes at the quarterly and annual level but focus our discussion on the annual measures except when there are substantive differences at the quarterly level. Because our samples are relatively large, statistically significant differences may not be substantively meaningful.

Table 2. Noncustodial parents' ability to pay child support and child support outcomes *at baseline*

	Treatment Cohort (2018 births)					Comparison Cohort (2017 births)					Difference				
	2019					2018									
	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual
Any earnings	71.9%	74.4%	74.4%	73.5%	86.9%	71.4%	73.2%	74.0%	74.3%	87.2%	0.5	1.2	0.3	-0.8	-0.3
Total earnings	4964	5426	5608	5600	21597	4771	5074	5426	5537	20808	192.6	352.2***	182.1	62.4	789.2*
	(5412)	(5586)	(5826)	(5740)	(20927)	(5356)	(5402)	(5679)	(5788)	(20609)					
Safety net benefits															
UI															
Any receipt	4.3%	3.3%	2.2%	3.3%	7.6%	4.7%	3.5%	2.2%	3.0%	7.6%	-0.3	-0.2	0.0	0.3	-0.0
Total amount of UI payments received (recipients)	309	166	117	161	752	314	189	116	142	761	-5.0	-23.6	0.9	19.0	-8.7
	(962)	(654)	(550)	(620)	(1870)	(964)	(718)	(588)	(595)	(1955)					
Total amount of UI payments received (all)	97	52	37	51	237	103	62	38	47	250	-6.0	-10.1	-1.4	4.0	-13.5
	(558)	(375)	(313)	(356)	(1105)	(572)	(421)	(341)	(347)	(1176)					
Tax benefits (estimated)															
Any receipt	24.1%	24.1%	24.1%	24.1%	24.1%	24.0%	24.0%	24.0%	24.0%	24.0%	0.1	0.1	0.1	0.1	0.1
Total amount of tax benefits received	-536	-528	-526	-524	-2113	-563	-557	-554	-552	-2225	27.1	29.1	28.0	27.6	111.8
	(872)	(859)	(856)	(853)	(3441)	(975)	(965)	(959)	(956)	(3854)					
Child support outcomes															
Child support order in place	81.6%	88.2%	92.8%	95.7%	100.0%	83.2%	89.0%	92.5%	95.2%	100.0%	-1.6*	-0.8	0.2	0.6	0.0
Any CS paid	63.2%	68.6%	70.4%	73.3%	88.3%	64.6%	69.2%	70.8%	72.6%	88.5%	-1.4	-0.7	-0.4	0.7	-0.2
Total amount of CS paid (payers)	1002	956	868	899	3725	1019	960	866	898	3743	-16.5	-4.1	1.9	0.8	-17.8
	(1395)	(1221)	(1012)	(1013)	(3650)	(1389)	(1289)	(1014)	(1117)	(3861)					
Total amount of CS paid (all)	885	844	766	793	3289	902	849	767	794	3312	-16.6	-5.6	-0.1	-1.1	-23.4
	(1350)	(1188)	(991)	(995)	(3633)	(1347)	(1251)	(993)	(1090)	(3824)					
Compliance															
No payment	25.1%	24.8%	26.2%	25.4%	12.6%	25.5%	25.0%	25.6%	25.7%	12.1%	-0.4	-0.2	0.6	-0.3	0.4
Partial payment	26.0%	28.4%	29.6%	30.2%	55.1%	26.9%	29.8%	30.8%	30.4%	55.8%	-0.9	-1.4	-1.2	-0.2	-0.7
Full payment	48.8%	46.8%	44.1%	44.4%	32.3%	47.5%	45.2%	43.6%	43.9%	32.0%	1.3	1.6	0.6	0.5	0.3
Arrears															
Principal	5595	5698	5969	6282	6282	5773	5952	6249	6560	6560	-178.0	-253.9	-279.4	-278.1	-278.1
	(12111)	(12056)	(12185)	(12336)	(12336)	(12636)	(12747)	(12876)	(13026)	(13026)					
Interest	2568	2591	2645	2709	2709	2686	2711	2772	2842	2842	-117.3	-120.6	-126.4	-132.5	-132.5
	(9173)	(9177)	(9274)	(9390)	(9390)	(9581)	(9601)	(9698)	(9817)	(9817)					
Total	8835	9019	9403	9804	9804	9238	9502	9905	10298	10298	-403.5	-483.3	-502.5	-494.7	-494.7
	(21060)	(21020)	(21195)	(21437)	(21437)	(21996)	(22086)	(22285)	(22536)	(22536)					
N(noncustodial parents)			**5,293**					**5,908**							

Notes: Means (and standard deviations) or proportions presented. Statistical significance of bivariate tests for mean difference between treatment cohort and comparison cohort: *p<0.05, **p<0.01, ***p<0.001. Monetary values adjusted to 2020 dollars.

Table 3. Custodial mothers' income packages *at baseline*

	Treatment Cohort (2018 births)					Comparison Cohort (2017 births)					Difference				
	2019					2018									
	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual
Child support outcomes															
Child support order in place	29.1%	31.4%	33.1%	34.0%	36.0%	30.5%	33.0%	34.4%	35.5%	37.7%	-1.4**	-1.6**	-1.3*	-1.4**	-1.6**
Any CS received	24.1%	25.6%	26.8%	27.5%	32.8%	24.9%	27.1%	28.1%	28.9%	34.3%	-0.8	-1.6**	-1.3**	-1.5**	-1.5**
Total amount of CS received (recipients)	769	799	788	811	3167	779	797	774	812	3162	-9.8	2.0	13.5	-1.3	4.4
	(1071)	(1056)	(984)	(928)	(3520)	(1038)	(992)	(900)	(923)	(3331)					
Total amount of CS received (all)	253	262	259	266	1040	267	273	265	279	1084	-14.6	-10.9	-6.8	-12.3	-44.6
	(712)	(712)	(674)	(654)	(2506)	(711)	(693)	(643)	(664)	(2461)					
CS regularity															
Regular support	16.7%	17.8%	18.9%	19.9%	15.9%	17.4%	18.6%	19.8%	20.8%	16.8%	-0.7	-0.8	-0.9*	-0.9*	-0.8*
Irregular support	7.5%	7.8%	7.9%	7.6%	16.9%	7.5%	8.5%	8.3%	8.1%	17.5%	-0.1	-0.8*	-0.4	-0.5	-0.6
No child support received	75.9%	74.4%	73.2%	72.5%	67.2%	75.1%	72.9%	71.9%	71.1%	65.7%	0.8	1.6**	1.3**	1.5**	1.5**
Any earnings	68.4%	71.8%	73.2%	73.8%	84.9%	68.2%	72.0%	74.3%	75.4%	85.2%	0.2	-0.2	-1.1*	-1.6***	-0.3
Total earnings	3264	3655	3804	4103	14825	3231	3647	3847	4216	14942	32.1	7.8	-43.4	-113.1*	-116.6
	(3856)	(3968)	(4018)	(4207)	(14809)	(3795)	(3885)	(3970)	(4205)	(14702)					
Safety net benefits															
UI															
Any receipt	1.7%	1.6%	1.6%	1.4%	3.7%	1.5%	1.5%	1.6%	1.5%	3.6%	0.2	0.1	0.0	-0.1	0.1
Total amount of UI payments received (recipients)	94	79	97	72	342	82	68	78	66	295	11.3	11.3	18.7*	6.2	47.5
	(519)	(465)	(512)	(444)	(1320)	(467)	(436)	(440)	(403)	(1179)					
Total amount of UI payments received (all)	29	24	30	22	105	26	21	25	21	93	2.8	2.9	5.1	1.4	12.2
	(291)	(260)	(287)	(248)	(748)	(265)	(246)	(249)	(228)	(676)					
TANF															
Any receipt	9.0%	6.4%	6.0%	5.5%	12.3%	9.1%	5.7%	5.2%	5.0%	11.9%	-0.1	0.6*	0.8**	0.5	0.4
Total amount of TANF payments received (recipients)	298	186	171	170	825	419	237	194	176	1026	-121.0***	-50.5***	-23.0*	-5.9	-200.3***
	(557)	(461)	(436)	(442)	(1478)	(627)	(520)	(470)	(448)	(1648)					
Total amount of TANF payments received (all)	73	46	42	42	202	84	48	39	35	206	-11.4***	-2.1	2.8	6.2*	-4.5
	(304)	(241)	(227)	(231)	(812)	(328)	(252)	(225)	(213)	(846)					
SSI															
Any receipt	1.7%	1.7%	1.7%	1.7%	1.8%	1.8%	1.8%	1.8%	1.7%	1.9%	-0.1	-0.1	-0.1	-0.1	-0.1
Total amount of SSI payments received (recipients)	1172	1128	1097	1083	4481	1318	1284	1241	1219	5061	-146.3	-155.3*	-143.7	-135.3	-580.6*
	(1186)	(1152)	(1137)	(1131)	(4446)	(1178)	(1146)	(1150)	(1133)	(4418)					
Total amount of SSI payments received (all)	34	33	32	31	129	36	35	33	33	136	-1.7	-2.0	-1.8	-1.6	-7.1
	(281)	(272)	(266)	(264)	(1063)	(288)	(280)	(276)	(271)	(1094)					
SS/SSDI															
Any receipt	2.1%	2.2%	2.2%	2.2%	2.3%	2.0%	2.1%	2.1%	2.1%	2.2%	0.1	0.1	0.1	0.1	0.1
Total amount of SS/SSDI payments received (recipients)	675	667	690	710	2741	831	838	859	869	3397	-156.0**	-171.1**	-169.2**	-159.3**	-655.5**
	(1083)	(1043)	(1074)	(1077)	(4139)	(1192)	(1190)	(1180)	(1196)	(4647)					
Total amount of SS/SSDI payments received (all)	34	34	35	36	139	35	35	36	36	142	-0.5	-1.2	-0.9	-0.3	-2.8
	(285)	(276)	(285)	(288)	(1108)	(294)	(295)	(296)	(300)	(1166)					
SNAP															
Any receipt	53.6%	52.4%	51.8%	51.5%	63.0%	56.1%	54.4%	53.0%	52.3%	63.9%	-2.5***	-2.0***	-1.3*	-0.8	-0.9
Total amount of SNAP payments received (recipients)	763	723	718	683	2887	852	796	742	700	3091	-89.3***	-73.2***	-24.2**	-16.7	-203.4***
	(760)	(748)	(769)	(735)	(2687)	(784)	(764)	(746)	(725)	(2702)					
Total amount of SNAP payments received (all)	605	574	570	542	2291	658	615	573	541	2387	-53.0***	-41.4***	-3.6	1.4	-96.5**
	(744)	(728)	(744)	(711)	(2664)	(776)	(750)	(726)	(702)	(2705)					

Table 3. Custodial mothers' income packages *at baseline* (Continuation)

	Treatment Cohort (2018 births) 2019					Comparison Cohort (2017 births) 2018					Difference				
	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual
Tax benefits (estimated)															
Any receipt	82.7%	82.7%	82.7%	82.7%	82.7%	80.6%	80.6%	80.6%	80.6%	80.6%	2.1***	2.1***	2.1***	2.1***	2.1***
Total amount of tax benefits received	941	927	923	921	3713	866	857	852	849	3425	74.9***	70.1***	71.3***	71.5***	287.8***
	(937)	(923)	(919)	(916)	(3695)	(935)	(925)	(919)	(916)	(3695)					
Total personal cash income[a]	3686	4053	4200	4500	16439	3679	4059	4245	4620	16603	6.7	-5.5	-45.1	-119.7**	-163.5
	(3893)	(4008)	(4058)	(4230)	(14969)	(3844)	(3935)	(4010)	(4253)	(14903)					
Total personal cash income plus near-cash benefits[b]	5232	5554	5693	5963	22443	5204	5531	5671	6010	22415	28.7	23.2	22.7	-46.7	27.8
	(4111)	(4173)	(4199)	(4351)	(15683)	(4037)	(4089)	(4140)	(4357)	(15539)					
Economic hardship (Income as % of FPL)															
<50% FPL	51.3%	46.6%	45.3%	43.0%	44.7%	50.4%	45.6%	43.8%	41.0%	43.3%	0.9	1.0	1.5**	2.0***	1.4**
50-99% FPL	21.7%	21.1%	21.4%	20.3%	24.2%	22.6%	22.1%	21.8%	20.4%	24.7%	-0.8	-1.0*	-0.4	-0.0	-0.5
100-199% FPL	22.0%	25.7%	26.1%	27.8%	25.4%	21.8%	26.0%	27.4%	29.6%	26.2%	0.2	-0.3	-1.3**	-1.7***	-0.8
200% FPL or higher	5.0%	6.5%	7.2%	8.8%	5.7%	5.2%	6.3%	7.0%	9.1%	5.8%	-0.2	0.2	0.2	-0.2	-0.1
Economic hardship (Income plus Near-Cash Benefits as % of															
<50% FPL	35.5%	32.7%	31.2%	29.6%	29.3%	34.5%	31.8%	30.4%	28.5%	28.1%	1.0	0.9	0.8	1.1*	1.2*
50-99% FPL	23.3%	21.6%	22.0%	21.1%	24.6%	23.9%	21.7%	21.8%	20.6%	24.8%	-0.5	-0.1	0.2	0.5	-0.2
100-199% FPL	33.1%	35.3%	34.9%	35.2%	36.6%	33.9%	36.6%	37.2%	36.9%	38.4%	-0.8	-1.3*	-2.2***	-1.6**	-1.8***
200% FPL or higher	8.1%	10.4%	11.9%	14.1%	9.5%	7.8%	9.8%	10.7%	14.0%	8.7%	0.3	0.5	1.2***	0.1	0.8*
N(custodial mothers)			16,335					17,152							

Notes: Means (and standard deviations) or proportions presented. Statistical significance of bivariate tests for mean difference between treatment cohort and comparison cohort: *p<0.05, **p<0.01, ***p<0.001. Monetary values adjusted to 2020 dollars. [a] Includes child support payments, earnings, UI, TANF, SSI, and SS/SSDI. [b] Includes personal cash income, SNAP, and tax benefits

In the NCP sample, with respect to parents' ability to pay child support, the two cohorts looked very similar at baseline and differences were not statistically significant in most outcomes (see Table 2). Participation in paid work at the annual level was almost the same between cohorts (86.9% in the treatment cohort vs. 87.2% in the comparison cohort). In quarter 2 (Q2), NCPs in the treatment cohort had higher earnings than NCPs in the comparison cohort by about $352, and this difference was statistically significant. On average, the higher earnings in the treatment cohort represented about 6.9% of the comparison cohort's earnings in Q2. We also found statistically significant differences between cohorts in annual earnings, with NCPs in the treatment cohort earning about $789 more than NCPs in the comparison cohort. On average, the higher earnings in the treatment cohort represented about 3.8% of the comparison cohort's annual earnings.

In terms of safety net benefits, both cohorts had the same rate of UI receipt (7.6%) and very similar UI benefit amounts, among both NCP recipients ($752–$761) and all NCPs ($237–$250). There was no difference between cohorts in the likelihood of being eligible to receive any tax benefits(24.0%–24.1%). NCPs in both treatment and comparison cohorts were estimated to have tax liabilities, but the average estimated amount owed by the comparison cohort ($2,225) was slightly higher than the estimated amount owed by the treatment cohort ($2,113). However, this difference between the two cohorts was not statistically significant.

Differences in child support outcomes between cohorts were minimal at both annual and quarterly levels and were not statistically significant. The only exception to this is that NCPs in the treatment cohort were slightly more likely to have a child support order than NCPs in the comparison cohort in Q1 (81.6% vs. 83.2%). In each cohort, between 88.3–88.5% NCPs paid any child support in the baseline year. Child support payments ranged from $3,289–$3,312

among all NCPs and from $3,725–$3,743 among NCP payers in each cohort. In each cohort, about 32% of NCPs made full payments annually. In the last month of the year, NCPs owed between $9,804–$10,298 in arrears.

