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Noncustodial Parents' Child Support and Custodial Parents' Income Packages: Comparing the Great Recession and COVID-19 Recession Eras

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INTRODUCTION

Recessions typically disproportionately affect low-income families, who are often hardest hit by rising unemployment and extended joblessness (Hoynes et al., 2012). This economic vulnerability stems, in part, from low-income workers over-representation in recession-sensitive industries such as manufacturing and service sectors (Hoynes et al., 2012). Low-income single mothers face even greater risks during recessions, as they often do not have a second income to buffer job and income losses. Moreover, income from noncustodial fathers may decline as recessions make it tougher for noncustodial fathers to meet their child support obligations (Mincy et al., 2016; Wu, 2011). Both low-income single mothers and noncustodial fathers are also less likely to have college degrees and, therefore, have more limited job market prospects (Kahne, 2004; Kruvelis et al., 2017; Zhan & Pandey, 2004).

Recessions, broadly defined as "a significant decline in economic activity that is spread across the economy and lasts more than a few months," differ with respect to factors that led to a recession (National Bureau of Economic Research, n.d.). They vary in terms of the degree and duration of job, earnings, and income losses; sectors and particular subgroups of workers affected; and the robustness and duration of a recession's recovery period. Federal and state governments' fiscal responses to recessions also vary relative to the degree and duration of support provided, policies and programs that are expanded or created to offset recessionary hardships, and the targeting of support. Researchers and policymakers have a unique opportunity to leverage these variations to compare the effects of government responses to different recessionary periods. To these ends, this report examines the role of the federal government's fiscal response to two contrasting recessions—the Great Recession (GR) and the COVID-19 Pandemic Recession (PR)—on the economic well-being of separated families.

The federal government's response to COVID-19 differed markedly from its policy response to the Great Recession (2007–2009). While both the GR and PR saw expansions to Unemployment Insurance (UI), the PR implemented larger UI benefit expansions—first by $600 and then by $300 per month in the first year of the PR. In contrast, UI payments were raised by only $25 per week during the GR. The PR also included substantial cash support through three rounds of Economic Impact Payments (EIP) and the short-lived monthly, expanded Child Tax Credit (CTC), neither of which were distributed during the GR.

These two recessions also had different trajectories. The PR was characterized by a sudden onset, quick recovery, and lingering inflation, whereas the GR saw a slow increase in unemployment and a slow recovery. However, both downturns disproportionately affected socioeconomically marginalized families, particularly low-income and separated families. These differences across the GR and PR eras offer researchers and policymakers an opportunity to assess how different policy responses to recessions affect the economic well-being of families with low incomes. Comparing these federal responses can provide a more nuanced understanding of how different policy approaches may differentially impact groups with pre-existing economic vulnerabilities.

The purpose of this study is to provide insight into the role of the GR and PR economic shocks on the economic well-being of separated parents in Wisconsin. We ask how noncustodial parents' child support outcomes and custodial parents' economic well-being varied during each recessionary period. We examine the extent of the decline in noncustodial parents' ability to pay child support and child support outcomes during each recessionary period. We then examine custodial parents' earnings and child support income, and how the U.S. social safety net buffered

(or not) income losses and economic hardship. Specifically, we address the following research questions:

1. How did noncustodial parents' child support outcomes and custodial parents' income packaging strategies evolve during and after the COVID-19 pandemic recession (through 2022)?
2. How do noncustodial parents' (NCP) child support outcomes and custodial parents' (CP) income packages during the pandemic (2020–2022) period compare to NCP and CP parents' outcomes during the Great Recession (2007–2011) period?

By examining child support and economic outcomes at the height of the two recessions and in the two years following, our findings show how parents fared in the short term when the safety net expanded and in the longer term when it retracted. This knowledge can inform federal and state policy responses to future crises by exploring how policy decisions might promote equitable recovery in future recessions.

BACKGROUND

The Great Recession and COVID-19 Pandemic Recessions

The Great Recession (December 2007–June 2009) and the Pandemic Recession (February-April 2020) had substantially different trajectories. The PR was marked by a sudden onset, quick recovery, and lingering inflation, in contrast to the GR's slow increase in unemployment and slower recovery. During the PR, unemployment peaked at 14.8% in April 2020, up from 3.5% just two months earlier, as widespread business closures and social distancing measures dampened consumer spending (BLS, 2020). By mid-2021, unemployment was down to 5.4%as businesses reopened and vaccines became available (BLS*,* 2021), and it returned to pre-pandemic levels (3.5%) by mid-2022 *(*BLS, 2022). In contrast, unemployment during the GR began rising in mid-2007 (4.6%) but did not peak until two years later, in October 2009 (10%) (BLS, 2009). It took eight years—until late 2015—for unemployment to return to

pre-recession levels (Cunningham, 2018). Similar trends were observed in Wisconsin. During the GR, Wisconsin's unemployment rose substantially in late 2007, peaking at 9.4% in June 2009. In the PR, Wisconsin's unemployment rate surged from 3% in March 2020 to 14% by April (Wisconsin Department of Workforce Development, n.d.).

While the federal government implemented new policies and expanded some existing safety net programs in response to both recessions, the degree of support was markedly different. For the GR, the federal government implemented the American Recovery and Reinvestment Act (ARRA) in 2009, with most provisions set to expire after two years. The ARRA included tax cuts and credits for qualifying individuals (and businesses), expanded unemployment benefits, increased funding for SNAP and other food assistance programs, higher Medicaid matching rates to states to expand coverage, and increased resources to states for infrastructure and transportation projects (CBO, 2015). Notably, ARRA expanded UI benefits through the Extended Unemployment Compensation (EUC) program and the Extended Benefits (EB) program, providing up to 53 weeks of EUC and EB benefits on top of the 26 weeks already available through state programs (Burtless, 2009). UI benefits were also increased by $25 per week for all recipients under the Federal Additional Compensation program (FAC) (CBO, 2012). ARRA also made short-term changes to the TANF program, including creation of an emergency contingency fund (ECF), which provided states with additional funding to cover increased caseloads, among other things. The ECF gave states more flexibility during the GR, allowing them to expand services such as subsidized employment programs (Pavetti et al., 2011). States were also encouraged to use ARRA funds to expand short-term TANF benefits, such as utility and housing assistance, with some states opting to use the ECF to increase monthly TANF benefits.

In contrast, the federal response to the PR was swift and provided substantial cash resources to a comparatively diverse set of qualifying individuals and families. The initial federal response began in March 2020 with the passage of the Coronavirus Preparedness and Response Supplemental Appropriations Act (CPRSAA), the Families First Coronavirus Response Act (FFCRA), and the Coronavirus Aid, Relief, and Economic Security (CARES) Act. The FFCRA expanded programs such as SNAP, provided paid sick and family leave, and increased UI payments and duration.[1] The CARES Act provided economic impact payments (EIPs),[2] temporarily suspended student loan payments, and further expanded SNAP, including the SNAP-EBT program to replace meals for children typically provided during school hours. The Consolidated Appropriations Act (CAA) of 2021 continued expansions to UI, EIPs, SNAP, and childcare programs, along with funding to states and locales, businesses, education, and healthcare. The American Rescue Plan Act (ARPA) of 2021 also included EIPs, UI expansions, the short-lived expanded and monthly child tax credit,[3] and a temporary suspension of evictions.