In the CM sample, with respect to our child support outcomes, the two cohorts look quite similar at baseline (see Table 3). A slightly higher percentage of mothers in the comparison cohort (37.7% versus 36.0%) had a child support order at baseline and were thus slightly more likely to receive any child support than the treatment cohort (34.3% versus 32.8%). Among mothers with any child support receipt, mothers in the treatment and comparison cohorts received similar amounts of child support payments ($3,162–$3,167). We found no statistically significant differences in earnings at the annual level between the two cohorts, and differences at the quarterly level were substantively very small. On average, 85% of mothers had any earnings, and annual earnings were about $14,900 in each cohort.

In terms of safety net benefits, CMs had very similar levels of receipt across each cohort. About 3.6% of mothers received UI benefits, 12.0% received TANF, 2% received SSI, 2% received SS/SSDI, and 63–64% received SNAP. We found differences in benefit amounts across the two cohorts for TANF, SS/SSDI, and SNAP. Mothers in the treatment cohort who participated in these programs received a smaller amount of benefits compared to the comparison group—by $200 annually for TANF, by $581 annually for SSI, by $656 annually for SS/SSDI, and by $203 annually for SNAP. We also found statistically significant differences in tax benefit receipt between the two cohorts. CMs in the treatment cohort were slightly more likely to be eligible to receive tax benefits (82.7% versus 80.6% in the comparison cohort) and were estimated to receive $288 more in benefits. Mothers' total personal cash income was the same

across the two cohorts and is notably quite low at about $16,500 annual income; total personal

cash income plus SNAP and tax benefits was about $22,400 in each cohort.

The poverty rate was similar in the treatment and comparison cohorts in our first poverty

measure that counts only cash income. A slightly higher percentage of mothers in the treatment

cohort (44.7%) experienced deep poverty (<50% FPL) compared to the comparison cohort

(43.3%), but similar percentages in each cohort (24–25%) had incomes between 50–99% of the

FPL. In our alternative poverty measure that also counts SNAP and tax benefits as income,

mothers in the treatment cohort were again slightly more likely to experience deep poverty but

were also slightly more likely to have incomes at or above 200% FPL.

Comparing Outcome Variables at Follow-Up

In Tables 4 and 5, we show the values of the outcome variables *at follow-up* in the

treatment and comparison cohorts and whether there were statistically significant differences

between the two cohorts. These results show the unadjusted differences in key outcomes *at

follow-up* and provide a first glance at how these outcomes changed during the pandemic.

We found substantial differences between the two cohorts of NCPs in the follow-up

period (see Table 4). NCPs in the treatment cohort were less likely to be doing paid work than

NCPs in the comparison cohort by 2.6 percentage points. This decline in formal employment was

particularly high in Q2 (6.7 percentage points), but small improvements were observed in Q3

(5.9 percentage points) and Q4 (4.6 percentage points). NCPs in the treatment cohort also had

$924 lower annual earnings than NCPs in the comparison cohort. On average, the lower earnings

in the treatment cohort represented about 4.3% of the comparison cohort's annual earnings.

These differences in labor market outcomes between cohorts were statistically significant at both

annual and quarterly levels.

Table 4. Noncustodial parents' ability to pay child support and child support outcomes *at follow-up*

	Treatment Cohort (2018 births) 2020					Comparison Cohort (2017 births) 2019					Difference				
	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual
Any earnings	70.7%	65.5%	66.4%	67.5%	82.4%	70.4%	72.2%	72.3%	72.1%	85.0%	0.2	-6.7***	-5.9***	-4.6***	-2.6***
Total earnings	5047	4734	5116	5631	20528	4942	5360	5533	5617	21452	104.5	-625.7***	-416.5***	14.2	-923.5*
	(5570)	(5650)	(6005)	(6376)	(21914)	(5376)	(5619)	(5802)	(6068)	(21221)					
Safety net benefits															
UI															
Any receipt	4.9%	12.4%	13.4%	14.8%	24.0%	4.5%	3.5%	2.3%	3.4%	7.8%	0.4	8.9***	11.0***	11.4***	16.2***
Total amount of UI payments received (recipients)	295	2443	2188	1545	6472	303	175	130	155	763	-7.2	2267.8***	2058.6***	1390.0***	5709.2***
	(907)	(3944)	(3766)	(2786)	(7301)	(957)	(668)	(618)	(595)	(1902)					
Total amount of UI payments received (all)	93	769	688	486	2036	99	58	43	51	251	-6.5	710.9***	645.7***	435.0***	1785.1***
	(527)	(2486)	(2344)	(1719)	(5079)	(567)	(392)	(359)	(349)	(1147)					
Tax benefits (estimated)															
Any receipt	24.5%	77.3%	24.5%	72.5%	77.3%	25.4%	25.4%	25.4%	25.4%	25.4%	-0.9	51.9***	-0.9	47.1***	51.9***
Total amount of tax benefits received	-568	424	-566	239	-471	-546	-538	-536	-534	-2155	-22.0	962.5***	-29.8	773.9***	1684.5***
	(904)	(959)	(900)	(935)	(3697)	(936)	(922)	(918)	(915)	(3691)					
Total tax benefits minus CARES payments	-568	-572	-566	-563	-2269										
	(904)	(910)	(900)	(896)	(3609)										
Total CARES payments	0	996	0	803	1799										
	(0)	(84)	(0)	(68)	(152)										
Child support outcomes															
Child support order in place	94.3%	94.0%	93.7%	93.4%	94.9%	93.9%	92.4%	91.1%	90.1%	94.7%	0.5	1.6**	2.6***	3.3***	0.2
Any CS paid	75.3%	79.1%	69.2%	68.5%	90.8%	74.3%	74.0%	70.4%	70.5%	88.5%	1.0	5.1***	-1.3	-2.0*	2.3***
Total amount of CS paid (payers)	1218	1477	919	803	4416	1221	1051	887	875	4035	-3.4	425.6***	31.4	-72.0***	381.6***
	(1476)	(1440)	(1152)	(1011)	(3866)	(1433)	(1266)	(1076)	(1063)	(3948)					
Total amount of CS paid (all)	1105	1341	834	729	4009	1081	931	786	775	3572	24.2	409.9***	48.4*	-45.7*	436.8***
	(1450)	(1437)	(1129)	(991)	(3899)	(1404)	(1237)	(1051)	(1038)	(3931)					
Compliance															
No payment	23.0%	18.4%	28.3%	28.4%	7.6%	23.7%	23.1%	25.9%	25.6%	10.0%	-0.8	-4.6***	2.4**	2.8**	-2.3***
Partial payment	26.2%	18.5%	27.2%	38.5%	61.0%	25.4%	27.9%	28.5%	29.5%	55.3%	0.7	-9.4***	-1.4	8.9***	5.7***
Full payment	50.9%	63.0%	44.6%	33.1%	31.3%	50.8%	49.0%	45.6%	44.9%	34.7%	0.0	14.0***	-1.0	-11.7***	-3.4***
Arrears															
Principal	6363	6429	6649	6906	6906	6731	6855	7105	7384	7384	-368.0	-426.4	-455.9	-478.1	-478.1
	(12520)	(12794)	(12854)	(12927)	(12927)	(13344)	(13349)	(13436)	(13646)	(13646)					
Interest	2760	2841	2888	2937	2937	2919	2947	3014	3097	3097	-159.3	-105.1	-126.3	-159.9	-159.9
	(9502)	(9708)	(9748)	(9814)	(9814)	(10013)	(10007)	(10121)	(10245)	(10245)					
Total	9825	9777	10016	10312	10312	10446	10533	10850	11216	11216	-621.5	-756.0	-833.9	-904.8*	-904.8*
	(21739)	(22157)	(22225)	(22326)	(22326)	(23036)	(23016)	(23208)	(23517)	(23517)					
N(noncustodial parents)			5,293					5,908							

Notes: Means (and standard deviations) or proportions presented. Statistical significance of bivariate tests for mean difference between treatment cohort and comparison cohort: *p<0.05, **p<0.01, ***p<0.001. Monetary values adjusted to 2020 dollars.

Table 5. Custodial mothers' income packages *at follow-up*

	Treatment Cohort (2018 births)					Comparison Cohort (2017 births)					Difference				
	2019					2018									
	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual
Child support outcomes															
Child support order in place	35.3%	35.3%	36.2%	37.0%	38.3%	36.3%	37.0%	37.4%	38.0%	40.4%	-1.0*	-1.6**	-1.2*	-1.0*	-2.1***
Any CS received	29.1%	30.1%	28.6%	29.0%	36.1%	29.8%	30.3%	30.3%	30.8%	37.0%	-0.7	-0.2	-1.7***	-1.7***	-0.9
Total amount of CS received (recipients)	913	1075	813	747	3548	913	868	797	816	3395	-0.1	207.4***	15.5	-69.4***	153.4*
	(1208)	(1250)	(988)	(962)	(3583)	(1090)	(1029)	(928)	(948)	(3456)					
Total amount of CS received (all)	330	388	294	270	1281	338	321	295	302	1257	-8.6	66.8***	-1.8	-32.7***	23.7
	(848)	(912)	(711)	(680)	(2745)	(797)	(753)	(684)	(699)	(2666)					
CS regularity															
Regular support (3 months)	20.4%	20.0%	20.5%	19.8%	18.4%	21.5%	21.6%	21.9%	22.3%	19.6%	-1.1*	-1.5***	-1.5***	-2.5***	-1.3**
Irregular support (fewer than 3 months)	8.7%	10.1%	8.2%	9.2%	17.7%	8.3%	8.7%	8.4%	8.5%	17.4%	0.4	1.3***	-0.2	0.7*	0.3
No child support received	70.9%	69.9%	71.4%	71.0%	63.9%	70.2%	69.7%	69.7%	69.2%	63.0%	0.7	0.2	1.7***	1.7***	0.9
Any earnings	72.1%	66.3%	68.4%	69.8%	82.5%	73.4%	74.3%	75.5%	76.2%	86.4%	-1.2*	-8.0***	-7.1***	-6.4***	-3.9***
Total earnings	3900	3416	3710	4389	15415	4001	4131	4226	4561	16920	-100.9*	-715.0***	-516.8***	-171.6***	-1504.4***
	(4198)	(4209)	(4253)	(4835)	(16090)	(4219)	(4250)	(4252)	(4511)	(15958)					
Safety net benefits															
UI															
Any receipt	3.0%	14.6%	14.8%	15.5%	25.9%	1.7%	1.7%	1.7%	1.6%	4.0%	1.3***	12.9***	13.2***	13.9***	21.8***
Total amount of UI payments received (recipients)	104	3111	2517	1667	7400	77	81	84	77	320	26.9**	3029.6***	2433.4***	1590.2***	7080.2***
	(498)	(4129)	(3815)	(2966)	(6886)	(444)	(454)	(462)	(438)	(1202)					
Total amount of UI payments received (all)	32	955	773	512	2271	24	26	26	24	101	7.6**	929.1***	746.1***	487.4***	2170.2***
	(280)	(2700)	(2411)	(1814)	(5118)	(251)	(258)	(262)	(248)	(690)					
TANF															
Any receipt	4.7%	5.2%	6.1%	6.3%	8.8%	4.9%	4.9%	5.1%	4.8%	8.6%	-0.2	0.3	1.0***	1.5***	0.2
Total amount of TANF payments received (recipients)	158	245	298	299	1000	182	176	194	190	742	-24.2*	69.2***	103.5***	109.0***	257.5***
	(432)	(578)	(622)	(622)	(1880)	(466)	(445)	(471)	(473)	(1456)					
Total amount of TANF payments received (all)	39	60	73	73	244	37	35	39	38	149	1.9	24.5***	33.7***	34.9***	95.1***
	(224)	(305)	(333)	(333)	(1024)	(221)	(211)	(225)	(226)	(717)					
SSI															
Any receipt	1.6%	1.7%	1.7%	1.7%	1.8%	1.7%	1.7%	1.7%	1.7%	1.8%	-0.1	-0.1	-0.0	-0.0	-0.0
Total amount of SSI payments received (recipients)	1075	1121	1090	1094	4380	1229	1192	1157	1151	4728	-153.9*	-70.5	-66.9	-56.9	-348.3
	(1153)	(1293)	(1155)	(1169)	(4544)	(1165)	(1149)	(1126)	(1129)	(4408)					
Total amount of SSI payments received (all)	31	32	31	32	126	33	32	31	31	127	-2.1	0.2	0.3	0.5	-1.1
	(266)	(289)	(268)	(270)	(1064)	(276)	(270)	(263)	(263)	(1053)					
SS/SSDI															
Any receipt	2.2%	2.3%	2.4%	2.4%	2.4%	2.1%	2.1%	2.1%	2.2%	2.3%	0.2	0.2	0.2	0.2	0.2
Total amount of SS/SSDI payments received (recipients)	735	758	780	818	3090	881	876	886	918	3562	-146.1*	-118.1*	-106.6	-100.3	-471.2*
	(1105)	(1125)	(1122)	(1150)	(4398)	(1216)	(1198)	(1221)	(1228)	(4737)					
Total amount of SS/SSDI payments received (all)	37	38	39	41	156	37	37	37	38	148	0.5	1.9	2.5	3.1	8.0
	(296)	(303)	(305)	(315)	(1199)	(304)	(301)	(306)	(310)	(1200)					
SNAP															
Any receipt	51.3%	56.2%	57.4%	57.2%	64.2%	51.0%	51.0%	51.4%	51.1%	60.7%	0.3	5.2***	6.1***	6.1***	3.5***
Total amount of SNAP payments received (recipients)	694	1145	1142	1237	4218	688	689	725	699	2801	6.2	455.2***	416.9***	538.8***	1417.1***
	(747)	(947)	(911)	(981)	(3218)	(729)	(729)	(770)	(745)	(2668)					
Total amount of SNAP payments received (all)	551	908	906	982	3347	531	533	560	540	2163	19.4*	375.6***	346.0***	442.2***	1183.3***
	(722)	(963)	(934)	(1007)	(3337)	(702)	(703)	(741)	(717)	(2622)					

Table 5. Custodial mothers' income packages *at follow-up* (Continued)

	Treatment Cohort (2018 births)					Comparison Cohort (2017 births)					Difference				
	2019					2018									
	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual	Q1	Q2	Q3	Q4	Annual
Tax benefits (estimated)															
Any receipt	80.6%	99.7%	80.6%	99.5%	99.7%	80.7%	80.7%	80.7%	80.7%	80.7%	-0.1	19.0***	-0.1	18.8***	19.0***
Total amount of tax benefits received	952	3230	948	2774	7904	974	959	955	953	3841	-21.6*	2270.8***	-7.4	1821.1***	4062.9***
	(969)	(1371)	(965)	(1259)	(4428)	(962)	(948)	(944)	(941)	(3795)					
Total tax payments excluding CARES	952	958	948	943	3802										
	(969)	(975)	(965)	(960)	(3868)										
Total CARES payments	0	2272	0	1830	4102										
	(0)	(719)	(0)	(579)	(1299)										
Total personal cash income[a]	4369	4890	4919	5317	19494	4470	4582	4655	4995	18703	-101.5*	307.5***	264.0***	321.6***	791.6***
	(4258)	(4737)	(4613)	(4975)	(16540)	(4284)	(4313)	(4292)	(4551)	(16176)					
Total personal cash income plus near-cash benefits[b]	5871	9028	6773	9072	30745	5975	6074	6171	6487	24707	-103.8*	2953.9***	602.7***	2585.0***	6037.7***
	(4316)	(5092)	(4790)	(5254)	(17451)	(4381)	(4377)	(4352)	(4579)	(16470)					
Economic hardship (Income as % of FPL)															
<50% FPL	44.9%	45.1%	41.5%	39.1%	38.7%	43.5%	42.3%	41.4%	39.2%	39.7%	1.5**	2.8***	0.0	-0.0	-1.0
50-99% FPL	21.1%	16.1%	19.6%	19.3%	22.9%	22.3%	21.5%	21.3%	20.3%	24.2%	-1.1	-5.4***	-1.6***	-1.0*	-1.3**
100-199% FPL	26.5%	26.7%	28.1%	27.9%	29.8%	26.9%	27.8%	28.7%	29.9%	28.5%	-0.4	-1.1*	-0.6	-2.0***	1.4**
200% FPL or higher	7.4%	12.1%	10.8%	13.6%	8.6%	7.3%	8.4%	8.6%	10.6%	7.7%	0.1	3.7***	2.2***	3.1***	0.9**
Economic hardship (Income plus Near-Cash Benefits as % of															
<50% FPL	31.0%	9.3%	26.1%	9.8%	15.1%	30.4%	29.0%	27.7%	26.3%	25.6%	0.6	-19.7***	-1.6***	-16.5***	-10.5***
50-99% FPL	20.8%	24.9%	20.0%	22.1%	22.8%	20.3%	20.4%	21.1%	20.4%	22.7%	0.6	4.5***	-1.1	1.7***	0.1
100-199% FPL	37.5%	33.7%	36.4%	35.6%	40.3%	38.7%	38.2%	38.4%	37.7%	40.3%	-1.2*	-4.5***	-2.0***	-2.1***	-0.0
200% FPL or higher	10.7%	32.1%	17.5%	32.4%	21.8%	10.7%	12.4%	12.9%	15.5%	11.4%	0.0	19.7***	4.6***	16.9***	10.4***
N(custodial mothers)			16,335					17,152							

Notes: Means (and standard deviations) or proportions presented. Statistical significance of bivariate tests for mean difference between treatment cohort and comparison cohort: *p<0.05, **p<0.01, ***p<0.001. Monetary values adjusted to 2020 dollars.

[a] Includes child support payments, earnings, UI, TANF, SSI, and SS/SSDI.

[b] Includes personal cash income, SNAP, and tax benefits

There were also substantial and statistically significant differences in UI benefits receipt and tax benefit eligibility. Compared to NCPs in the comparison cohort, NCPs in the treatment cohort were about three times more likely to receive any UI benefits (24% vs. 7.8%) and on average received higher UI amounts among both NCP recipients ($6,472 vs. $763) and all NCPs ($2,036 vs. $251). In addition, NCPs in the treatment cohort were three times more likely to be eligible to receive any tax benefits (77.3% vs. 25.4%) and, on average, were estimated to receive about $1,685 higher tax benefits (or lower tax liability) than NCPs in the comparison cohort.

Differences between cohorts in terms of child support outcomes were both substantially and statistically significant. Compared to NCPs in the comparison cohort, NCPs in the treatment cohort were more likely to pay any child support (90.8% vs. 88.5%) and paid higher amounts of support among both NCP payers ($4,416 vs. $4,035) and all NCPs ($4,009 vs. $3,572). With respect to compliance, NCPs in the treatment cohort were much more likely than those in the comparison cohort to make a full payment in Q2 (63.0% vs. 49.0%) but less likely to do so in Q4 (33.1% vs. 44.9%); at the annual level, NCPs in the treatment cohort were more likely to make partial payments but less likely to make no payments or full payments. NCPs in the treatment cohort also accumulated less arrears than NCPs in the comparison cohort by $905 at the annual level.

For the CM sample, during the follow-up period, we also see substantial differences between the treatment and comparison cohorts across most of our outcomes (see Table 5). With respect to child support outcomes, mothers in the treatment cohort were less likely to have a child support order by about 2 percentage points annually, but the decline is most apparent in Q2. The amount of child support payments among recipients was higher by about $153 annually, but this differed substantially by quarters. In Q2, treatment cohort mothers received $207 more in

child support payments but received $69 fewer in Q4. This pattern was similar for all mothers, not just recipients. We found small differences in child support regularity. Treatment cohort mothers were 1.3 percentage points less likely than the comparison cohort to receive regular support at the annual level but by 2.5 percentage points in Q4.

Custodial mothers' earnings declined substantially relative to the comparison cohort beginning in Q2 (see Table 5). The percentage of mothers with any earnings was 66.3% in the treatment cohort and 74.3% in the comparison cohort in Q2. Although this gap narrowed over time, mothers in the treatment cohort were 6.4 percentage points less likely to have any earnings in Q4 and 3.9 percentage points at the annual level. Custodial mothers' total amount of earnings followed a similar pattern with a large drop in Q2, and mothers in the treatment cohort had $1,504 fewer earnings at the annual level compared to those in the comparison cohort.

Turning to safety net benefits, we observe a large increase of about 13–14 percentage points per quarter in UI benefit receipt and of about $1,590–$3,030 in the amount of benefits (among recipients) in the treatment cohort relative to the comparison cohort beginning in Q2 (see Table 5). Although the percentage of mothers receiving UI stayed elevated in Q3 and Q4, the amount of benefits declined relative to Q2, consistent with the timing of the UI supplemental payments. Similarly, beginning in Q2, SNAP receipt increased by about 5–6 percentage points at the quarterly level, and SNAP benefit amounts increased by about $400–$500 per quarter (among recipients) in the treatment cohort. The percentage of mothers who received TANF was slightly higher in the treatment cohort by about 1 percentage point in Q3 and Q4, but this did not translate to a higher percentage of treatment cohort mothers receiving TANF at the annual level. Mothers in the treatment cohort did receive a modest increase in TANF benefit amounts ($69–$109 higher among recipients) beginning in Q2 and continuing in Q3 and Q4. Mothers in the

treatment cohort were also much more likely to be eligible to receive tax benefits by about 19 percentage points and were eligible to receive a much larger amount of tax benefits ($7,904 versus $3,841 in the comparison cohort) due to the CARES economic impact payments. We observed little change in the SSI or SS/SSDI receipt or benefit amounts; although benefit amounts among recipients were lower in the treatment versus comparison cohorts in the follow-up period, this was true in all quarters, suggesting it was not related to the pandemic.

Given these changes to CM's child support receipt, earnings, and safety net benefit receipt, mothers in the treatment group had higher total personal incomes during the follow-up period compared to the comparison cohort (see Table 5). Treatment group mothers' income was higher beginning in Q2 and continuing in Q3 and Q4 and translated to a higher annual income of an additional $792 in total personal cash income and $6,038 in total income when counting SNAP and estimated tax benefits. In turn, we observed a small decline in poverty in the treatment cohort when considering only cash income and a larger decline when considering cash income plus near-cash and tax benefits. The percentage of mothers whose income was below 50% of the FPL was lower among the treatment cohort by about 1 percentage point (but not statistically significant) and the percentage whose income was between 50–99% of the FPL was 1.3 percentage points lower in our first poverty measure. In our alternative poverty measure, which counts SNAP and estimated tax benefits as income, deep poverty was 10.5 percentage points lower in the treatment cohort relative to the comparison cohort.

The Effects of the Pandemic on Noncustodial Parents' Ability to Pay Child Support and Child Support Outcomes

Earnings, UI Benefits, and Estimated Tax Benefits

Table 6 shows results from regression models predicting noncustodial parents' earnings and benefits. NCPs in the treatment cohort were 3 percentage points less likely to receive any earnings, representing about 3.5% decline in formal employment (compared to the baseline period). In addition, NCPs had $1,272–1,710 lower annual earnings than NCPs in the comparison cohort, a decline representing approximately 8% loss in earnings. In addition, NCPs in the treatment cohort were 16 percentage points more likely to receive UI benefits (211% increase compared to the baseline period) and about 52 percentage points more likely to be eligible to receive tax benefits than NCPs in the comparison cohort (216% increase compared to the baseline period). NCPs in the treatment cohort received about $1,796 more in UI benefits (758% increase compared to the baseline period) and were eligible to receive about $1,575–$1,745 more in tax benefits than NCPs in the comparison cohort (relative to owing about $2,100 in tax benefits in the baseline period). Results for full models are presented in Appendix Table A1.

Child Support Outcomes

Table 7 shows results from regression models predicting noncustodial parents' child support outcomes for Models 1–3. There were no differences in the probability of having a child support order in place between treatment and comparison cohorts. However, NCPs in the treatment cohort were 2 percentage points more likely to make any child support payment (2.3% increase compared to the baseline period), and total annual child support payments were between $401–$475 higher in the treatment cohort compared to the comparison cohort (14.4% increase compared to the baseline period). At the same time, NCPs were 4 percentage points less likely to

Table 6. Noncustodial parents' earnings and benefits

	M1	M2	M3
Any earnings (logit)			
Treatment cohort	-0.03***	-0.03***	
	(.007)	(.006)	
Amount of earnings (OLS)			
Treatment cohort	-1271.71**	-1652.63***	-1709.52***
	(387.068)	(214.173)	(219.497)
Benefit Receipt (logit)			
UI			
Treatment cohort	0.16***	0.16***	
	(.007)	(.006)	
Tax benefits			
Treatment cohort	0.52***	0.52***	
	(.008)	(.007)	
Benefit Amount (OLS)			
UI			
Treatment cohort	1777.23***	1788.24***	1795.39***
	(67.945)	(66.672)	(67.209)
Tax benefits			
Treatment cohort	1745.07***	1598.70***	1574.53***
	(66.696)	(35.336)	(36.539)
N(noncustodial parents)	**11,201**	**11,201**	**11,201**

Notes: Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

Table 7. Noncustodial parents' child support outcomes

	M1	M2	M3
Child support order is in place (logit)			
Treatment cohort	0.00	0.00	
	(.004)	(.004)	
Any child support paid (logit)			
Treatment cohort	0.02***	0.02***	
	(.006)	(.005)	
Total amount of child support paid (OLS)			
Treatment cohort	401.25***	456.72***	475.30***
	(71.202)	(50.847)	(53.512)
Compliance (logit)[a]			
Treatment cohort	-0.04***	-0.04***	
	(.009)	(.008)	
Total amount of arrears (OLS)			
Treatment cohort	-978.73*	-371.18***	-388.27***
	(395.674)	(66.43)	(67.32)
N(noncustodial parents)	**11,201**	**11,201**	**11,201**

Notes: Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period.

[a]The sample size for the child support compliance outcome is 10,616. *p<0.05, **p<0.01, ***p<0.001

comply with their child support obligations (i.e., paying 90% or more of the amount owed), which represents a 12.4% decline in compliance compared to the baseline period. Compared to NCPs in the comparison cohort, NCPs in the treatment cohort owed between $371–$388 less in annual arrears (in Models 2 and 3). This decline in arrears corresponds with approximately 4% of the total amount owed by the treatment cohort at baseline. Results for full models are presented in Appendix Table A2.

Our findings were very similar in sensitivity analyses that included county fixed effects. Results of these analyses are presented in Appendix Tables A8 and A9.

The Effects of the Pandemic on Custodial Mothers' Outcomes

Child Support Outcomes

Table 8 shows results from regression models predicting custodial mothers' child support outcomes for Models 1–3. Results are shown separately for the full sample and for the subsample of custodial mothers who had a child support order in the baseline year. Because most mothers in the full sample do not have a child support order, we expect the effects of the pandemic on child support outcomes to show up primarily in the sample of custodial mothers with a child support order at baseline. In the full sample, custodial mothers in the treatment cohort were less likely to have a child support order in place compared to those in the comparison cohort. The decline is small, 1 percentage point relative to 36% of mothers with a child support order in place in the baseline period. Being in the treatment cohort was not associated with the probability of receiving any child support payments, but it was associated with receiving a higher total annual amount of child support in Models 2 and 3. The increase in child support amounts ranged from $72 to $75 across the models, representing about a 7% increase in child support received (compared to the amount received by all custodial mothers in the treatment cohort in the baseline

Table 8. Custodial mothers' child support outcomes

	All custodial mothers			Custodial mothers with a child support order at baseline		
	M1	**M2**	**M3**	**M1**	**M2**	**M3**
Child support order is in place (logit)						
Treatment cohort	-0.01**	-0.01*				
	(.005)	(.003)				
Any child support received (logit)						
Treatment cohort	0.00	0.00		0.01*	0.02***	
	(.005)	(.003)		(.006)	(.005)	
Total amount of child support payments received (OLS)						
Treatment cohort	49.22	72.08***	74.79***	180.02**	208.28***	214.50***
	(27.624)	(16.107)	(16.325)	(61.103)	(39.407)	(40.722)
Child support regularity (logit)						
Treatment cohort	-0.01**	-0.01*		-0.02*	-0.01	
	(.004)	(.003)		(.009)	(.007)	
N(custodial mothers)	**33,487**	**33,487**	**33,487**	**12,346**	**12,346**	**12,346**

Notes: Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

period). With respect to child support regularity, results show a 1 percentage point decline in regularity in the treatment cohort, which is equivalent to a 6% decline in regularity from baseline. Results for full models are presented in Appendix Table A3.

Among the sample of custodial mothers with a child support order at baseline, mothers in the treatment cohort were more likely to receive any child support payments by a small margin, 1–2 percentage points (see Panel 2 in Table 8) relative to 87.1% of mothers who received any child support at baseline. Similar to the full sample of CMs, being in the treatment cohort was associated with receiving higher child support payments by about $180–215, which represents a 6–8% increase from baseline. There was less evidence that being in the treatment cohort was associated with less regular child support payments. Being in the treatment cohort was associated with a statistically significant 2 percentage point reduction in regular support in Model 1, but this estimate was reduced to 1 percentage point and not statistically significant in Model 2. Results for full models are presented in Appendix Table A4.

Safety Net Benefits

As shown in Table 9, custodial mothers in the treatment cohort were 22 percentage points more likely to receive UI, 4 percentage points more likely to receive SNAP, and 19 percentage points more likely to be eligible to receive any tax benefits, including the CARES economic impact payments. This means that CMs in the treatment cohort were about 6 times more likely to receive UI in 2020 compared to 2019 while they were about 6% more likely to receive SNAP and 23% more likely to be eligible to receive tax benefits. There were no differences in TANF, SSI or SS/SSDI receipt between the treatment and comparison cohorts. Results for full models are presented in Appendix Table A5.

Table 9. Custodial mothers' safety net benefits

	M1	M2	M3
Benefit Receipt (logit)			
UI			
Treatment cohort	0.22***	0.22***	
	(.004)	(.004)	
TANF			
Treatment cohort	0.00	0.00	
	(.003)	(.003)	
SSI			
Treatment cohort	0.00	0.00	
	(.001)	(.001)	
SS/SSDI			
Treatment cohort	0.00	0.00	
	(.001)	(.001)	
SNAP			
Treatment cohort	0.04***	0.04***	
	(.005)	(.004)	
Tax benefits			
Treatment cohort	0.19***	0.19***	
	(.003)	(.003)	
Benefit Amount (OLS)			
UI			
Treatment cohort	2171.69***	2165.73***	2158.93***
	(39.458)	(39.292)	(39.508)
TANF			
Treatment cohort	94.38***	95.43***	96.29***
	(9.437)	(8.071)	(8.993)
SSI			
Treatment cohort	-1.38	5.75	6.23
	(8.574)	(4.136)	(4.166)
SS/SSDI			
Treatment cohort	6.82	10.68*	10.78*
	(11.981)	(4.763)	(4.771)
SNAP			
Treatment cohort	1266.37***	1278.24***	1281.18***
	(28.692)	(20.228)	(20.846)
Tax benefits			
Treatment cohort	4220.57***	3975.54***	3828.18***
	(39.659)	(31.827)	(34.834)
N(custodial mothers)	**33,487**	**33,487**	**33,487**

Notes: Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

With respect to benefit amounts, CMs in the treatment cohort received higher levels of UI, TANF, SS/SSDI, and SNAP benefits and were eligible to receive higher levels of tax benefits. The increase in UI benefits was about $2,160; compared to the baseline year ($105 benefit amount), this represents a 20-fold increase, driven both by increases in the percentage of mothers receiving UI and by larger benefit amounts among recipients. The increase in benefit amounts among the treatment cohort was substantial for other safety net programs as well. Benefits increased by about $95 for TANF (approximately 47% increase), $1,280 for SNAP benefits (approximately 56% increase), and about $3,800 for estimated tax benefits (a 100% increase), including CARES economic impact payments. The increase in SS/SSDI benefits was smaller at $11, an 8% increase. Results for full models are presented in Appendix Table A6. Among the sample of custodial mothers who had a child support order at baseline, the pattern of findings for safety net benefits was the same as reported above; these findings are shown in the appendix in Table A13.