[1]The FFCRA allowed states to relax job search and preparation requirements and expanded benefits through the Federal Pandemic Unemployment Compensation (PFUC) program, which provided an additional $600 per week in UI benefits between March and July 2020 in addition to states' standard UI provisions. The Pandemic Unemployment Assistance (PUA) program provided UI eligibility to workers previously ineligible for UI such as part-time, self-employed, and "gig workers." The Pandemic Emergency Unemployment Assistance (PEUA) program provided 13 weeks of UI. Finally, in July 2020, the Trump administration, via an executive order, allowed states to provide another $300 in UI benefits per week through the Lost Wages Assistance (LWA) program. Passage of the CAA (December 2020) extended the additional $300 weekly UI benefit and included an additional 11 weeks of eligibility for 50 weeks of possible UI receipt.

[2]EIPs went to qualifying individuals and families at three points in time between April 2020 and March 2021. Initial EIPs provided up to $1,200 to individuals, $2,400 to married couples, and an additional $500 for each qualifying child. Second-round EIPs, distributed between December 2020 and January 2021, provided up to $600 per individual; and $600 per child 16 years or younger, with households earning less than $75,000 in 2019 receiving the full EIP amount and higher earners getting a steadily smaller amount until a maximum phase out at $87,000 in earnings. Third-round, final EIPs were up to $1,400 per individual and dependent, with married couples receiving a maximum of $2,800.

[3]The ARP increased the overall value of the CTC, removed earnings requirements, was fully refundable, and distributed monthly from July to December 2021. The maximum CTC increased to $3,000 per child between the ages of 6 and 17 and $3,600 per child under age 6. Low-income families qualified for the maximum amount while the credit phased out in two stages beginning at $112,500 for single parents and $150,000 for married couples, then reduced by 5%.

In sum, compared to the GR, the federal response to the PR included a larger expansion in eligibility and generosity of several safety net programs, which are examined in the current study: UI and cash benefits distributed via the tax system (both EIPs and tax credits).

The child support policy and practice context faced by separated parents during the GR and PR recessions differed in several important ways. During the GR, the Deficit Reduction Act of 2005 (in effect until 2009), allowed states to pass-through past-due child support payments accrued before families applied for TANF (Legler & Turetsky, 2006). Wisconsin counties also adopted more flexible agency practices, including to parents who were failing to comply with their child support orders, and reducing hours of paid work used to establish child support orders in imputed income cases, from 40 hours per week to 30 or 35 (Kaplan, 2010).

Between these two recessions, several policy changes occurred at the federal and state levels. Two changes that likely affected separated parents with low-incomes were: 1) the reduction of the interest rate charged on arrears from 1% to 0.5% per month in Wisconsin, and 2) the federal government's Flexibility, Efficiency, and Modernization in Child Support Programs Final Rule, which directed states to consider noncustodial parents' ability to pay when establishing child support orders (Hodges & Vogel, 2021). A recent study found evidence that arrears growth slowed and child support payments increased among noncustodial parents with arrears following these policy changes (Riser & Meyer, 2023).

During the PR, the federal government provided some guidance to state and local child support agencies including that: 1) the first EIP was subject to federal intercept to offset arrears balances; 2) states could request extensions for child support processes (e.g., paternity and order establishment, initiation of income withholding); and 3) enforcement actions such as income withholding and withholding against UI benefits were mandatory (Administration for Children

and Families, 2020a, 2020b, 2021). Moreover, state agencies and courts adopted a more cautious, supportive approach to child support enforcement during the first year of the pandemic (Vogel et al., 2021, 2022).

Few studies have compared the GR and the PR. As such, there is ongoing debate about optimal analytic approaches for comparing the effects of these recessions given their differences in timing, intensity, and duration, which present analytic challenges. Among the limited literature, Hembre and colleagues (2023) compared the responsiveness of the safety net to the business cycle during the GR and PR examining UI, SNAP, Temporary Assistance for Needy Families (TANF), Supplemental Security Income (SSI), and Medicaid caseloads. Overall, they found that the responsiveness of UI and SNAP caseloads was significantly larger during the PR than the GR, while TANF and SSI caseloads were more responsive during the GR. In their analysis, they defined the PR as the period between March 2020 and September 2021, with March and April 2020 as the baseline period, and the remaining 17 months as the follow-up period. The GR was defined as January 2008 to November 2010, also allowing for a 17-month post-recession follow-up period beginning in July 2009. In their sensitivity analysis, they considered alternative timeframes: some analyses only included the contraction period through June 2009, while others extended the follow-up period to December 2013. When limiting the GR to the contraction period ending in June 2009, the difference in caseload responsiveness between the PR and GR was less pronounced for all selected programs, as this follow-up period only included the downturn and not the recovery period. When the GR follow-up period was extended through 2013, the differences in caseload responsiveness between the GR and PR widened for all selected programs except UI, where results remained consistent with the primary analysis. The

authors concluded that comparable follow-up periods, as in their primary analysis, are preferable (Hembre et al., 2023).

A related study compared job loss and duration during the GR and PR, focusing on employment inequalities between demographic subgroups including gender, race, and ethnicity. Fazzari and Needler (2021) found that men and less-educated workers had comparatively higher job losses during the GR relative to women. However, during the PR, less-educated workers were disproportionately affected relative to more educated workers. Women had comparatively higher job losses in the PR while White workers fared better than other racial and ethnic groups in both recessions. Black and Latina women were hardest hit during the PR (Fazzari & Needler, 2021).

Like Hembre and colleagues (2023), Fazzari and Needler (2021) also contend with the challenges of comparing these two recessions. For the PR, they defined the start of the downturn as the month after peak unemployment and considered a 10-month follow-up period due to data availability at the time. For the GR, they use several follow up periods and anchored their baseline with peak unemployment. Given the infancy of this line of research and the unique challenges of comparing these two recessions, we take a similar approach by anchoring our follow-up period to peak unemployment and using alternative time period specifications in sensitivity analyses.

Prior Research on the Effects of the GR and PR on Noncustodial Parents' Child Support Outcomes and Custodial Parents' Income Packages and Economic Well-Being

Noncustodial Parents

Heightened unemployment and decreases in earnings during recessions hinder noncustodial parents' ability to pay child support and threaten custodial parents' economic well-

being. In this section, we discuss prior research on the effects of the GR and the PR on noncustodial parents' child support outcomes and custodial parents' income packages and economic well-being. This literature often focuses on noncustodial fathers, instead of all noncustodial parents, because fathers comprise the vast majority of noncustodial parents. Similarly, research often focuses on custodial mothers, rather than all custodial parents, because mothers comprise the vast majority of custodial parents. We follow the terms used in the studies we review.

Noncustodial parents experienced significant declines in their employment and earnings during the GR and PR recessions (Mincy et al., 2016; Pilarz & Cuesta, 2023; Wu, 2011). Wu (2011) finds that the proportion of noncustodial fathers with any earnings in Wisconsin declined from 77.9% in 2006 to 69.2% in 2009. This study also finds an increase in the share of fathers with the lowest earnings, from 39% in 2006 to 47% in 2009. Given the strong link between fathers' stable employment and child support payments, these declines in earnings likely make it more difficult for fathers to pay child support (Bartfeld & Meyer, 2003; Berger et al., 2021; Cancian et al., 2021). Recent evidence from the COVID-19 recession points to a similar pattern during the first year of the pandemic. Pilarz and Cuesta (2023) found that noncustodial parents experienced a 3.5% decline in formal employment and a $1,272 to $1,710 decline in annual earnings. Yet, relative to a comparison cohort, noncustodial parents in Wisconsin received about $1,796 more in UI benefits and were eligible to receive about $1,575 to $1,745 more in tax benefits during the first year of the PR (Pilarz & Cuesta, 2023), suggesting the safety net buffered noncustodial fathers' decline in earnings. To our knowledge, prior research has not examined noncustodial fathers' safety net benefits during the GR. Moreover, it is not known how noncustodial parents fared when the pandemic-era provisions ended in 2021, and no prior studies

have compared noncustodial parents' ability to pay child support during the GR to their ability to pay during the PR.