Earnings, Income, and Poverty

Custodial mothers in the treatment cohort were 4 percentage points less likely to report any earnings as compared to their counterparts in 2019, which represents a 4.7% decline in formal employment compared to the baseline year (see Table 10). We see a corresponding decline in total earnings as CMs in the treatment cohort earned about $1,400–1,600 less per year, which is equivalent to an approximately 9–10% decline in earnings from the baseline year. Despite a decline in earnings, CMs in the treatment cohort had between $693–$988 more personal cash income compared to the comparison cohort, a 4–6% increase from the baseline year. This increase is driven by the increases in child support payments and UI, TANF, and SS/SSDI benefits discussed previously, which outweighed the declines in earnings. Once we take

Table 10. Custodial mothers' earnings, total personal income, and economic hardship

	M1	M2	M3
Any earnings (logit)			
Treatment cohort	-0.04***	-0.04***	
	(.004)	(.003)	
Amount of earnings (OLS)			
Treatment cohort	-1627.09***	-1391.81***	-1358.86***
	(172.256)	(102.606)	(104.413)
Total personal cash income (OLS)			
Treatment cohort	693.64***	957.54***	988.17***
	(175.533)	(101.921)	(103.255)
Total personal cash income and near-cash benefits (OLS)			
Treatment cohort	6180.59***	6108.29***	6097.52***
	(177.455)	(106.186)	(108.273)
Economic hardship <50% FPL (logit)			
Treatment cohort	0.00	-0.02***	
	(.005)	(.004)	
Economic hardship <100% FPL (logit)			
Treatment cohort	-0.01**	-0.03***	
	(.005)	(.004)	
Economic hardship <50% SPM (logit)			
Treatment cohort	-0.10***	-0.11***	
	(.004)	(.003)	
Economic hardship <100% SPM (logit)			
Treatment cohort	-0.10***	-0.11***	
	(.005)	(.004)	
N(custodial mothers)	**33,487**	**33,487**	**33,487**

Notes: Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

into account near-cash benefits (i.e., SNAP) and estimated tax benefits, CMs in the treatment cohort had \$6,098–\$6,181 more in income compared to the comparison cohort, a substantial 27% increase from the baseline year. Results for full models are presented in Appendix Table A7.

Higher levels of income among treatment cohort mothers translated to lower levels of poverty relative to the comparison cohort. In our first poverty measure that considers only cash income, CMs in the treatment cohort were 3 percentage points less likely to experience poverty (<100% FPL) and 2 percentage points less likely to experience deep poverty (<50% FPL) compared to the comparison cohort. Using our alternative poverty measure that considers cash income plus near-cash benefits and tax benefits, we find a much larger reduction in poverty. Treatment cohort mothers were 11 percentage points less likely to experience poverty and deep poverty, suggesting that mothers with the lowest incomes were particularly helped by the expansions in SNAP and tax benefits. This 11 percentage point decline in deep poverty among the treatment cohort represents a 38% decline in deep poverty from baseline.

Among the subsample of custodial mothers who had a child support order at baseline, results for earnings, income, and poverty were similar in magnitude and statistical significance; we present the findings in the appendix in Table A14. Additionally, across all outcomes for custodial mothers—child support, safety net benefits, and income and poverty—our findings were very similar in sensitivity analyses that included county fixed effects. Results of these analyses are presented in Appendix Tables A10, A11, and A12.

Subgroup Differences by Parents' Race and Ethnicity and Nativity

Noncustodial Parents

Results from our subgroup analyses suggest the pandemic's effects on noncustodial parents' ability to pay child support differed by NCPs' race and ethnicity but not place of birth

(see Table 11). Black NCPs, Hispanic NCPs, and NCPs of other races in the treatment cohort were slightly more likely to be eligible to receive tax benefits than White NCPs. In addition, Black NCPs in the treatment cohort received $2,166 more in UI benefits relative to those in the comparison cohort, whereas White NCPs, Hispanic NCPs and NCPs of another race saw increases of about $1,350–$1,650 in these benefits. Black NCPs and NCPs of other races in the treatment cohort were eligible to receive about $200–$250 more in tax benefits than other racial and ethnic subgroups in the treatment cohort.

Our subgroup analyses also show differences in the effects of the pandemic on noncustodial parents' child support outcomes by race and ethnicity but not place of birth (see Table 12). Black and Hispanic NCPs in the treatment cohort were 4 percentage points more likely to pay any child support relative to those in the comparison cohort while White NCPs in the treatment cohort and NCPs of another race and ethnicity were neither more nor less likely. In addition, Black NCPs in the treatment cohort paid about $700 more in child support, an amount that was about twice the increase in child support payments among White NCPs ($383) and Hispanic NCPs ($306). White NCPs and NCPs of another race in the treatment cohort were 7–8 percentage points less likely to comply with their child support obligations relative to those in the comparison cohort whereas Black and Hispanic NCPs in the treatment cohorts experienced no effect of the pandemic in their compliance with child support obligations.

Table 11. Noncustodial parents' earnings and benefits: Subgroup Analyses.

	Interaction by Race and Ethnicity					Interaction by Place of Birth		
	White	Black	Hispanic	Other Race	F test p-value	Born in U.S.	Born Outside U.S.	t-test p-value
Any earnings (logit)								
Treatment cohort	-0.02*	-0.02*	-0.03	-0.05*	0.672	-0.02***	-0.07*	0.095
	(.009)	(.011)	(.018)	(.02)		(.006)	(.029)	
Amount of earnings (OLS)								
Treatment cohort	-1695.41***	-1623.57***	-2276.49***	-780.06	0.440	-1658.53***	-1531.30	0.900
	(326.22)	(361.712)	(614.643)	(680.241)		(219.302)	(991.601)	
Benefit Receipt (logit)								
UI								
Treatment cohort	0.17***	0.16***	0.17***	0.16***	0.572	0.16***	0.15***	0.867
	(.01)	(.011)	(.018)	(.021)		(.007)	(.03)	
Tax benefits	0.48***	0.56***	0.54***	0.60***	0.000	0.53***	0.49***	0.667
Treatment cohort	(.012)	(.012)	(.021)	(.022)		(.008)	(.036)	
Benefit Amount (OLS)								
UI	1645.73***	2165.70***	1368.25***	1588.70***	0.000	1804.54***	1452.84***	0.266
Treatment cohort	(101.432)	(112.482)	(191.164)	(211.521)		(68.262)	(308.732)	
Tax benefits	1502.96***	1694.59***	1518.92***	1775.76***	0.031	1602.03***	1530.22***	0.668
Treatment cohort	(53.775)	(59.631)	(101.333)	(112.145)		(36.179)	(163.576)	
N(noncustodial parents)			**11,201**				**11,201**	

Notes: Average marginal effects from OLS and logistic regression models are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and a lagged dependent variable measured at baseline year. *p<0.05, **p<0.01, ***p<0.001

Table 12. Noncustodial parents' child support outcomes: Subgroup analyses.

	Interaction by Race and Ethnicity					Interaction by Place of Birth		
	White	**Black**	**Hispanic**	**Other Race**	**F test p-value**	**Born in U.S.**	**Born Outside U.S.**	**t-test p-value**
Child support order in place (logit)								
Treatment cohort	0.00	0.00	0.01	-0.01	0.718	0.00	0.04*	0.058
	(.007)	(.006)	(.012)	(.014)		(.004)	(.02)	
Any child support paid (logit)								
Treatment cohort	0.01	0.04***	0.03*	-0.02	0.020	0.02***	0.03	0.597
	(.008)	(.009)	(.016)	(.017)		(.005)	(.025)	
Total amount of child support payments paid (OLS)								
Treatment cohort	382.96***	725.96***	305.75*	11.80	0.000	465.87***	268.47	0.413
	(77.357)	(85.783)	(145.77)	(161.317)		(52.06)	(235.438)	
Compliance (logit)[a]								
Treatment cohort	-0.07***	0.00	-0.02	-0.08**	0.001	-0.04***	0.01	0.132
	(.013)	(.013)	(.023)	(.025)		(.008)	(.037)	
Total Arrears (OLS)								
Treatment cohort	-300.79**	-542.74***	-276.21	-184.92	0.277	-357.83***	-645.89*	0.360
	(101.13)	(112.147)	(190.564)	(210.88)		(68.014)	(307.557)	
N(noncustodial parents)			**11,201**				**11,201**	

Notes: Average marginal effects from OLS and logistic regression models are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and a lagged dependent variable measured at baseline year. [a]The sample size for the child support compliance outcome is 10,616. *p<0.05, **p<0.01, ***p<0.001

Custodial Mothers

Our results suggest that the effects of the pandemic on CM's child support receipt, safety net benefit receipt, and income differed by mothers' race and ethnicity, but we found very few differences by mothers' place of birth and only with respect to safety net benefits. Turning to child support outcomes, Black mothers in the treatment cohort received $170 more in child support payments relative to those in the comparison cohort, whereas White mothers, Hispanic mothers, and mothers of another race saw much smaller increases in payments ($35–53), and these increases were not statistically significant (see Table 13). This suggests that increases in child support payments among treatment cohort mothers were mainly concentrated among Black mothers and is consistent with our finding that NCPs child support payments also differed by race and ethnicity. Notably, Black mothers in the treatment group received smaller child support payment amounts at baseline compared to other racial and ethnic groups, suggesting these increases in child support payments during the pandemic were concentrated among mothers who received the least to begin with. We found no statistically significant differences in child support outcomes by custodial mothers' place of birth.

For safety net benefit receipt, we found differences by mothers' race and ethnicity across multiple programs (see Table 14). Focusing on any receipt of benefits, although all racial and ethnic groups in the treatment cohort saw an increase in UI and tax benefit receipt relative to those in the comparison cohort, White mothers had the largest increase in UI benefit receipt (23 percentage point increase in each program) while Black mothers had the smallest increase in UI benefit receipt (19 percentage points in each program). Hispanic mothers and those who identified as another race had rates that fell in between. For tax benefits, both White and Hispanic mothers had a 21 percentage point increase in being eligible for benefits, whereas Black mothers had only a 14 percentage point increase. The smaller increase for Black mothers

Table 13. Custodial mothers' child support outcomes: Subgroup analyses.

	Interaction by Race and Ethnicity					Interaction by Place of Birth		
	White	**Black**	**Hispanic**	**Other Race**	**F test p-value**	**Born in U.S.**	**Born Outside U.S.**	**t-test p-value**
Child support order in place (logit)								
Treatment cohort	0.00	-0.01*	-0.01	0.00	0.625	-0.01*	-0.01	0.834
	(.004)	(.006)	(.007)	(.008)		(.003)	(.011)	
Any child support received (logit)								
Treatment cohort	0.00	0.01	0.01	0.02	0.084	0.00	0.01	0.889
	(.004)	(.006)	(.008)	(.009)		(.003)	(.012)	
Total amount of child support payments received (OLS)								
Treatment cohort	34.92	170.00***	40.43	52.98	0.005	76.11***	11.29	0.330
	(22.902)	(31.862)	(42.804)	(48.04)		(16.629)	(64.427)	
Child support regularity (logit)								
Treatment cohort	-0.01**	0.00	0.00	-0.02	0.085	-0.01*	0.01	0.385
	(.004)	(.006)	(.008)	(.009)		(.003)	(.013)	
N(custodial mothers)			**33,487**				**33,487**	

Notes: Average marginal effects from OLS and logistic regression models are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and a lagged dependent variable measured at baseline year. *p<0.05, **p<0.01, ***p<0.001

Table 14. Custodial mothers' safety net benefits: Subgroup analyses.

	Interaction by Race and Ethnicity					Interaction by Place of Birth		
	White	**Black**	**Hispanic**	**Other Race**	**test p-value**	**Born in U.S.**	**Born Outside U.S.**	**t-test p-value**
Benefit Receipt (logit)								
UI								
Treatment cohort	0.23***	0.19***	0.22***	0.21***	0.000	0.22***	0.19***	0.114
	(.005)	(.008)	(.01)	(.011)		(.004)	(.014)	
TANF								
Treatment cohort	0.00	0.00	0.00	0.01	0.215	0.00	-0.01	0.451
	(.004)	(.006)	(.008)	(.008)		(.003)	(.011)	
SSI								
Treatment cohort	0.00	0.00	0.00	0.00	0.295	0.00	0.00	0.802
	(.001)	(.001)	(.002)	(.002)		(.001)	(.003)	
SS/SSDI								
Treatment cohort	0.00	0.00	0.00	0.00	0.384	0.00	0.00	0.285
	(.001)	(.001)	(.002)	(.002)		(.001)	(.003)	
SNAP								
Treatment cohort	0.05***	0.03***	0.04***	0.07***	0.254	0.04***	0.05***	0.634
	(.006)	(.009)	(.011)	(.012)		(.004)	(.016)	
Tax benefits								
Treatment cohort	0.21***	0.14***	0.21***	0.19***	0.000	0.19***	0.21***	0.255
	(.004)	(.006)	(.008)	(.009)		(.003)	(.012)	
Benefit Amount (OLS)								
UI								
Treatment cohort	2151.08***	2271.86***	2082.23***	2095.04***	0.401	2195.05***	1723.14***	0.004
	(55.877)	(77.737)	(104.432)	(117.207)		(40.561)	(157.146)	
TANF								
Treatment cohort	15.90	273.11***	65.97**	78.99**	0.000	98.63***	47.13	0.122
	(11.45)	(15.929)	(21.4)	(24.018)		(8.333)	(32.285)	
SSI								
Treatment cohort	5.18	9.63	-2.09	9.38	0.842	5.66	7.18	0.929
	(5.882)	(8.183)	(10.993)	(12.337)		(4.27)	(16.543)	
SS/SSDI								
Treatment cohort	16.97*	4.10	-2.24	14.11	0.484	12.00*	-9.19	0.281
	(6.774)	(9.424)	(12.66)	(14.209)		(4.917)	(19.052)	
SNAP								
Treatment cohort	1054.00***	1592.00***	1331.47***	1487.70***	0.000	1277.84***	1284.26***	0.939
	(28.71)	(39.944)	(53.659)	(60.226)		(20.883)	(80.914)	
Tax benefits								
Treatment cohort	3685.35***	4348.10***	4028.38***	4341.66***	0.000	3952.01***	4331.66***	0.004
	(45.161)	(62.808)	(84.379)	(94.681)		(32.847)	(127.127)	
N(custodial mothers)			**33,487**				**33,487**	

Notes: Average marginal effects from OLS and logistic regression models are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and a lagged dependent variable measured at baseline year. *p<0.05, **p<0.01, ***p<0.001

might be due in part to Black mothers having higher rates of UI receipt and tax benefit eligibility at baseline (e.g., 5.4% received UI at baseline compared to 3.2% of White mothers and 2.6% of Hispanic mothers). When considering benefit amounts, however, we found the opposite pattern. Although all racial and ethnic groups in the treatment cohort saw an increase in TANF, SNAP, and estimated tax benefits, Black mothers had the highest levels of benefits, White mothers had the lowest levels, and Hispanic mothers and those who identified as another race had benefit levels that fell in between. For example, Black mothers in the treatment cohort received $1,592 more in SNAP benefits compared to the comparison cohort, White mothers received $1,054, Hispanic mothers $1,331, and mothers of another race received $1,488. Although UI benefit receipt differed across these racial and ethnic groups, the amount of UI benefits received did not.

The amount of safety net benefits received also differed by custodial mothers' place of birth. Being in the treatment cohort was associated with a smaller increase in UI benefits for mothers born outside of the United States compared to U.S.-born mothers ($1,723 versus $2,195). Yet, being in the treatment cohort was associated with a larger increase in estimated tax benefits for mothers born outside of the United States ($4,332 versus $3,952 for those born in the U.S.). Because tax benefits represent estimates rather than actual receipt, however, this estimate may be inflated, particularly for mothers born outside of the United States, who may not have been eligible for the economic stimulus payments if they or someone in their household was an unauthorized immigrant.

We found limited evidence that changes in earnings due to the pandemic differed by mothers' race and ethnicity, but total income and poverty varied across subgroups (see Table 15). Across both measures of total income, Black mothers in the treatment cohort had larger increases in income ($1,694–$7,525) compared to the other groups. Hispanic mothers in the treatment

Table 15. Custodial mothers' earnings, total personal income, and economic hardship: Subgroup analyses.

	Interaction by Race and Ethnicity					Interaction by Place of Birth		
	White	**Black**	**Hispanic**	**Other Race**	**F test p-value**	**Born in U.S.**	**Born Outside U.S.**	**t-test p-value**
Any earnings (logit)								
Treatment cohort	-0.04***	-0.03***	-0.04***	-0.04***	0.811	-0.04***	-0.03	0.391
	(.005)	(.007)	(.009)	(.01)		(.004)	(.014)	
Amount of earnings (OLS)								
Treatment cohort	-1452.78***	-1038.25***	-1796.93***	-1424.10***	0.143	-1400.06***	-1267.18**	0.754
	(145.935)	(203.032)	(272.749)	(306.113)		(105.931)	(410.412)	
Total personal cash income (OLS)								
Treatment cohort	767.90***	1694.01***	386.21	832.32**	0.000	986.65***	518.11	0.266
	(144.924)	(201.624)	(270.858)	(303.992)		(105.222)	(407.661)	
Total personal cash income and near-cash benefits (OLS)								
Treatment cohort	5408.84***	7524.87***	5629.65***	6568.72***	0.000	6116.33***	5986.90***	0.768
	(150.868)	(209.894)	(281.984)	(316.467)		(109.626)	(424.757)	
Economic hardship <50% FPL (logit)								
Treatment cohort	-0.02**	-0.04***	0.01	-0.01	0.004	-0.02***	-0.01	0.615
	(.006)	(.008)	(.011)	(.013)		(.004)	(.017)	
Economic hardship <100% FPL (logit)								
Treatment cohort	-0.02***	-0.04***	-0.02	-0.03*	0.128	-0.03***	-0.01	0.274
	(.006)	(.008)	(.011)	(.012)		(.004)	(.017)	
Economic hardship <50% SPM (logit)								
Treatment cohort	-0.09***	-0.15***	-0.10***	-0.13***	0.000	-0.11***	-0.09***	0.170
	(.005)	(.007)	(.009)	(.01)		(.004)	(.013)	
Economic hardship <100% SPM (logit)								
Treatment cohort	-0.10***	-0.14***	-0.09***	-0.10***	0.000	-0.11***	-0.09***	0.145
	(.006)	(.008)	(.011)	(.012)		(.004)	(.016)	
N(custodial mothers)			**33,487**				**33,487**	

Notes: Average marginal effects from OLS and logistic regression models are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and a lagged dependent variable measured at baseline year. *$p<0.05$, **$p<0.01$, ***$p<0.001$

cohort had the smallest increase in total personal income ($386) and this was not statistically significant, whereas White and Hispanic mothers in the treatment cohort had smaller increases in total personal cash income plus near-cash and tax benefits ($5,409–$5,630). Hispanic mothers also had the lowest level of personal cash income at baseline (e.g., $15,342 versus $15,986 for Black mothers and $17,205 for White mothers). In turn, deep poverty fell the most among Black mothers (4 percentage points) in the treatment cohort, followed by White mothers (2 percentage points), and did not decline among Hispanic and mothers of another race. Reductions in poverty (<100% FPL) were more similar across all groups (2–4 percentage points) and were not statistically significant between groups. When considering our alternative poverty measures, we saw a much larger reduction in deep poverty across all racial and ethnic groups, but a similar pattern across subgroups. We found no statistically significant differences in earnings, income, or poverty between mothers born in the U.S. and those born outside of the U.S.

DISCUSSION

The COVID-19 pandemic brought on an economic crisis that negatively impacted parents' employment and families' economic well-being. Although the severity of the economic crisis was unprecedented, the expansion of the safety net was also exceptional. This raises questions about how the pandemic might have impacted parents' employment and earnings and economic well-being, particularly among separated families, who experience high rates of poverty and economic hardship to begin with. We addressed these questions by examining the short-term effects of the COVID-19 pandemic on noncustodial parents' ability to pay child support and child support outcomes, and custodial mothers' income packages and economic well-being.

We found that NCPs experienced significant declines in formal employment and earnings during the first year of the COVID-19 pandemic, where unemployment rates reached 14% in Wisconsin and nationwide. These findings are similar to prior research on the Great Recession, which found substantial reductions in earnings among noncustodial fathers (Wu, 2011). Yet, unlike prior research on the Great Recession, we found that expansions in the social safety net—particularly UI and tax benefits—likely mitigated the pandemic's negative effect on NCPs employment and overall ability to pay child support: In 2020, NCPs were more likely to pay any child support and the total amount of child support payments was higher than in the comparison cohort. That compliance also declined in 2020 suggests that although more NCPs were able to pay some amount of child support, fewer NCPs were able to pay 90% or more of their ordered amount. These findings add quantitative evidence to prior research on Wisconsin child support agencies' child support enforcement practices during the COVID-19 pandemic. As reported by child support agency and court staff from five Wisconsin counties, the impact of the pandemic on child support collections was not as severe as expected due to the expansions in UI benefits (Vogel et al., 2021, 2022). On average, NCPs accumulated less arrears during the first year of the COVID-19 pandemic. Because the first CARES economic impact payment distributed in April 2020 was intercepted by the child support program for NCP with past-due child support, this likely contributed to NCPs' lower arrears.

Like NCPs, custodial mothers experienced large declines in earnings in 2020. These were more substantial in the months immediately following the onset of the pandemic and their employment recovered—but not fully—by the final quarter of 2020. Because custodial mothers had low levels of earnings to begin with, the declines in earnings, about $1,600 annually, represented a substantial 10% decrease in total earnings, similar to national estimates (Han et al.,

2020). These findings are similar to research on the Great Recession, which found that the economic downturn led to a decline in single mothers' earnings of about $800 annually (Waring & Meyer, 2020).

In contrast to prior research on the Great Recession (Waring & Meyer, 2020), we found that custodial mothers' receipt of child support payments did not decline and, in fact, increased slightly. Among mothers who had a child support order in place prior to the pandemic, they were slightly more likely to receive any support and saw a small increase in payments. This increase in child support is consistent with our findings on NCPs and likely driven by increases in NCPs' UI benefits and estimated tax benefits. We found suggestive evidence that custodial mothers were slightly less likely to receive regular child support payments during the pandemic. This suggests that although they received a higher total amount of payments, these payments might have been less consistent, perhaps due to inconsistency in NCPs' benefit receipt. Among all custodial mothers—those with and without a child support order in place—the pandemic was also associated with a small decline in the probability of having a child support order in place, and this decline was most pronounced in the months immediately following the onset of the pandemic. This finding is consistent with a qualitative study of child support agencies in Wisconsin, which found that the pandemic led to court closures and more limited court time, which contributed to delays in paternity establishments and order establishments in addition to delays in enforcement (Vogel et al., 2021, 2022)

The expansions of the safety net during the COVID-19 pandemic were unprecedented, and this is reflected in our results. We considered a wide array of safety net programs, including UI, TANF, SSI, SS/SSDI, and SNAP benefits that parents received and tax benefits for which they were eligible. Consistent with program changes during pandemic, the UI program, SNAP,

and estimated tax benefits played the largest role in custodial mothers' income packages. For each of these programs, custodial mothers were both more likely to receive (or for tax benefits, be eligible to receive) any benefits and a larger amount of benefits during the pandemic than the comparison cohort. This suggests that changes to these programs that expanded eligibility and the generosity of the programs both played a role in increasing custodial mothers' benefit amounts. For the TANF program, however, we only observed a small increase in benefit amounts but no increase in take-up of benefits. Because TANF is a block grant program with a fixed amount of funding per year, it is less responsive to increases in need during economic crises; by contrast, funding for SNAP and UI benefits is responsive to an increase in eligibility. The small increase in TANF benefit amounts was likely driven by temporary changes to TANF program rules that waived lifetime limits on benefit receipt during the pandemic and exemptions from work requirements. We also found a small increase in SS/SSDI benefit amounts (but no increase in receipt), but this increase was substantively much smaller compared to the other safety net programs.

These findings are similar to research on the Great Recession but illustrate which safety net programs played a larger role during the pandemic recession. Although Waring and Meyer (2020) also found that safety net benefits increased during the Great Recession, these increases were concentrated in the SNAP, TANF, and SS/SSDI programs, and the authors did not consider UI benefits. Compared to this Great Recession study, we found smaller increases in TANF and SS/SSDI benefits (by about $145 and $40 less, respectively), similar increases in SNAP benefits, and much larger increases in estimated tax benefits (by about $3,500 more). This suggests that the TANF program plays an increasingly smaller role in shoring up custodial mothers' incomes during economic downturns and highlights the increasingly important role of the tax system in

providing cash assistance. It is important to note that the economic stimulus payments were exceptional in that they were distributed in advance of families' filing their taxes, and this is part of the reason why they were effective at mitigating families' declines in income. Typically, tax benefits, like the EITC, are distributed in a lump sum after the end of the tax year rather than being immediately responsive to increases in economic need.

Declines in custodial mothers' earnings were more than compensated by increases in child support payments and safety net benefits. Custodial mothers' total formal income increased by nearly $1,000 if only pre-tax cash income is considered and by about $6,000 if we take into account SNAP benefits received and tax benefits for which they were eligible. This is a much larger increase in annual income compared to the approximately $700 increase in total formal income (including SNAP and tax benefits) among custodial mothers during the Great Recession (Waring & Meyer, 2020). Like national studies (Han et al., 2020), we found that these increases in income translated to reductions in poverty. Because custodial-mother families have high rates of poverty and deep poverty to begin with, our findings suggest that the safety net expansions were particularly effective at reducing deep poverty, by as much as 38% (11 percentage points) when counting SNAP and tax benefits as income. It is important to note, however, that reductions in poverty do not necessarily translate to reductions in material hardship. Bitler et al. (2020) found that food insecurity increased in 2020, and this was likely due to some benefits, particularly UI, being delayed in getting to families, the modest size of SNAP benefits, and gaps in coverage, such as for unauthorized immigrants (Bitler et al., 2020). Moreover, custodial mothers who were out of the labor force were ineligible to receive UI benefits and might not have filed taxes in prior years if they had no earnings, which may have delayed their receipt of the economic impact payments. For these mothers, SNAP was the primary safety net program

available to them, and the modest size of benefits might have not been sufficient to mitigate hardship. Additional income supports for parents who are unable to work would further help to reduce poverty and hardship among custodial mothers with young children.

We examined differences in the effects of the pandemic by parents' race and ethnicity and nativity. Due to the disproportionate impact of the COVID-19 pandemic on Black and Hispanic families and immigrant families, we expected that Black, Hispanic, and immigrant noncustodial and custodial parents in the treatment cohort would have experienced steeper declines in earnings and child support outcomes and received lower amounts of benefits relative to White and U.S.-born parents. We found limited evidence to suggest this. Among NCPs, Black parents received higher levels of UI benefits and were eligible to receiver higher levels of tax benefits compared to parents in other racial and ethnic groups, and for CMs, Black mothers received higher levels of SNAP and TANF benefits and were eligible to receive higher levels of tax benefits as well. In turn, Black NCPs paid more in total child support payments compared to White and Hispanic parents, and Black CMs received a higher total amount of child support payments. For Black custodial mothers, this translated to larger increases in total income and larger reductions in deep poverty compared to other racial and ethnic groups.

We found less evidence of differences by nativity. We had expected to find that immigrant parents would have lower levels of benefit receipt and worse outcomes in general due to unauthorized immigrants' exclusion from safety net programs (Chishti & Bolter, 2020), but we found little evidence of this. This is likely due in part to the small number of mothers who were born outside of the United States, which makes it more difficult to detect statistically significant differences. Among custodial mothers, those born outside of the United States received a smaller increase in UI benefits compared to U.S.-born mothers but were eligible to

receive higher amounts of tax benefits. Because families in the WADC data participate in at least one public benefit program, our sample might underrepresent unauthorized immigrants, and this could help explain our lack of findings. We also lacked information on actual tax benefit receipt, and thus, were unable to examine whether immigrant families received lower levels of tax benefits due to unauthorized immigrants being ineligible for the economic impact payments.

Limitations

Our findings should be interpreted in the context of our study limitations. Due to limitations of the WADC records, we cannot identify household members that co-reside with the NCP or CM in our sample. This means that in our custodial mother sample, some mothers may be co-residing with their child's father. That our findings were very similar when we restricted our sample to custodial mothers with a child support order at baseline, gives us confidence in our findings. Because we lack information on other household members, our measures of poverty are based only on custodial mothers' total formal income and number of children and exclude income from other household members, including potential cohabiting spouses or partners. Relatedly, our estimates of income (and poverty) are based solely on formal income sources available in the WADC data and exclude informal sources of support, including informal work and informal child support. These missing sources of income likely upwardly bias our estimates of poverty.

An advantage of using WADC records is that these data provide a more accurate estimate of individuals' benefit receipt and amount compared to relying on individuals to self-report these estimates. For tax benefits, however, we did not have information about benefits received, only the estimated amount of benefits that families were eligible for. We assumed that all families filed taxes and that take-up of tax benefits was 100% among those eligible. This overstates the

number of families who actually received these benefits, particularly among immigrant families, who were excluded from receiving economic impact payments if a parent was an unauthorized immigrant. Although our study included the safety net programs that played the largest role in mitigating earnings declines during the pandemic, we did not examine the role of housing subsidies or child-care subsidies, which some low-income families rely on.

Our research design aims to estimate the effects of the COVID-19 pandemic on parents' earnings, child support outcomes, and income packages by comparing two similar cohorts of parents with young children. The validity of our estimates depends on the extent to which these two cohorts are similar to one another and the outcomes of the two groups would have been similar in absence of the pandemic. We found that the two cohorts were very similar both in terms of their demographic characteristics and their outcomes at baseline. Although this lends confidence to our findings, we cannot rule out the possibility of bias from differences in unobservable characteristics between the two cohorts, and thus, our estimates should not be interpreted as causal. Due to substantial amounts of missing data on education in the WADC data, we did not control for parents' level of education; in sensitivity analyses, we estimated models that controlled for education (dropping cases with missing data) and found very similar results (not shown). Moreover, because our study focuses on two cohorts of parents with a recent birth—children were approximately 1–2 years of age when we observed their outcomes—our findings may not generalize to parents of older children. Parents of young children and young school-aged children faced particular barriers to returning to work during the pandemic because of child-care and school closures and remote schooling. Their employment was slower to recover (Landivar & deWolf, 2022), and their earnings likely remained lower than parents of older children, suggesting they might have been particularly reliant on safety net benefits.