Research suggests that noncustodial parents' child support payments decline during recessions when unemployment rates increase (Mincy et al., 2016). In Wisconsin, the proportion of noncustodial fathers who paid any child support decreased 10 percentage points during the GR, from 86% in 2006 to 76% in 2009 (Wu, 2011). Pilarz and Cuesta (2023) found the opposite outcome during the PR, with a 2-percentage point increase in the probability of making any child support payments during the first year of the pandemic. While payments remained stable during the GR (Wu, 2011), the average child support amount paid during the first year of the PR increased between $401 to $475, and noncustodial parents accumulated $371 to $388 less in annual arrears during the PR relative to a comparison cohort (Pilarz & Cuesta, 2023). One reason why noncustodial parents' child support outcomes might have improved slightly during the PR is the unprecedented expansions in UI benefits, which are subject to automatic withholding of child support, and economic impact payments. The increase in child support payments during the PR was concentrated in Quarter 2 of 2020, which is when UI expansions were at their peak and the first EIP was intercepted for noncustodial parents who owed past due support (Pilarz & Cuesta, 2023; Vogel et al., 2021, 2022). Nevertheless, compliance with child support orders declined in both recessions: the proportion of noncustodial fathers making full payments decreased 4 percentage points in the first year of the PR (Pilarz & Cuesta, 2023) and 6 percentage points during the GR (Wu, 2011), suggesting that safety net expansions in both recessions were insufficient to buffer the effects of noncustodial parents' earnings losses on their ability to make full payments. This report extends prior research by looking at the longer-term effects (through 2022) of the PR on noncustodial parents' ability to pay—including income from earnings, UI

benefits, and estimated tax benefits—and key child support outcomes: payment amounts, compliance, and arrears. We also compare noncustodial parents' outcomes in the PR era with a similar cohort of parents in the GR era to explore how the different recessions, and safety net responses, contributed to differences in noncustodial parents' child support outcomes.

Custodial Parents

Like noncustodial fathers, single mothers' employment declined substantially during the GR and PR recessions (Barroso & Kochhar, 2020; Mattingly et al., 2011). In the aftermath of the PR, the employment rate of single mothers in the United States declined by 9 percentage points: from 76% in September 2019 to 67% in September 2020 (Barroso & Kochhar, 2020). In Wisconsin, a cohort of single mothers with a nonmarital birth in 2018 experienced a 5% decline in employment and 10% decline in earnings in 2020 relative to a comparison cohort (Pilarz & Cuesta, 2023). Evidence from the GR points to a similar pattern of employment and earnings losses (Bellisle & Ybarra, 2024; Eamon & Wu, 2013). For example, a cohort of single mothers in Wisconsin with a nonmarital birth in 2007 earned $800 less than a comparison cohort, about an 8% decline (Waring & Meyer, 2020). An important distinction between the two recessions, however, is that while the decline in employment and earnings during the PR was dramatic and sudden, employment declines were more gradual and sustained during the GR. For example, among single mothers in Wisconsin, their earnings had nearly recovered to pre-pandemic levels by the fourth quarter of 2020 (Pilarz & Cuesta, 2023). By contrast, during the GR, single mothers' earnings were still significantly lower four to five years after the onset of the recession (Waring & Meyer, 2020).

These dramatic losses in employment and earnings likely explain the higher risk of economic hardship experienced by single mothers during recessions (Damaske et al., 2017;

Fazzari & Needler, 2021; Parolin & Lee, 2022). Yet, two studies of single mothers in Wisconsin found that safety net expansions during the GR and PR compensated for declines in earnings and child support income, leading to increases in total annual income (Pilarz & Cuesta, 2023; Waring & Meyer, 2020). These increases in income were more substantial in the immediate aftermath of the PR recession in 2020 as compared to the recovery from the GR. Further, given the episodic timing of some safety net benefits, such as the EIPs of 2020 and 2021, income and poverty likely fluctuated within the year. Increases in total annual income might mask temporary income declines and economic hardship. For this reason, this report examines changes in custodial mothers' income sources and total income at the quarterly level.

Expansions of the safety net differed across the two recessions, as reflected by changes in single mothers' income packages. During the GR era, increases in single mothers' income were driven by increases in TANF, SNAP, and SS/SSDI benefits; however, extant research was unable to examine UI benefits (Waring & Meyer, 2020). Increases in single mothers' income in 2020 were driven by expansions in eligibility and benefit amounts in UI, SNAP, and estimated tax benefits, including EIPs (Pilarz & Cuesta, 2023). Differences in the relative importance of various safety net programs in shoring up custodial mothers' income reflect different approaches to expanding the safety net during these two distinct recessionary periods.

In this report, we extend prior research by examining custodial mothers' income sources over a longer time horizon following the onset of the PR (through 2022) and by comparing custodial mothers in the PR era to a similar cohort of custodial mothers during the GR era. We examine custodial mothers' total cash income from various sources—child support, earnings, and safety net programs—to shed light on how their economic well-being was impacted during each recessionary period.

METHOD

Data and Samples

This study used longitudinal data from the Wisconsin Administrative Data Core (WADC): a dataset maintained by the Institute for Research on Poverty in collaboration with Wisconsin state agency partners (Brown & Thornton, 2020). Our sample consisted of separated parents with data in the Kids Information Data System (KIDS): the system that accounts for paternity adjudication and the payment and disbursement of child support. We created a sample of custodial and noncustodial parents by identifying parents who were ordered to pay or receive child support continuously during our study period. We used payee and payor designations to classify parents as noncustodial (payor) or custodial (payee). If individuals were designated as both a payee and payor at any point during the duration of the study period, they were excluded from the sample. We created a longitudinal sample of parents with multiple observations per person, per year and month (later collapsed to quarters) when they were eligible to be included in the sample.

We excluded from the sample individuals who met any of the following criteria during the study period: they became deceased, their child(ren) became deceased, they were younger than 18 or older than 64, their children were older than 18 or not yet born, or they lived outside of Wisconsin (roughly 25% of cases dropped). We then dropped parents who were missing location/mortality data (4.5% of cases) and those missing information needed to estimate tax benefits—one of our key constructs—because they lived outside of Wisconsin during the study period (0.1% of cases excluded). Consistent with other studies (Ha et al., 2008; Hodges et al., 2019; Wu, 2011) and to ensure the accuracy of child support payment and compliance estimates, we excluded noncustodial parents with a percent-of-income order during the study period

(<0.1% of cases excluded). Lastly, we restricted the sample of payors and payees to parents with child support orders from a paternity and/or divorce case (roughly 1.8% of cases excluded).

We assigned parents to be in the Great Recession (GR) and/or the Pandemic Recession (PR) sample cohorts depending on when they had valid observations in the WADC data according to the above criteria. Parents with valid data from October 2006 to September 2007 and April 2009 to December 2011 were included in the GR cohort, and parents with valid observations from April 2019 to December 2022 were included in the PR cohort. Parents could show up in both cohorts if they met all the criteria listed above throughout the study period (5.8% of custodial parents are in both the GR and pandemic cohorts, and 7.2% of noncustodial parents). We conducted additional analyses using a similar sample of parents with valid data from October 2006 to March 2009 to assess the short-term effects of the Great Recession.