Implications

Our findings point to the important role of the safety net in mitigating declines in child support payments and custodial mothers' income. The safety net expansions that seemed to play the biggest role in supporting NCPs' ability to pay child support were the UI expansions, which both expanded eligibility and the size of payments. This translated to more NCPs making any child support payments and to NCPs paying a higher total amount of child support. By our estimates, NCPs were also eligible to receive a substantial amount in tax benefits via economic impact payments, which likely contributed to higher payments and lower arrears due to the first payment being intercepted by the child support program. These positive effects of the pandemic safety net expansions translated to CMs being more likely to receive any child support (among those with an order) and receiving a higher total level of payments, which contributed to higher total income and lower poverty rates. Making the expansions in UI eligibility permanent would likely help NCPs who are otherwise ineligible for UI due to unstable and low levels of participation in the labor market to be able to make more and higher levels of payments and ultimately benefit their nonresident children. Future research should consider NCP and CM child support outcomes in later stages of the pandemic once the UI expansions and economic impact payments ended.

For custodial mothers, our findings suggest that UI, SNAP, and estimated tax benefits played substantial roles in shoring up their income and mitigating earnings declines during the early months of the pandemic. This near-universal expansion of cash assistance via UI benefits and economic impact payments was effective at increasing custodial mothers' income during the pandemic recession. In particular, the large economic impact payments helped to reduce deep poverty substantially among this group of mothers that has historically had very low incomes. However, additional income supports for custodial mothers who were out of the labor force and

disconnected from or ineligible for safety net benefits are likely needed for this particularly

economically vulnerable group. Although the economic impact payments ended in early 2020,

the expanded Child Tax Credit paid monthly benefits to families with children from July 2021 to

December 2021. It will be important for future research to examine the longer-term effects of the

pandemic on custodial mothers' income packages in 2021 during the expanded CTC and

especially through 2022 once the safety net contracted. Finally, we examined the impact of the

pandemic on custodial mothers' economic well-being only. Yet, because child support is a

transfer between households, it is important to understand the extent to which improvements in

custodial mothers' economic well-being via increased child support payments might have been

accompanied by declines in noncustodial parents' economic well-being. Future research should

also address this question.

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Table A1. Noncustodial parents' earnings and benefits (full models)

	Any earnings		Amount of earnings			Any UI receipt		UI benefits amount			Any tax benefit receipt		Tax benefits amount		
	M1	M2	M1	M2	M3	M1	M2	M1	M2	M3	M1	M2	M1	M2	M3
Noncustodial parent is in the treatment cohort	-0.03***	-0.03***	-1271.71**	-1652.63***	-1709.52***	0.16***	0.16***	1777.23***	1788.24***	1795.39***	0.52***	0.52***	1745.07***	1598.70***	1574.53***
	(.007)	(.006)	(387.068)	(214.173)	(219.497)	(.007)	(.006)	(67.945)	(66.672)	(67.209)	(.008)	(.007)	(66.696)	(35.336)	(36.539)
Noncustodial parent's characteristics at child's birth															
Parent sex															
(Reference category: female)															
Male	0.03*	0.00	12604.48***	905.45*	-841.79	0.06***	0.04***	57.05	-43.47	-108.75	-0.18***	-0.13***	-2002.11***	-193.35**	105.44
	(.015)	(.013)	(800.362)	(448.889)	(453.867)	(.012)	(.012)	(140.493)	(137.943)	(138.972)	(.016)	(.015)	(137.91)	(73.822)	(75.555)
Age															
(Reference category: 18-24)															
25-34	0.01	0.01	6282.10***	134.49	-783.65**	0.05***	0.03***	503.61***	421.39***	367.98***	0.01	-0.06***	-1118.58***	-87.67	82.63
	(.01)	(.009)	(512.641)	(286.255)	(290.707)	(.009)	(.009)	(89.988)	(88.388)	(89.013)	(.01)	(.01)	(88.333)	(47.181)	(48.394)
35+	-0.01	0.00	10535.06***	554.04	-936.62**	0.08***	0.05***	706.58***	554.20***	455.23***	-0.07***	-0.12***	-2016.68***	-125.64*	186.75**
	(.012)	(.01)	(633.812)	(356.243)	(359.42)	(.013)	(.012)	(111.258)	(109.416)	(110.053)	(.013)	(.012)	(109.212)	(58.913)	(59.832)
Race/ethnicity															
(Reference category: White, non-Hispanic)															
Black, non-Hispanic	-0.06***	-0.04***	-1.1e+04***	-1798.87***	-468.50	-0.03***	-0.02*	229.59**	292.16***	332.80***	0.14***	0.10***	1690.18***	262.68***	26.87
	(.009)	(.008)	(452.261)	(256.413)	(256.467)	(.007)	(.007)	(79.389)	(77.958)	(78.529)	(.009)	(.009)	(77.929)	(42.128)	(42.694)
Native American, Asian or Pacific Islander, non-Hispanic	-0.06***	-0.03	-1.1e+04***	-3182.01***	-2010.97**	-0.05*	-0.03	-239.36	-153.67	-98.02	0.13***	0.08***	1469.66***	153.86	-63.50
	(.027)	(.022)	(1305.223)	(723.841)	(740.162)	(.019)	(.02)	(229.115)	(224.855)	(226.634)	(.026)	(.025)	(224.903)	(119.374)	(123.214)
Mixed (multiple races excluding Hispanic selected), non-Hispanic	-0.04*	-0.03	-7131.51***	-901.15*	29.35	-0.01	0.00	-24.38	13.02	37.31	0.11***	0.08***	1248.62***	290.99***	132.80
	(.016)	(.013)	(765.326)	(425.251)	(433.999)	(.012)	(.012)	(134.343)	(131.835)	(132.889)	(.015)	(.014)	(131.873)	(70.076)	(72.247)
Hispanic (any race)	-0.01	0.00	-4813.10***	-532.06	107.31	-0.04***	-0.02*	-191.72	-149.67	-122.36	0.06***	0.05***	845.83***	137.08*	20.00
	(.013)	(.012)	(685.853)	(380.425)	(388.931)	(.01)	(.01)	(120.393)	(118.152)	(119.089)	(.014)	(.013)	(118.179)	(62.734)	(64.745)
Has children with multiple partners															
(Reference category: no multiple partner fertility)															
Yes	-0.02*	-0.01	-1782.90**	-273.56	-48.14	-0.02*	-0.02	-79.92	-45.17	-22.61	0.02	0.01	226.12*	-35.59	-78.82
	(.011)	(.01)	(609.926)	(337.597)	(345.875)	(.011)	(.01)	(107.065)	(105.07)	(105.905)	(.012)	(.012)	(105.096)	(55.686)	(57.577)
Number of children															
(Reference category: One)															
Two	-0.02	-0.01	-351.56	-325.02	-321.05	0.01	0.01	47.26	37.32	30.87	0.01	0.01	-17.31	135.02*	160.18*
	(.014)	(.012)	(691.261)	(382.466)	(391.999)	(.012)	(.011)	(121.342)	(119.067)	(120.028)	(.014)	(.013)	(119.111)	(63.094)	(65.255)
Three or More	-0.05***	-0.03*	-2407.19**	-203.70	125.39	0.00	0.00	10.93	3.09	-2.00	0.05***	0.04**	324.65*	188.45**	165.95*
	(.014)	(.013)	(758.66)	(419.985)	(430.219)	(.013)	(.012)	(133.173)	(130.675)	(131.731)	(.015)	(.015)	(130.725)	(69.244)	(71.618)
Born outside of US	0.03	0.02	8140.00***	1569.71**	588.45	-0.03	-0.02	-124.07	-68.70	-32.73	-0.13***	-0.10***	-1245.79***	-279.22**	-119.55
	(.017)	(.016)	(1002.879)	(556.413)	(568.71)	(.016)	(.016)	(176.043)	(172.761)	(174.136)	(.02)	(.019)	(172.806)	(91.705)	(94.672)
SSI/SSDI receipt at time of child's birth	-0.10***	-0.05*	-8652.03***	-471.86	749.84	-0.09***	-0.07***	-664.29**	-562.38*	-496.19*	0.13***	0.09***	1219.54***	144.60	-32.97
	(.028)	(.023)	(1334.717)	(740.268)	(756.888)	(.016)	(.017)	(234.293)	(229.95)	(231.756)	(.027)	(.026)	(229.985)	(121.978)	(125.998)

Notes: N=11,201 noncustodial parents. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

Table A2. Noncustodial parents' child support outcomes (full models)

	Child support order in place		Any CS paid		Total amount of CS paid			Compliance[a]		Total amount of arrears		
	M1	M2	M1	M2	M1	M2	M3	M1	M2	M1	M2	M3
Noncustodial parent is in the treatment cohort	0.00	0.00	0.02***	0.02***	401.25***	456.72***	475.30***	-0.04***	-0.04***	-978.73*	-371.18***	-388.27***
	(.004)	(.004)	(.006)	(.005)	(71.202)	(50.847)	(53.512)	(.009)	(.008)	(395.674)	(66.43)	(67.32)
Noncustodial parent's characteristics at child's birth												
Parent sex												
(Reference category: female)												
Male	0.06***	0.06***	0.10***	0.04***	2307.03***	524.72***	-72.13	0.16***	0.08***	4806.79***	79.75	212.71
	(.012)	(.012)	(.016)	(.012)	(147.229)	(106.531)	(110.65)	(.015)	(.016)	(818.157)	(137.557)	(139.201)
Age												
(Reference category: 18-24)												
25-34	0.00	0.00	0.01	0.00	777.24***	151.18*	-58.47	0.12***	0.06***	703.88	-242.96**	-216.33*
	(.005)	(.005)	(.008)	(.007)	(94.302)	(67.61)	(70.873)	(.011)	(.011)	(524.039)	(87.985)	(89.16)
35+	-0.02	-0.02*	0.01	0.00	1612.20***	268.56**	-181.39*	0.19***	0.10***	13432.29***	-861.21***	-459.15***
	(.008)	(.008)	(.009)	(.009)	(116.592)	(84.259)	(87.624)	(.015)	(.014)	(647.904)	(111.176)	(110.234)
Race/ethnicity												
(Reference category: White, non-Hispanic)												
Black, non-Hispanic	0.02***	0.02***	-0.07***	-0.03***	-1809.41***	-286.94***	222.88***	-0.21***	-0.12***	8222.69***	358.58***	579.78***
	(.005)	(.005)	(.008)	(.007)	(83.195)	(61.197)	(62.525)	(.009)	(.009)	(462.317)	(78.637)	(78.659)
Native American, Asian or Pacific Islander, non-Hispanic	0.02	0.02	-0.04	-0.01	-1457.83***	-507.48**	-189.23	-0.18***	-0.15***	1776.01	233.07	276.47
	(.011)	(.011)	(.024)	(.019)	(240.099)	(171.696)	(180.447)	(.021)	(.022)	(1334.242)	(223.997)	(227.008)
Mixed (multiple races excluding Hispanic selected), non-Hispanic	0.00	0.00	-0.05***	-0.03*	-1151.48***	-302.23**	-17.84	-0.12***	-0.07***	3370.08***	384.24**	468.23***
	(.008)	(.008)	(.015)	(.012)	(140.784)	(100.865)	(105.806)	(.014)	(.014)	(782.342)	(131.422)	(133.108)
Hispanic (any race)	0.01	0.01	-0.04**	-0.02	-970.09***	-180.58*	83.81	-0.11***	-0.05***	4337.49***	379.25**	490.59***
	(.007)	(.007)	(.013)	(.011)	(126.165)	(90.413)	(94.819)	(.013)	(.013)	(701.101)	(117.868)	(119.285)
Has children with multiple partners												
(Reference category: no multiple partner fertility)												
Yes	0.07***	0.07***	0.02*	0.02*	-318.34**	-243.73**	-218.75**	-0.03*	-0.03**	6159.33***	239.50*	406.01***
	(.008)	(.008)	(.009)	(.008)	(112.198)	(80.121)	(84.322)	(.014)	(.013)	(623.487)	(105.1)	(106.08)
Number of children												
(Reference category: One)												
Two	-0.04***	-0.04***	-0.04**	-0.05***	245.64	-189.30*	-334.95***	-0.05***	-0.04**	-2357.15***	360.97**	284.51*
	(.008)	(.008)	(.012)	(.011)	(127.159)	(90.899)	(95.567)	(.015)	(.014)	(706.63)	(118.705)	(120.226)
Three or More	-0.03***	-0.03***	-0.04***	-0.04***	770.47***	-45.10	-318.21**	-0.08***	-0.04**	5305.71***	627.20***	758.80***
	(.008)	(.008)	(.011)	(.011)	(139.558)	(99.966)	(104.885)	(.017)	(.016)	(775.527)	(130.408)	(131.948)
Born outside of US	-0.01	-0.01	0.01	0.00	943.88***	181.94	-73.21	0.17***	0.08***	-7967.38***	-276.84	-493.16**
	(.011)	(.011)	(.014)	(.014)	(184.482)	(131.94)	(138.648)	(.024)	(.021)	(1025.177)	(172.544)	(174.424)
SSI/SSDI receipt at time of child's birth	-0.05*	-0.05*	-0.08***	-0.04*	-1221.90***	-303.08	4.60	-0.04	-0.03	893.83	-277.85	-244.89
	(.021)	(.021)	(.024)	(.019)	(245.525)	(175.549)	(184.525)	(.032)	(.028)	(1364.393)	(229.052)	(232.138)

Notes: N=11,201 noncustodial parents. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. aThe sample size for the child support compliance outcome is 10,616. *p<0.05, **p<0.01, ***p<0.001

Table A3. Custodial mothers' child support outcomes. All custodial mothers (full models)

	Child support order in place		Any CS received		Total amount of CS payments received			Child support regularity	
	M1	M2	M1	M2	M1	M2	M3	M1	M2
Custodial mother is in the treatment cohort	-0.01**	-0.01*	0.00	0.00	49.22	72.08***	74.79***	-0.01**	-0.01*
	(.005)	(.003)	(.005)	(.003)	(27.624)	(16.107)	(16.325)	(.004)	(.003)
Custodial mother's characteristics at child's birth									
Age									
(Reference category: 18-24)									
25-34	-0.01	-0.01**	0.00	-0.01*	151.54***	19.48	3.82	0.03***	0.01**
	(.006)	(.003)	(.006)	(.003)	(31.999)	(18.665)	(18.91)	(.005)	(.004)
35+	-0.03***	-0.02***	0.00	-0.01	620.71***	-15.43	-90.88**	0.06***	0.02**
	(.009)	(.005)	(.009)	(.006)	(55.238)	(32.304)	(32.643)	(.008)	(.006)
Race/ethnicity									
(Reference category: White, non-Hispanic)									
Black, non-Hispanic	0.05***	0.01***	0.01*	0.01**	-778.55***	-77.57***	5.55	-0.06***	-0.01***
	(.006)	(.003)	(.006)	(.004)	(34.638)	(20.382)	(20.469)	(.004)	(.004)
Native American, Asian or Pacific Islander, non-Hispanic	-0.09***	0.00	-0.11***	-0.03**	-798.05***	-137.63**	-59.32	-0.10***	-0.04***
	(.015)	(.009)	(.014)	(.01)	(89.132)	(52.034)	(52.673)	(.009)	(.01)
Mixed (multiple races excluding Hispanic selected), non-Hispanic	-0.03***	-0.01	-0.04***	-0.02**	-490.30***	-98.09**	-51.58	-0.05***	-0.02**
	(.009)	(.005)	(.009)	(.005)	(51.503)	(30.069)	(30.436)	(.007)	(.006)
Hispanic (any race)	-0.01	-0.01	-0.03***	-0.01*	-379.25***	-69.65**	-32.94	-0.04***	-0.01**
	(.008)	(.004)	(.008)	(.005)	(44.843)	(26.174)	(26.5)	(.006)	(.005)
Has children with multiple partners									
(Reference category: no multiple partner fertility)									
Yes	0.39***	0.05***	0.36***	0.06***	1574.88***	234.23***	75.24**	0.26***	0.09***
	(.008)	(.005)	(.008)	(.006)	(39.76)	(23.771)	(23.496)	(.008)	(.006)
Undetermined	-0.11***	-0.03***	-0.11***	-0.04***	-218.95***	-136.87***	-127.14***	-0.05***	-0.04***
	(.008)	(.004)	(.008)	(.005)	(44.038)	(25.679)	(26.025)	(.008)	(.006)
Number of children									
(Reference category: One)									
Two	0.05***	-0.01***	0.04***	-0.01	89.84*	-0.68	-11.42	0.01	-0.01*
	(.007)	(.004)	(.007)	(.004)	(38.624)	(22.523)	(22.825)	(.007)	(.005)
Three or More	0.07***	-0.02***	0.06***	-0.01*	401.28***	2.52	-44.77	0.02**	-0.01*
	(.008)	(.004)	(.008)	(.005)	(44.875)	(26.212)	(26.519)	(.008)	(.005)
Born outside of US	-0.10***	-0.01*	-0.09***	-0.02**	-121.64*	-21.42	-9.53	-0.03***	-0.02*
	(.01)	(.006)	(.01)	(.007)	(61.82)	(36.047)	(36.533)	(.009)	(.007)
SSI/SSDI receipt at time of child's birth	-0.12***	-0.01	-0.02	-0.01	-364.31***	-100.03	-68.69	-0.03*	-0.01
	(.014)	(.008)	(.015)	(.009)	(89.291)	(52.072)	(52.767)	(.012)	(.009)

Notes: N=33,487 custodial mothers. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period.*p<0.05, **p<0.01, ***p<0.001

Table A4. Custodial mothers' child support outcomes: Analyses among custodial mothers with a child support order at baseline (full models).