Because the two recessions followed very different trajectories (i.e., sudden onset and quick recovery during the pandemic recession versus slower increase in unemployment and slower recovery during the Great Recession), we selected study periods according to: 1) the official start date of the recession, and 2) the quarter in which Wisconsin's monthly unemployment rate was highest. This approach allows us to "center" outcomes around peak unemployment and calculate changes in outcomes relative to a period with low unemployment. Table 1 shows the study period by cohort. The baseline period corresponds with the calendar year preceding the official start of the recession. This was Quarter 4 of 2006 through Quarter 3 of 2007 for the GR and Quarter 2 of 2019 through Quarter 1 of 2020 for the PR. The follow-up period includes 11 quarters, starting with the quarter during which Wisconsin experienced peak monthly unemployment. For the GR, this was Quarter 2 of 2009 through Quarter 4 of 2011. For the PR, the follow-up period was Quarter 2 of 2020 through Quarter 4 of 2022.

Because of the different trajectories of each recession, this approach results in a gap between the baseline and follow-up periods for the GR but not the PR. Therefore, we conducted supplementary analyses using an alternative follow-up period for the GR that immediately follows the baseline period: 2007 Q4 to 2009 Q1. These supplemental analyses examine the sensitivity of our findings to the selection of the follow-up period.

Table 1. Observation Periods for Each Cohort

	Baseline Period	Peak Unemployment Rate in WI	Follow-Up Period
Pandemic Recession Cohort	2019 Q2 to 2020 Q1	2020 Q2	2020 Q3 to 2022 Q4
Great Recession Cohort	2006 Q4 to 2007 Q3	2009 Q2	2009 Q3 to 2011 Q4

Note: The follow-up period for the supplemental GR analyses is 2007 Q4 to 2009 Q1.

Measures

We examined NCPs' ability to pay child support through earnings, Unemployment Insurance (UI) benefits, and estimated tax benefits. Earnings are measured using the sum of all wages reported to the Wisconsin unemployment insurance system in a given quarter. UI benefits include the sum of unemployment insurance benefit payments paid in a given quarter. We estimated tax benefits using the TAXSIM program created by the National Bureau of Economic Research. We made several assumptions about tax filing behavior and recipiency to generate these estimates, which are explained in detail in the appendix. Some key assumptions to keep in mind are as follows: we assumed that everyone filed taxes and received the tax refunds (or paid the tax liabilities) estimated by TAXSIM. We allocated these refunds/liabilities to the first quarter when refunds were available (the first quarter of every year for annual taxes, the second quarter of 2020 for the first Economic Impact Payment, etc.). We also assumed that custodial parents claimed all children as dependents, while noncustodial parents did not claim dependents.

We also examined child support outcomes for NCPs, including the amount of child support paid, arrears balance, and compliance. Child support paid is the total amount of payments to the child support system each month, which we then aggregate to the quarterly level.[4] Total arrears are the entire balance of child support owed at the end of the quarter (the balance at the end of month 3 for Q1, month 6 for Q2, etc.). We measured NCPs' compliance with their child support order using an indicator of whether they paid at least 90% of the amount ordered in a given quarter. All monetary outcomes were adjusted to 2022 dollars using the Consumer Price Index for Urban Consumers (CPI-U-RS) from the Bureau of Labor Statistics.

For CPs, we examined income from earnings, child support, and safety net programs. Earnings were measured using the same method used for NCPs, and child support income was measured using the total amount of monthly child support received aggregated to the quarterly level. Safety net benefits included monthly benefit amounts from each of the following programs aggregated to the quarterly level: Supplemental Security Income (SSI), Social Security Survivor's benefits (SS) and Disability Insurance (SSDI), UI, and Temporary Assistance for Needy Families (TANF). We also estimated tax benefits (defined in the same way as NCPs estimated tax benefits). Due to data availability, we were unable to examine near-cash income from the Supplemental Nutrition Assistance Program.

We combined income from these measures to create a quarterly measure of total personal cash income,[5] which includes income from earnings, child support, SSI, SS/SSDI, TANF, and UI and estimated tax benefits each quarter. We compared this measure against the federal

[4]In a small portion of cases, WADC programmers entered negative values for child support paid and arrears in a given month. Observations were recoded as 0 if amounts were still negative after aggregating to the quarterly level.

[5]We do not have information on household composition or income earned by other household members and therefore cannot create a measure of total family income.

poverty line to approximate income poverty in each quarter. Because the poverty thresholds vary by household size and composition, we assumed that CPs lived with no other adults and with all their biological children under age 18 (i.e., one adult plus related children under 18). We also conducted supplemental analyses using pre-tax cash income (i.e., income from all sources except tax benefits).

Analytic Approach

To address each research question, we conducted both descriptive and regression analyses. First, our descriptive analyses show NCP and CP's outcomes throughout the baseline and follow-up periods disaggregated by recession cohort. To produce these estimates, we regressed each outcome on an indicator of time relative to peak unemployment among each cohort of NCPs and CPs. These analyses show how, on average, CPs and NCPs fared in the short- (2020) and longer-term (2021–2022) during the PR and how parents in the PR fared compared to parents in the GR.

Next, we used parent-level fixed effects regression models to examine changes in CPs' and NCPs' outcomes controlling for parent characteristics. We conducted analyses for CPs and NCPs separately. These models leveraged within-person changes, comparing an individual's outcome in the baseline period to their outcome in each quarter of the follow-up period. Because fixed effects models make within-person comparisons, they control for all time-invariant characteristics of parents such as race and sex. In these models, we also controlled for time-varying characteristics of parents, including age (indicators of 18–24, 25–34, 35–44, or 45+ years of age), number of children (indicators of one, two, or three or more children), multi-partner fertility (indicators of having had children with exactly one partner, more than one partner, or an indeterminable number of partners), current age of the youngest child (indicators

of 0–5, 6–11 or 12–17 years old), and the quarter of the calendar year (Quarter 1: January–March, Quarter 2: April–June, Quarter 3: July–September, Quarter 4: October–December), and the type of child support order(s) (indicators of paternity, divorce, or both).

Because we were interested in comparing the effects of the PR to the GR, these fixed effects models pooled the PR and GR cohorts. They included an interaction between indicators of cohort and time period. The interaction allows changes in parents' outcomes in each quarter of the follow-up period (relative to the baseline period) to vary by cohort. We graph the marginal effect for each quarter of both follow-up periods for each cohort. The marginal effects can be interpreted as the average within-person change in the outcome in a given quarter relative to the baseline period. This within-person approach is advantageous because it eliminates bias from characteristics of parents that are unobserved and time-invariant. This improves our confidence in attributing findings to changes in the economic and policy context over time.

RESULTS

Characteristics of NCPs and CPs in GR and PR Cohorts

Table 2 shows the characteristics of the two cohorts of NCPs and CPs as of the first quarter of the baseline period. Our sample of NCPs included 65,195 individuals in the GR cohort and 72,625 individuals in the PR cohort. The characteristics of NCPs were similar with some exceptions. In both cohorts nearly all NCPs were male (97.6% of NCPs in the GR cohort and 95.6% of NCPs in the PR cohort). Compared to NCPs in the GR cohort, NCPs in the PR cohort were about 2.5 years older, with an increase in the share of parents aged 35 or older from 45.1% in the GR cohort to 58.1% in the PR cohort. The racial composition of NCPs differed slightly across cohorts: among NCPs with non-missing data, the proportion of non-Hispanic White and non-Hispanic Black decreased between the GR and PR cohorts while the proportion of NCPs

who were Hispanic increased. On average, NCPs in each cohort had two children and about one-third had children with more than one partner. NCPs in the GR cohort were more likely to have a youngest child younger than six years old at the start of the baseline period, while NCPs in the PR cohort were comparatively more likely to have youngest children aged 12–17. The share of NCPs who were born outside of the U.S. increased between the GR cohort and the PR cohort while the share of NCPs that were incarcerated decreased from 4.7% in the GR to 3.1% in the PR. Lastly, the proportion of NCPs with only a paternity child support case increased from 58.2% in the GR cohort to 62.6% in the PR cohort.

Table 2. Characteristics of Sample at Baseline

	Noncustodial Parents		Custodial Parents	
	GR Cohort	Pandemic Cohort	GR Cohort	Pandemic Cohort
Sex				
Male	97.60%	95.60%	2.84%	4.59%
Age (years)	34.58	37.13	32.74	35.30
	(7.6)	(7.59)	(6.9)	(6.92)
Age Categories				
18–24	9.20%	3.77%	12.61%	5.25%
25–34	45.69%	38.18%	51.67%	45.99%
35–44	34.96%	42.19%	30.49%	39.31%
45+	10.15%	15.86%	5.23%	9.45%
Race/Ethnicity				
White, non-Hispanic	58.89%	55.00%	70.58%	64.95%
Black, non-Hispanic	24.02%	23.02%	16.36%	16.64%
Native American, Asian or Pacific Islander, non-Hispanic	1.45%	1.43%	1.53%	1.46%
Mixed (multiple races excluding Hispanic selected)	0.02%	0.03%	0.01%	0.02%
Hispanic (any race)	5.38%	6.29%	4.08%	5.23%
Has Children with More than One Partner				
Yes	34.00%	35.26%	40.61%	40.25%
No	65.92%	64.67%	59.18%	59.64%
Undetermined	0.08%	0.07%	0.21%	0.11%
Number of Children	1.97	2.07	1.99	2.07
	(1.18)	(1.24)	(1.03)	(1.09)
Number of Children Categories				
One	43.49%	39.17%	37.98%	35.50%
Two	32.19%	33.82%	36.48%	36.48%
Three or More	24.32%	27.02%	25.54%	28.02%
Age of Youngest Child				
0–5	49.20%	40.86%	49.34%	41.65%
6–11	43.61%	41.75%	43.69%	41.30%
12–17	7.19%	17.39%	6.98%	17.05%
Born Outside the US				
Yes	5.84%	8.30%	3.70%	6.16%
Incarcerated in State Prison				
Yes	4.65%	3.13%	0.04%	0.06%
Type of Child Support Order				
Paternity	58.23%	62.58%	56.06%	62.05%
Divorce	36.13%	33.11%	38.60%	33.97%
Both	5.64%	4.31%	5.34%	3.98%
N	65,195	72,625	65,375	76,159

Notes: Measures from the end of the last quarter of the baseline period. Means (and standard deviations) or proportions presented. Some observations are missing data on race/ethnicity and/or nativity.

Our sample of CPs included 65,375 individuals in the GR cohort and 76,159 individuals in the PR cohort. Nearly all CPs were female, with only 2.8% of CPs in the GR cohort and 4.6% of CPs in the PR cohort identified as male. CPs in both cohorts were similar but had slightly different age profiles. CPs in the GR cohort were 7.4 percentage points more likely to be under 25 years old and 6.5 percentage points more likely to have their youngest child be under 6 years old. Among CPs with data on race and ethnicity, there was a larger share of non-Hispanic White CPs in the GR cohort as compared to the PR cohort. CPs in the PR cohort were also slightly more likely to be Hispanic. CPs in both cohorts had a similar number of children (about 2) and were similarly likely to have children with more than one partner (40%). Among CPs with nativity data, the proportion of those born outside the United States was larger in the PR cohort. CPs in both cohorts were unlikely to be incarcerated. Lastly, like NCPs, the proportion of CPs with paternity child support orders increased from 56.1% to 62.1%, while the share with divorce-only or divorce and paternity orders decreased.

Our research design follows the GR cohort over a longer time period (2006 Q4 to 2011 Q4) than the PR cohort (2019 Q2 to 2022 Q4). As a result, some differences in sample characteristics between the two cohorts are due to differing sample restrictions. Specifically, parents in the GR cohort had to have a child support order, either as a payor or payee, for 21 quarters, compared to 15 quarters in the PR cohort. However, when we compare the PR cohort to the GR cohort using our alternative follow-up period (2007 Q4 to 2009 Q1), the differences in parents' age and the age of their youngest child between the two cohorts are reduced. Larger differences in parental age between cohorts in our main analysis may have affected our results in a few ways. The GR cohort used in our main analysis has higher shares of younger custodial parents than the PR (18–24 years of age, 12.6% vs. 5.3%; 25–34 years of age, 51.7% vs. 46%,

respectively). In turn, there may be greater economic precarity among our main analysis GR cohort, given that young parents have average shorter work histories. Our main analysis GR sample also had slightly higher shares of custodial parents with young children compared to the PR cohort (age of the youngest child, 0–5, 49.3% vs. 41.7%, respectively), and this may have meant a slightly higher share of GR custodial parents who experienced child care challenges, given a greater need for care prior to the start of primary education. Table A1 in the appendix shows sample characteristics of the alternative GR cohort.

Descriptive Results

Figures 1–16 show trends in the outcomes of interest in each quarter of both study periods for CPs and NCPs. In the figures, Quarter 0 refers to the quarter of peak unemployment in each recession and Quarters 1–10 are the 10 quarters following peak unemployment. Baseline Quarter 1 through baseline Quarter 4 represent the four baseline quarters preceding the start of each recession. The corresponding point values are available in Tables A2–A5 in the appendix.

Noncustodial Parents

Figures 1–6 show changes in noncustodial parents' ability to pay child support over time. On average, NCPs' quarterly earnings were about $1,000 to $2,000 higher during the baseline period of the PR compared to the baseline period of the GR (see Figure 1). NCPs' earnings recovered throughout the follow-up period in both recessions but recovered more quickly in the PR period, surpassing baseline period earnings. Overall, earnings followed seasonal patterns in both recessions.

As intended, UI responded counter-cyclically to unemployment in both recessions (see Figure 2), with benefits being higher during the period of peak unemployment than during the remainder of the follow-up period. However, compared to the GR, UI benefits in the PR were

higher ($833 versus $645) and declined more rapidly during the follow-up period. The differences in tax policies were also visible in NCPs' estimated tax benefits and liabilities (see Figure 3). NCPs received positive tax benefits when the first two stimulus checks were distributed during the PR period (Q0 and Q2), and their liabilities were reduced (relative to baseline) when the third stimulus check was distributed (Q3). Otherwise, NCPs generally owed taxes in the quarters when taxes were allocated during the GR and PR periods. On average, NCPs' tax liabilities ranged from $4,664 to $6,026.