	Any CS received		Total amount of CS payments received			Child support regularity	
	M1	M2	M1	M2	M3	M1	M2
Custodial mother is in the treatment cohort	0.01*	0.02***	180.02**	208.28***	214.50***	-0.02*	-0.01
	(.006)	(.005)	(61.103)	(39.407)	(40.722)	(.009)	(.007)
Custodial mother's characteristics at child's birth							
Age							
(Reference category: 18-24)							
25-34	0.01	0.00	580.51***	102.92*	-2.16	0.09***	0.04***
	(.007)	(.006)	(74.916)	(48.451)	(49.928)	(.011)	(.009)
35+	0.03**	0.01	1690.71***	140.87	-200.12**	0.16***	0.07***
	(.01)	(.01)	(115.493)	(75.409)	(76.97)	(.016)	(.015)
Race/ethnicity							
(Reference category: White, non-Hispanic)							
Black, non-Hispanic	-0.08***	-0.02**	-2162.37***	-356.65***	40.64	-0.21***	-0.09***
	(.008)	(.007)	(72.264)	(48.584)	(48.16)	(.01)	(.009)
Native American, Asian or Pacific Islander, non-Hispanic	-0.07*	-0.03	-1406.44***	-209.13	54.30	-0.18***	-0.09***
	(.03)	(.023)	(236.18)	(152.588)	(157.403)	(.029)	(.028)
Mixed (multiple races excluding Hispanic selected), non-Hispanic	-0.05***	-0.02	-1020.94***	-177.25*	8.38	-0.10***	-0.04**
	(.015)	(.011)	(120.493)	(77.972)	(80.303)	(.016)	(.014)
Hispanic (any race)	-0.05***	-0.02	-943.59***	-143.75*	32.23	-0.09***	-0.04**
	(.012)	(.01)	(104.336)	(67.562)	(69.535)	(.014)	(.012)
Has children with multiple partners							
(Reference category: no multiple partner fertility)							
Yes	0.05***	0.04***	54.80	-22.29	-39.26	0.17***	0.07***
	(.01)	(.009)	(101.09)	(65.197)	(67.372)	(.014)	(.013)
Undetermined	-0.02	0.00	-719.49***	-225.22*	-116.48	0.01	0.00
	(.014)	(.012)	(154.435)	(99.669)	(102.924)	(.023)	(.019)
Number of children							
(Reference category: One)							
Two	-0.04***	-0.04***	211.15	-205.23**	-296.84***	-0.08***	-0.10***
	(.012)	(.011)	(116.965)	(75.499)	(77.952)	(.017)	(.014)
Three or More	-0.04***	-0.05***	718.53***	-163.99*	-358.16***	-0.09***	-0.12***
	(.012)	(.011)	(127.428)	(82.454)	(84.925)	(.018)	(.015)
Born outside of US	-0.01	-0.01	564.83***	132.19	37.00	0.03	0.01
	(.017)	(.015)	(168.466)	(108.697)	(112.275)	(.024)	(.02)
SSI/SSDI receipt at time of child's birth	-0.01	-0.02	-751.54***	-252.10	-142.21	-0.04	-0.02
	(.022)	(.02)	(216.968)	(139.978)	(144.599)	(.031)	(.027)

Notes: N=12,346 custodial mothers. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

Table A5. Custodial mothers' safety net benefits receipt (full models)

	Any UI receipt		Any TANF receipt		Any SSI receipt		Any SS/SSDI receipt		Any SNAP receipt		Any tax benefit receipt	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Custodial mother is in the treatment cohort	0.22***	0.22***	0.00	0.00	0.00	0.00	0.00	0.00	0.04***	0.04***	0.19***	0.19***
	(.004)	(.004)	(.003)	(.003)	(.001)	(.001)	(.001)	(.001)	(.005)	(.004)	(.003)	(.003)
Custodial mother's characteristics at child's birth												
Age												
(Reference category: 18-24)												
25-34	0.02***	0.02***	-0.03***	-0.02***	0.00	0.00*	0.01***	0.00***	-0.08***	-0.05***	-0.04***	-0.03***
	(.004)	(.004)	(.003)	(.003)	(.001)	(.001)	(.002)	(.001)	(.006)	(.005)	(.004)	(.003)
35+	0.04***	0.03***	-0.04***	-0.02***	0.00**	0.00	0.02***	0.00	-0.16***	-0.08***	-0.10***	-0.07***
	(.008)	(.008)	(.005)	(.005)	(.002)	(.001)	(.004)	(.002)	(.01)	(.008)	(.008)	(.007)
Race/ethnicity												
(Reference category: White, non-Hispanic)												
Black, non-Hispanic	0.02**	0.01	0.20***	0.09***	0.01***	0.00	0.00	0.00	0.30***	0.12***	0.04***	0.03***
	(.005)	(.005)	(.006)	(.005)	(.001)	(.001)	(.002)	(.001)	(.005)	(.006)	(.004)	(.003)
Native American, Asian or Pacific Islander, non-Hispanic	-0.01	-0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	0.09***	0.05***	-0.01	0.00
	(.012)	(.012)	(.015)	(.012)	(.004)	(.002)	(.005)	(.002)	(.014)	(.012)	(.01)	(.009)
Mixed (multiple races excluding Hispanic selected), non-Hispanic	0.00	-0.01	0.09***	0.04***	0.00*	0.00	0.00	0.00	0.09***	0.03***	0.01*	0.01
	(.007)	(.007)	(.009)	(.007)	(.002)	(.001)	(.003)	(.001)	(.008)	(.007)	(.005)	(.005)
Hispanic (any race)	0.00	0.00	0.07***	0.04***	0.00	0.00	0.00	0.00	0.11***	0.04***	0.00	0.00
	(.006)	(.006)	(.008)	(.006)	(.002)	(.001)	(.003)	(.001)	(.007)	(.006)	(.005)	(.004)
Has children with multiple partners												
(Reference category: no multiple partner fertility)												
Yes	0.01	0.01	0.02***	0.01	0.00*	0.00*	0.00	0.00	0.08***	0.02**	0.01**	0.00
	(.005)	(.005)	(.005)	(.004)	(.002)	(.001)	(.002)	(.001)	(.007)	(.006)	(.004)	(.004)
Undetermined	-0.02***	-0.02***	0.02***	0.01	0.00**	0.00	0.00	0.00	0.00	0.01	-0.05***	-0.02***
	(.006)	(.005)	(.005)	(.004)	(.002)	(.001)	(.002)	(.001)	(.008)	(.006)	(.006)	(.005)
Number of children												
(Reference category: One)												
Two	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07***	0.02**	0.02***	0.02***
	(.005)	(.005)	(.004)	(.004)	(.001)	(.001)	(.002)	(.001)	(.006)	(.005)	(.004)	(.004)
Three or More	-0.01	-0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.18***	0.08***	0.03***	0.03***
	(.006)	(.006)	(.005)	(.004)	(.002)	(.001)	(.003)	(.001)	(.007)	(.007)	(.004)	(.004)
Born outside of US	-0.04***	-0.03***	-0.04***	-0.02***	0.00	0.00	-0.01	0.00	-0.12***	-0.06***	-0.02**	-0.01
	(.007)	(.008)	(.005)	(.006)	(.003)	(.002)	(.003)	(.002)	(.011)	(.009)	(.007)	(.006)
SSI/SSDI receipt at time of child's birth	-0.10***	-0.09***	-0.05***	-0.02*	0.59***	0.01**	0.39***	0.00*	0.15***	0.07***	-0.10***	-0.03***
	(.008)	(.008)	(.006)	(.008)	(.019)	(.004)	(.018)	(.002)	(.016)	(.014)	(.012)	(.01)

Notes: N=33,487 custodial mothers. Average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period.*p<0.05, **p<0.01, ***p<0.001

Table A6. Custodial mothers' safety net benefits amounts (full models)

	UI benefits amount			TANF benefits amount			SSI benefits amount			SS/SSDI benefits amount			SNAP benefits amount			Tax benefits amount		
	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3	M1	M2	M3
Custodial mother is in the treatment cohort	2171.69***	2165.73***	2158.93***	94.38***	95.43***	96.29***	-1.38	5.75	6.23	6.82	10.68*	10.78*	1266.37***	1278.24***	1281.18***	4220.57***	3975.54***	3828.18***
	(39.458)	(39.292)	(39.508)	(9.437)	(8.071)	(8.993)	(8.574)	(4.136)	(4.166)	(11.981)	(4.763)	(4.771)	(28.692)	(20.228)	(20.846)	(39.659)	(31.827)	(34.834)
Custodial mother's characteristics at child's birth																		
Age																		
(Reference category: 18-24)																		
25-34	328.84***	289.68***	245.04***	-53.88***	-47.52***	-42.36***	-17.89	6.27	7.88	108.16***	13.89*	11.55*	-309.92***	-164.13***	-128.01***	-280.80***	-358.34***	-404.98***
	(45.706)	(45.571)	(45.764)	(10.932)	(9.35)	(10.417)	(9.932)	(4.791)	(4.825)	(13.878)	(5.522)	(5.526)	(33.236)	(23.445)	(24.148)	(45.939)	(36.813)	(40.35)
35+	622.27***	557.52***	483.73***	-59.88**	-58.80***	-57.92**	-57.72***	20.32*	25.52**	188.37***	21.60*	17.46	-718.01***	-388.39***	-306.73***	-1079.76***	-877.87***	-756.45***
	(78.899)	(78.658)	(78.999)	(18.87)	(16.14)	(17.982)	(17.145)	(8.273)	(8.33)	(23.957)	(9.532)	(9.54)	(57.373)	(40.487)	(41.684)	(79.301)	(63.557)	(69.654)
Race/ethnicity																		
(Reference category: White, non-Hispanic)																		
Black, non-Hispanic	215.94***	186.71***	153.41**	425.50***	197.73***	13.04	65.34***	4.40	0.35	-50.12***	-6.98	-5.91	1664.27***	409.66***	98.83***	530.84***	490.27***	465.87***
	(49.475)	(49.295)	(49.537)	(11.833)	(10.327)	(11.276)	(10.751)	(5.189)	(5.223)	(15.022)	(5.973)	(5.982)	(35.976)	(26.264)	(26.139)	(49.727)	(39.845)	(43.677)
Native American, Asian or Pacific Islander, non-Hispanic	162.92	171.71	181.73	-17.72	-12.37	-8.03	28.96	1.58	-0.24	-45.09	-30.54*	-30.18*	556.78***	190.38**	99.60	-142.27	170.09	357.95**
	(127.313)	(126.774)	(127.474)	(30.449)	(26.043)	(29.016)	(27.666)	(13.344)	(13.441)	(38.657)	(15.368)	(15.393)	(92.578)	(65.297)	(67.262)	(127.962)	(102.554)	(112.394)
Mixed (multiple races excluding Hispanic selected), non-Hispanic	13.57	11.40	8.93	114.27***	56.25***	9.20	17.14	-6.05	-7.60	-45.96*	-16.24	-15.50	525.16***	114.06**	12.21	368.27***	259.83***	194.60**
	(73.565)	(73.253)	(73.658)	(17.595)	(15.058)	(16.766)	(15.986)	(7.711)	(7.767)	(22.337)	(8.881)	(8.895)	(53.494)	(37.779)	(38.866)	(73.94)	(59.249)	(64.944)
Hispanic (any race)	109.51	106.73	103.56	65.06***	37.79**	15.67	7.96	3.29	2.98	-33.58	-6.03	-5.35	712.71***	162.29***	25.92	151.46*	184.30***	204.05***
	(64.051)	(63.78)	(64.133)	(15.319)	(13.105)	(14.598)	(13.919)	(6.714)	(6.762)	(19.448)	(7.732)	(7.744)	(46.576)	(32.972)	(33.84)	(64.378)	(51.583)	(56.546)
Has children with multiple partners																		
(Reference category: no multiple partner fertility)																		
Yes	119.40*	112.34*	104.30	46.43***	6.78	-25.37*	19.20	7.64	6.87	10.74	-3.78	-4.14	392.70***	19.79	-72.60*	182.70**	11.97	-90.71
	(56.791)	(56.552)	(56.863)	(13.583)	(11.623)	(12.943)	(12.341)	(5.953)	(5.996)	(17.244)	(6.856)	(6.867)	(41.297)	(29.184)	(30.004)	(57.08)	(45.753)	(50.136)
Undetermined	-164.03**	-161.38**	-158.37*	43.30***	23.79	7.97	32.84*	11.27	9.83	9.75	14.42	14.54	-146.40**	-45.50	-20.50	-690.75***	-280.29***	-33.42
	(62.902)	(62.636)	(62.982)	(15.044)	(12.869)	(14.336)	(13.669)	(6.593)	(6.641)	(19.1)	(7.593)	(7.606)	(45.741)	(32.252)	(33.233)	(63.223)	(50.746)	(55.531)
Number of children																		
(Reference category: One)																		
Two	78.41	79.23	80.16	-3.06	3.80	9.37	8.16	1.47	1.03	17.62	1.13	0.73	912.77***	228.22***	58.62*	2339.54***	1420.55***	867.85***
	(55.169)	(54.935)	(55.239)	(13.195)	(11.286)	(12.573)	(11.989)	(5.783)	(5.825)	(16.751)	(6.66)	(6.67)	(40.117)	(28.526)	(29.147)	(55.45)	(44.936)	(48.704)
Three or More	17.09	17.62	18.22	-17.25	1.81	17.26	22.92	10.55	9.72	2.28	5.32	5.40	2702.67***	772.60***	294.42***	4556.38***	2908.37***	1917.21***
	(64.098)	(63.826)	(64.179)	(15.33)	(13.113)	(14.608)	(13.929)	(6.718)	(6.767)	(19.463)	(7.737)	(7.75)	(46.61)	(34.493)	(33.865)	(64.425)	(53.011)	(56.587)
Born outside of US	-379.23***	-359.24***	-336.45***	-83.86***	-38.08*	-0.97	-6.66	-3.22	-2.99	-26.29	8.01	8.86	-672.48***	-139.57**	-7.54	180.89*	227.26**	255.15**
	(88.301)	(87.934)	(88.412)	(21.119)	(18.068)	(20.124)	(19.188)	(9.255)	(9.322)	(26.811)	(10.659)	(10.676)	(64.209)	(45.36)	(46.651)	(88.751)	(71.112)	(77.953)
SSI/SSDI receipt at time of child's birth	-797.47***	-742.84***	-680.57***	-160.87***	-68.47**	6.46	4575.99***	-209.07***	-527.54***	3164.04***	106.88***	31.06*	194.52*	310.08***	338.72***	-2174.48***	-735.08***	130.61
	(127.539)	(127.04)	(127.701)	(30.504)	(26.103)	(29.067)	(27.715)	(19.651)	(13.465)	(38.726)	(17.014)	(15.421)	(92.743)	(65.386)	(67.382)	(128.19)	(103.251)	(112.594)