NCPs' child support payments and compliance with child support orders followed different trajectories at the onset of each recessionary period (see Figures 4 and 5). In the PR, child support payments and compliance rates increased during the quarter of peak unemployment ($1,777 and 70% in Q0, respectively) relative to the baseline period. In the GR, child support payments and compliance were similar (or slightly higher) at the start of the follow-up period ($1,692 and 62% in Q0, respectively) compared to the baseline period. Child support payments then declined in both recessionary periods. By the end of the follow-up period, child support payments were lower than in the baseline period in both cohorts ($1,375 and $1,224 in Q10 of the GR and PR, respectively). Compliance rates remained relatively stable throughout the entire GR era at about 59–61%. Meanwhile, compliance rates ranged from 60–66% in Q1–Q10 during the PR follow-up period. Arrears were higher at the start of the follow-up period among the GR cohort ($32,657 in Q0) and increased steadily throughout the GR recovery period, reaching $39,944 in Q10 (see Figure 6). In contrast, arrears did not change markedly from the baseline among the PR cohort, ranging from a low of $9,072 in Q0 to a maximum of $10,632 in Q6.

Figures 1–6: Descriptive Results for Noncustodial Parents

Figure 1. Earnings ($)

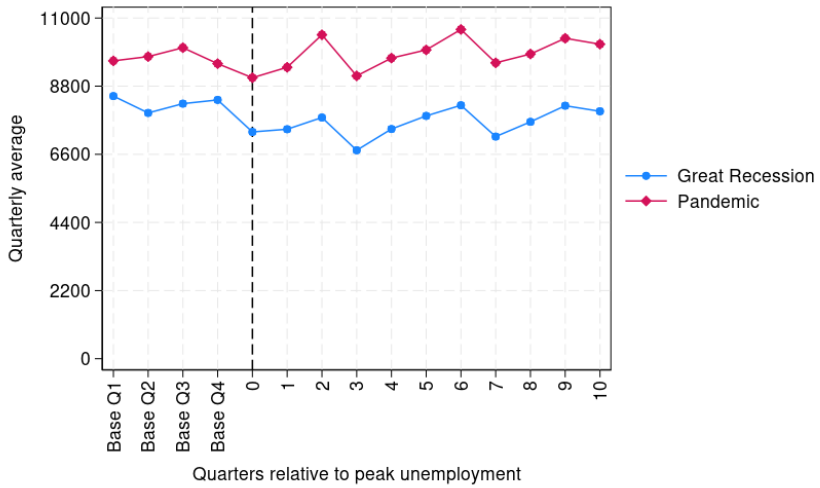


Figure 2. UI Benefits ($)

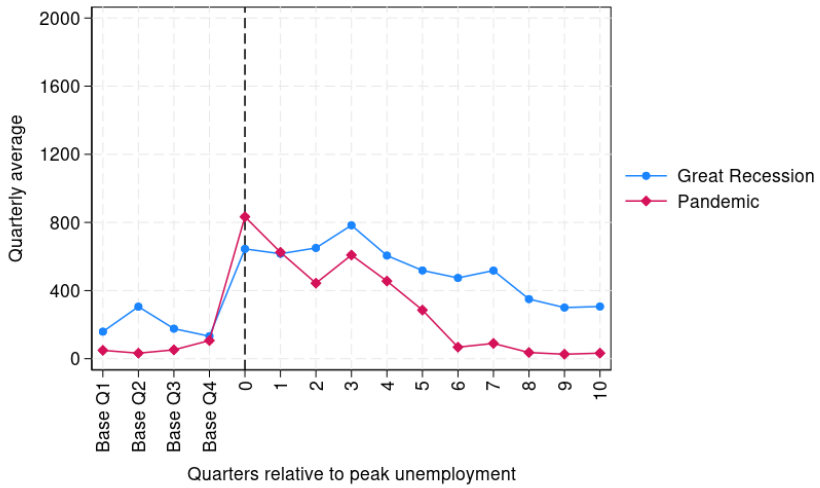


Figure 3. Estimated Tax Benefits ($)

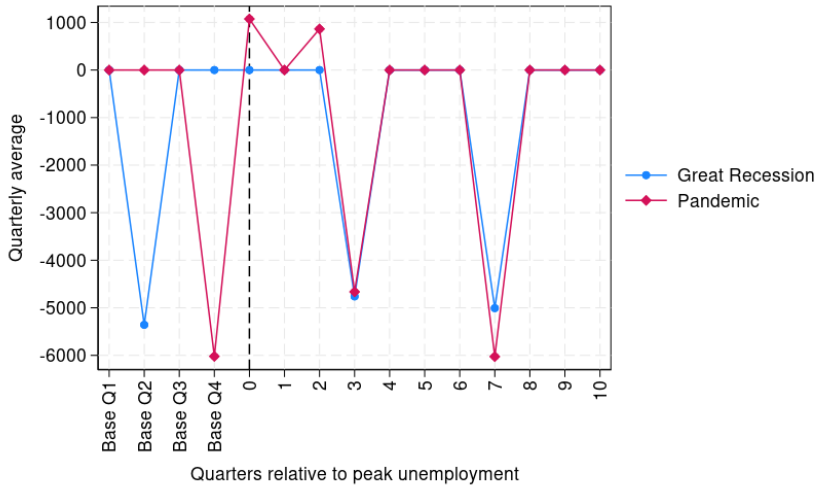


Figure 4. Child Support Payments ($)

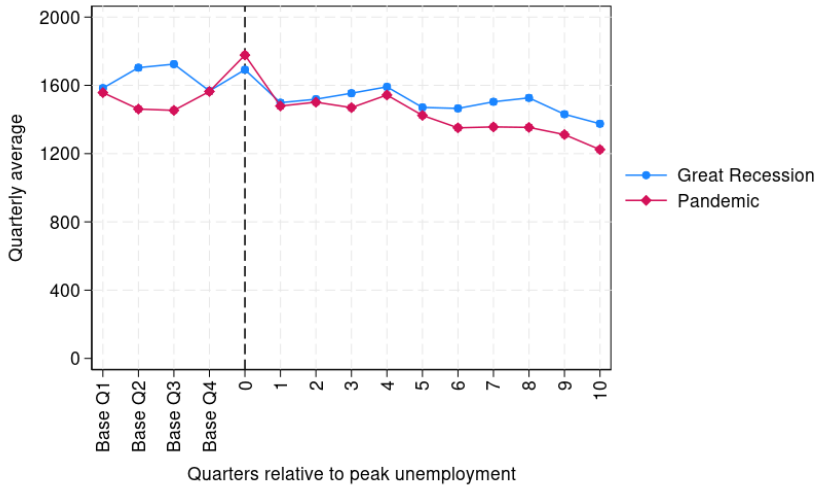


Figure 5. Child Support Compliance (%)

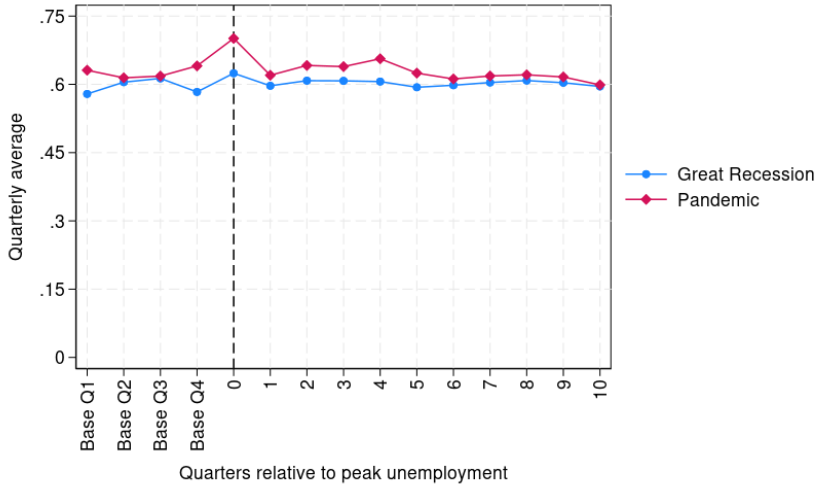
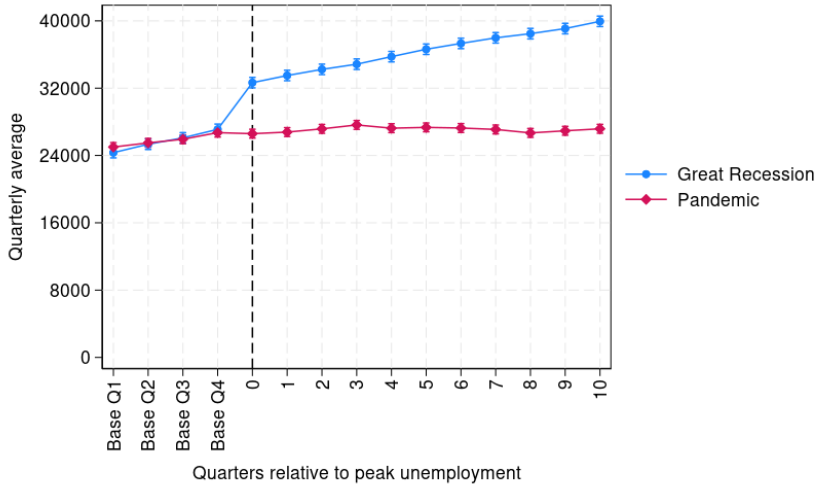


Figure 6. Arrears ($)



Notes: N=137,820**.** Figures show the average level of the outcome for each cohort of noncustodial parents and for each quarter of the study period. For Figures 1, 2, 3, 4, and 6, the y-axis units are in dollar amounts. For Figure 5, the y-axis units are proportions.

Custodial Parents

Figures 7–16 show changes in custodial parents' income sources over time. Earnings in the GR follow-up period did not differ substantially from the baseline period and remained relatively stable over time, ranging from $6,120 to $7,025 (see Figure 7). In the PR era, CPs' earnings were lowest during the quarter of peak unemployment ($6,781 in Q0). However, earnings recovered to pre-pandemic levels relatively quickly to $8,018 in Q2 and remained at or above baseline period earnings for the remainder of the period.

Figure 8 shows the average child support amounts that CPs received each quarter. Child support declined among CPs in the GR cohort throughout the follow-up period; average quarterly child support dropped from $1,681 during peak unemployment to $1,411 in Q10 of the follow-up period. Although there was a slight bump in child support received in the quarter of peak unemployment among CPs in the pandemic ($1,676 in 2020 Q2 versus $1,504 in 2020 Q1), the average amount decreased steadily throughout the follow-up period relative to baseline—down to $1,193 at the end of 2022.

UI benefits (Figure 9) followed distinctive patterns that differed between recessions. In the PR, UI benefits increased rapidly during peak unemployment when stay-at-home orders were enforced and eligibility and benefit levels for UI were expanded. UI remained elevated the following year but returned to pre-recession levels towards the end of 2021. In contrast, UI benefits increased by a smaller amount during peak unemployment in the GR. However, they remained elevated for several quarters following peak unemployment and declined only slightly throughout the follow-up period.

We observed few changes in SSI benefits among both cohorts (see Figure 10). During the PR, benefits remained consistent with baseline values, between $21 to $22, on average, among all CPs. SSI benefits increased slightly and gradually throughout the follow-up period among the

GR cohort: from $17 at the end of the baseline period to $24 at the end of 2011. Similarly, SS and SSDI benefits remained relatively unchanged among the PR cohort but increased throughout the GR recovery period (see Figure 11). Quarterly benefit levels ranged from $83 to $91 in the PR cohort and increased from $51 to $105 throughout the GR study period. As shown in Figure 12, average TANF benefits were small in both periods, but were smaller during the PR era at about $3 to $4 at baseline compared to $8 to $11 in the GR at baseline. TANF benefits rose slightly during the GR follow-up period, up to $13 at the end of 2011, but barely rose to a peak of $5 in the PR period.

Tax-code programs appeared to benefit custodial parents in both recessions. Figure 13 illustrates the pronounced differences between the GR and PR policy responses via the tax code: among the PR cohort, the plot shows a distinct spike in the months when economic impact payments were distributed (2020 Q2, 2020 Q4, and 2021 Q1), and high benefit levels in months when the expanded Child Tax Credit was distributed (2021 Q3 to 2021 Q4). In contrast, estimated tax benefits during the GR increased by a much smaller margin from baseline.

As a result, custodial parents in the PR cohort also experienced larger increases in total personal cash income and larger declines in income poverty and deep poverty (see Figures 14–16). Total income increased in both cohorts but by a much larger margin during the PR, especially in quarters when estimated tax benefits would have been received. In the PR, total income ranged from $8,647 to $11,728 during the baseline period and from $9,231 to $16,280 during the follow-up period, with income at approximately $11,000 or higher in six of the eleven post-baseline quarters. In the GR, total income ranged from $8,229 to $10,343 during the baseline period and from $8,337 to $10,736 during the follow-up period, reflecting only a slight increase in income. In turn, poverty and deep poverty declined in the PR but were relatively

unchanged in the GR. Poverty rates fluctuated substantially throughout both recessions, with markedly lower rates of poverty in quarters when we estimated tax benefits were paid out.[6] During the GR, the poverty rate ranged from 28% to 44% during *both* the baseline and follow-up periods, suggesting the safety net did not lower poverty; similarly, deep poverty ranged from 18% to 26% during baseline and 19% to 26% during follow-up. During the PR, CPs experienced substantial declines in poverty, with the lowest poverty rates in quarters when tax refunds, EIPs, and the advanced CTC were issued. For example, the poverty rate in 2021 Q1—when 2020 tax returns and the third EIP were issued—was only 11%, which is 15 percentage points lower than lowest poverty rate in the baseline period (26% in 2020 Q1).

[6]In the GR, tax benefits were paid out in baseline Q2 and follow-up Q3 and Q7. In the PR, tax benefits were paid out in baseline Q4 and follow-up Q0 (first EIP), Q2 (second EIP), Q3 (annual tax benefits plus third EIP), Q5 (expanded CTC), Q6 (expanded CTC), and Q7 (annual tax benefits).