Notes: N=33,487 custodial mothers. Coefficients from OLS regression models are shown with standard errors in parentheses. All models control for child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

Table A7. Custodial mothers' earnings, total personal income, and economic hardship (full models)

	Any earnings		Amount of earnings			Total personal cash income			Economic hardship <50% FPL		Economic hardship <100% FPL		Economic hardship <50% SPM		Economic hardship <100% SPM	
	M1	**M2**	**M1**	**M2**	**M3**	**M1**	**M2**	**M3**	**M1**	**M2**	**M1**	**M2**	**M1**	**M2**	**M1**	**M2**
Custodial mother is in the treatment cohort	-0.04***	-0.04***	6180.59***	6108.29***	6097.52***	693.64***	957.54***	988.17***	0.00	-0.02***	-0.01**	-0.03***	-0.10***	-0.11***	-0.10***	-0.11***
	(.004)	(.003)	(177.455)	(106.186)	(108.273)	(175.533)	(101.921)	(103.255)	(.005)	(.004)	(.005)	(.004)	(.004)	(.003)	(.005)	(.004)
Custodial mother's characteristics at child's birth																
Age Categories																
(Reference category: 18-24)																
25-34	-0.01*	0.00	4989.29***	382.01**	-303.87*	5580.01***	785.54***	229.12	-0.10***	-0.04***	-0.13***	-0.04***	-0.05***	-0.01	-0.11***	-0.03***
	(.005)	(.004)	(205.556)	(124.431)	(125.419)	(203.329)	(119.525)	(119.606)	(.006)	(.005)	(.006)	(.005)	(.005)	(.004)	(.006)	(.005)
35+	-0.04***	-0.03***	7708.15***	101.11	-1031.33***	9505.92***	1017.03***	31.84	-0.14***	-0.05***	-0.20***	-0.07***	-0.05***	0.00	-0.14***	-0.03**
	(.009)	(.007)	(354.838)	(214.588)	(216.502)	(350.994)	(206.46)	(206.468)	(.009)	(.008)	(.01)	(.009)	(.008)	(.007)	(.009)	(.009)
Race/ethnicity																
(Reference category: White, non-Hispanic)																
Black, non-Hispanic	0.06***	0.04***	1670.69***	738.32***	599.52***	-524.42*	-23.33	34.82	-0.01	-0.01	0.03***	0.01	-0.07***	-0.04***	-0.03***	-0.02***
	(.004)	(.004)	(222.505)	(133.197)	(135.76)	(220.095)	(127.804)	(129.468)	(.007)	(.005)	(.006)	(.005)	(.005)	(.004)	(.007)	(.005)
Native American, Asian or Pacific Islander, non-Hispanic	-0.01	-0.01	-3474.08***	-1047.95***	-686.78*	-3888.59***	-1429.69***	-1144.33***	0.11***	0.05***	0.10***	0.06***	0.06***	0.01	0.11***	0.05***
	(.012)	(.011)	(572.57)	(342.758)	(349.35)	(566.368)	(328.977)	(333.159)	(.018)	(.014)	(.015)	(.013)	(.015)	(.01)	(.017)	(.013)
Mixed (multiple races excluding Hispanic selected), non-Hispanic	0.03***	0.02*	843.78*	54.37	-63.15	-49.65	-247.06	-269.97	0.00	0.01	0.02	0.02*	-0.02**	-0.01*	0.00	0.00
	(.006)	(.006)	(330.847)	(197.999)	(201.864)	(327.263)	(190.013)	(192.509)	(.01)	(.008)	(.009)	(.007)	(.008)	(.006)	(.01)	(.008)
Hispanic (any race)	0.02**	0.01**	-39.35	307.09	358.66*	-903.52**	21.36	128.69	0.01	-0.01	0.03**	0.01	-0.01	-0.01**	0.01	-0.01
	(.006)	(.005)	(288.062)	(172.376)	(175.759)	(284.941)	(165.479)	(167.613)	(.009)	(.007)	(.008)	(.006)	(.007)	(.005)	(.009)	(.007)
Has children with multiple partners																
(Reference category: no multiple partner fertility)																
Yes	0.01	0.00	1459.41***	-99.02	-331.02*	884.01***	-58.35	-167.72	-0.01	0.00	-0.01	0.00	-0.03***	0.00	-0.01	0.00
	(.006)	(.005)	(255.409)	(152.964)	(155.836)	(252.642)	(146.732)	(148.614)	(.008)	(.006)	(.008)	(.006)	(.006)	(.005)	(.008)	(.006)
Undetermined	-0.05***	-0.02***	-2046.43***	-442.73**	-203.99	-1209.28***	-260.21	-150.07	0.07***	0.03***	0.04***	0.02**	0.07***	0.03***	0.06***	0.02***
	(.007)	(.006)	(282.895)	(169.405)	(172.606)	(279.83)	(162.514)	(164.607)	(.009)	(.007)	(.008)	(.006)	(.008)	(.006)	(.009)	(.006)
Number of children Categories																
(Reference category: One)																
Two	0.00	0.00	2905.21***	1034.66***	756.19***	-347.09	-188.67	-170.28	0.05***	0.02**	0.09***	0.03***	0.00	-0.01	0.02**	0.00
	(.006)	(.005)	(248.114)	(148.663)	(151.385)	(245.427)	(142.498)	(144.369)	(.007)	(.006)	(.007)	(.006)	(.006)	(.005)	(.007)	(.006)
Three or More	-0.01	0.00	5715.21***	2576.58***	2109.34***	-1543.83***	-252.19	-102.29	0.16***	0.05***	0.24***	0.10***	0.04***	-0.01	0.12***	0.02***
	(.006)	(.006)	(288.271)	(172.971)	(175.887)	(285.148)	(165.636)	(167.735)	(.009)	(.007)	(.007)	(.007)	(.007)	(.005)	(.009)	(.007)
Born outside of US	-0.02	0.01	71.80	488.81*	550.88*	563.39	330.32	303.27	-0.01	0.00	-0.01	-0.01	0.01	0.00	0.00	-0.01
	(.009)	(.007)	(397.119)	(237.635)	(242.3)	(392.817)	(228.075)	(231.07)	(.012)	(.009)	(.012)	(.009)	(.01)	(.007)	(.012)	(.009)
SSI/SSDI receipt at time of child's birth	-0.21***	-0.09***	-6127.19***	-1705.84***	-1047.64***	-4147.22***	-1790.48***	-1516.97***	0.05***	0.06***	0.20***	0.09***	-0.05***	-0.03**	0.23***	0.07***
	(.017)	(.013)	(573.59)	(343.7)	(349.973)	(567.377)	(329.552)	(333.753)	(.017)	(.014)	(.014)	(.014)	(.013)	(.012)	(.017)	(.013)

Notes: N=33,487 custodial mothers. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period.*p<0.05, **p<0.01, ***p<0.001

Table A8. Noncustodial parents' earnings and benefits: Analyses including county fixed effects.

	M1	M2	M3
Any earnings (logit)			
Treatment cohort	-0.03***	-0.03***	
	(.007)	(.007)	
Amount of earnings (OLS)			
Treatment cohort	-876.04*	-1609.59***	-1726.75***
	(387.306)	(220.192)	(225.932)
Benefit Receipt (logit)			
UI			
Treatment cohort	0.16***	0.16***	
	(.007)	(.007)	
Tax benefits			
Treatment cohort	0.52***	0.53***	
	(.008)	(.008)	
Benefit Amount (logit)			
UI			
Treatment cohort	1792.37***	1808.51***	1818.55***
	(72.033)	(70.658)	(71.188)
Tax benefits			
Treatment cohort	1675.75***	1616.21***	1605.47***
	(63.956)	(35.067)	(36.368)

Notes: N=10,279-10,327 noncustodial parents. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and include county fixed effects. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

Table A9. Noncustodial parents' child support outcomes: Analyses including county fixed effects.

	M1	M2	M3
Child support order is in place (logit)			
Treatment cohort	0.00	0.00	
	(.004)	(.004)	
Any child support paid (logit)			
Treatment cohort	0.02***	0.02***	
	(.006)	(.006)	
Total amount of child support paid (OLS)			
Treatment cohort	488.19***	493.74***	495.63***
	(72.812)	(52.269)	(55.034)
Compliance (logit)			
Treatment cohort	-0.03***	-0.03***	
	(.009)	(.008)	
Total amount of arrears (OLS)			
Treatment cohort	-1157.79**	-380.88***	-403.17***
	(423.441)	(70.075)	(71.076)

Notes: N=9,794 - 10,238 noncustodial parents. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and include county fixed effects. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. [a]The sample size for the child support compliance outcome is 9,798. *p<0.05, **p<0.01, ***p<0.001

Table A10. Custodial mothers' child support outcomes: Analyses including county fixed effects.

	M1	M2	M3
Child support order is in place (logit)			
Treatment cohort	-0.02***	-0.01**	
	(.005)	(.003)	
Any child support received (logit)			
Treatment cohort	-0.01	0.00	
	(.005)	(.003)	
Total amount of child support payments received (OLS)			
Treatment cohort	24.83	67.48***	72.85***
	(28.602)	(16.701)	(16.953)
Child support regularity (logit)			
Treatment cohort	-0.01**	-0.01*	
	(.004)	(.003)	

Notes: N=31,369 custodial mothers. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and include county fixed effects. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

Table A11. Custodial mothers' safety net benefits: Analyses including county fixed effects.

	M1	M2	M3
Benefit Receipt (logit)			
UI			
Treatment cohort	0.22***	0.22***	
	(.004)	(.004)	
TANF			
Treatment cohort	0.00	0.00	
	(.003)	(.003)	
SSI			
Treatment cohort	0.00	0.00	
	(.001)	(.001)	
SS/SSDI			
Treatment cohort	0.00	0.00	
	(.002)	(.001)	
SNAP			
Treatment cohort	0.03***	0.04***	
	(.005)	(.004)	
Tax benefits			
Treatment cohort	0.17***	0.17***	
	(.003)	(.003)	
Benefit Amount (OLS)			
UI			
Treatment cohort	2218.83***	2214.02***	2208.42***
	(41.434)	(41.265)	(41.494)
TANF			
Treatment cohort	96.99***	99.69***	101.95***
	(9.895)	(8.477)	(9.486)
SSI			
Treatment cohort	-1.90	6.82	7.44
	(9.006)	(4.308)	(4.344)
SS/SSDI			
Treatment cohort	9.61	12.18*	12.23*
	(12.613)	(4.764)	(4.769)
SNAP			
Treatment cohort	1275.58***	1320.49***	1331.59***
	(29.798)	(21.078)	(21.711)
Tax benefits			
Treatment cohort	4187.79***	4009.94***	3887.43***
	(39.283)	(32.586)	(35.903)

Notes: N=29,641 - 31,369 custodial mothers. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and include county fixed effects. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

Table A12. Custodial mothers' earnings, total personal income, and economic hardship: Analyses including county fixed effects.

	M1	M2	M3
Any earnings (logit)			
Treatment cohort	-0.05***	-0.04***	
	(.004)	(.004)	
Amount of earnings (OLS)			
Treatment cohort	-1678.50***	-1430.70***	-1392.68***
	(169.072)	(103.187)	(105.207)
Total personal cash income (OLS)			
Treatment cohort	669.86***	972.25***	1010.20***
	(172.723)	(102.579)	(104.043)
Total personal cash income and near-cash benefits (OLS)			
Treatment cohort	6133.23***	6216.76***	6229.22***
	(177.385)	(106.559)	(108.636)
Economic hardship <50% FPL (logit)			
Treatment cohort	0.00	-0.01**	
	(.005)	(.004)	
Economic hardship <100% FPL (logit)			
Treatment cohort	-0.01*	-0.02***	
	(.005)	(.004)	
Economic hardship <50% SPM (logit)			
Treatment cohort	-0.10***	-0.11***	
	(.004)	(.004)	
Economic hardship <100% SPM (logit)			
Treatment cohort	-0.10***	-0.11***	
	(.006)	(.004)	

Notes: N=31,369 custodial mothers. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month and include county fixed effects. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

Table A13. Custodial mothers' safety net benefits: Subgroup of custodial mothers with a child support order at baseline.

	M1	M2	M3
Benefit Receipt (logit)			
UI			
Treatment cohort	0.24***	0.24***	
	(.006)	(.006)	
TANF			
Treatment cohort	0.01	0.00	
	(.005)	(.005)	
SSI			
Treatment cohort	0.00	0.00	
	(.002)	(.001)	
SS/SSDI			
Treatment cohort	0.00	0.00	
	(.002)	(.001)	
SNAP			
Treatment cohort	0.03***	0.04***	
	(.008)	(.006)	
Tax benefits			
Treatment cohort	0.13***	0.13***	
	(.004)	(.004)	
Benefit Amount (OLS)			
UI			
Treatment cohort	2446.62***	2442.62***	2437.78***
	(68.022)	(67.695)	(68.172)
TANF			
Treatment cohort	101.45***	105.10***	109.26***
	(15.724)	(14.094)	(16.185)
SSI			
Treatment cohort	4.89	3.70	3.61
	(12.48)	(5.943)	(6.001)
SS/SSDI			
Treatment cohort	-0.97	19.03*	19.02*
	(19.42)	(8.196)	(8.196)
SNAP			
Treatment cohort	1641.93***	1676.24***	1684.88***
	(51.39)	(35.771)	(36.956)
Tax benefits			
Treatment cohort	4548.77***	4366.31***	4234.85***
	(66.993)	(55.434)	(61.682)

Notes: N=12,346. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001

Table A14. Custodial mothers' earnings, total personal income, and economic hardship: Subgroup of custodial mothers with a child support order at baseline.

	M1	M2	M3
Any earnings (logit)			
Treatment cohort	-0.04***	-0.04***	
	(.006)	(.005)	
Amount of earnings (OLS)			
Treatment cohort	-1984.04***	-1574.01***	-1514.90***
	(272.119)	(163.595)	(166.543)
Total personal cash income (OLS)			
Treatment cohort	747.97**	1213.37***	1269.27***
	(280.677)	(164.637)	(166.852)
Total personal cash income and near-cash benefits (OLS)			
Treatment cohort	6938.67***	7156.96***	7188.99***
	(285.23)	(170.885)	(174.127)
Economic hardship <50% FPL (logit)			
Treatment cohort	0.00	-0.02*	
	(.008)	(.007)	
Economic hardship <100% FPL (logit)			
Treatment cohort	-0.01	-0.03***	
	(.009)	(.007)	
Economic hardship <50% SPM (logit)			
Treatment cohort	-0.09***	-0.10***	
	(.006)	(.005)	
Economic hardship <100% SPM (logit)			
Treatment cohort	-0.11***	-0.12***	
	(.008)	(.007)	

Notes: N=12,346. Coefficients from OLS or average marginal effects from logistic regression are shown with standard errors in parentheses. All models control for covariates shown in Table 1 and child's birth month. Model 2 also includes a lagged dependent variable measured at the baseline year. In Model 3, the outcomes is the difference between outcomes in the follow-up period and the baseline period. *p<0.05, **p<0.01, ***p<0.001