Figures 7–16: Descriptive Results for Custodial Parents

Figure 7. Earnings ($)

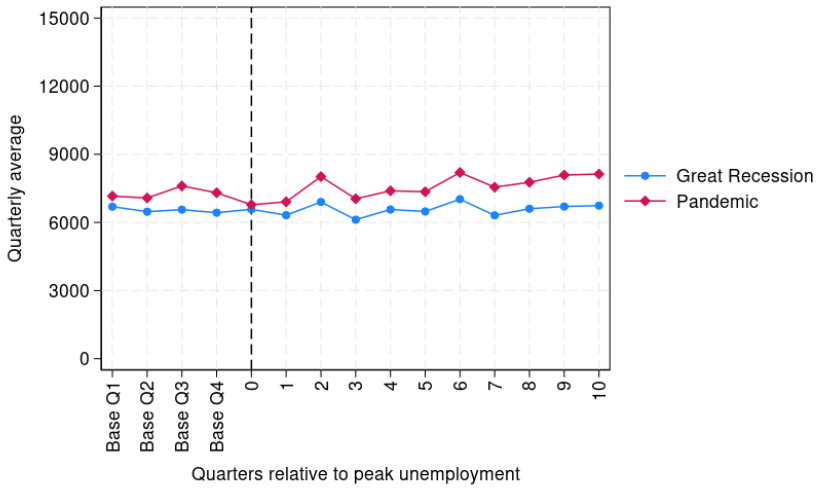


Figure 8. Child Support Received ($)

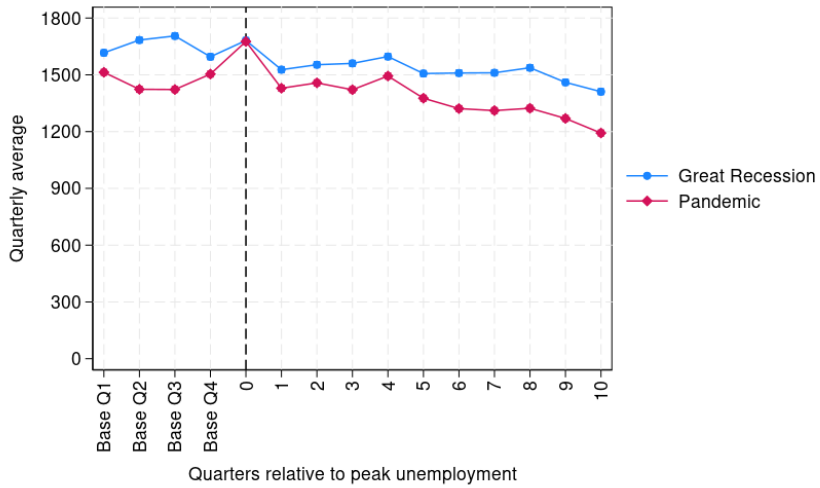


Figure 9. UI Benefits ($)

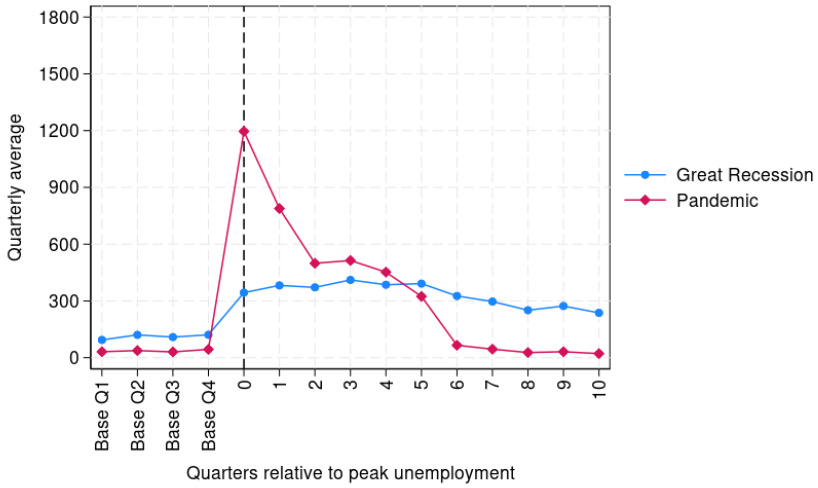


Figure 10. SSI Benefits ($)

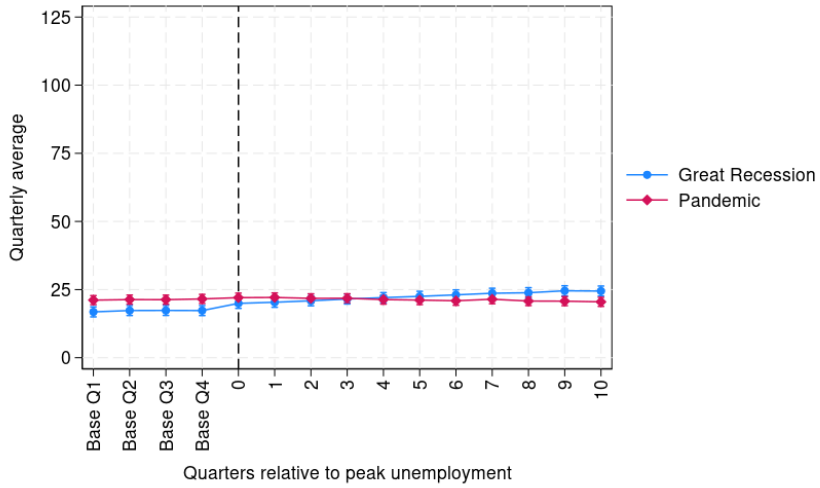


Figure 11. SS/SSDI Benefits ($)

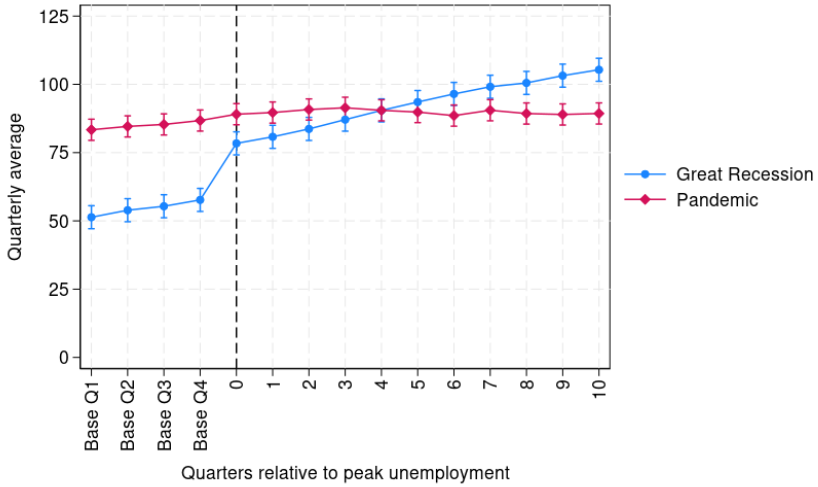


Figure 12. TANF Benefits ($)

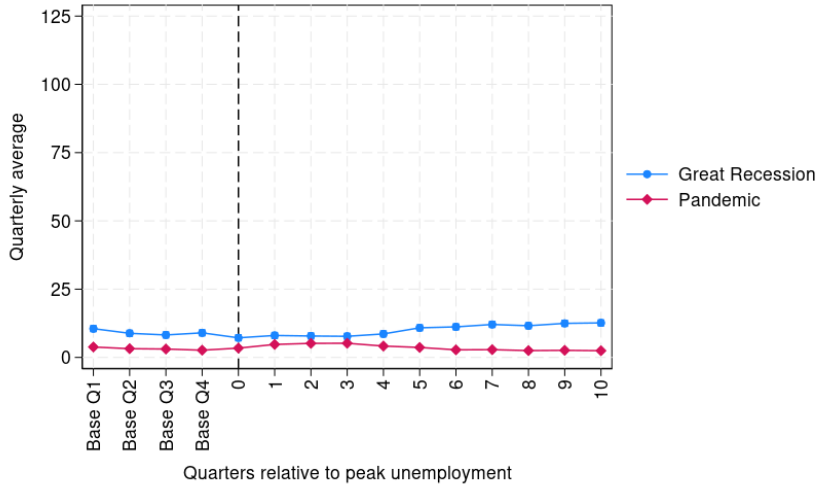


Figure 13. Tax Benefits ($)

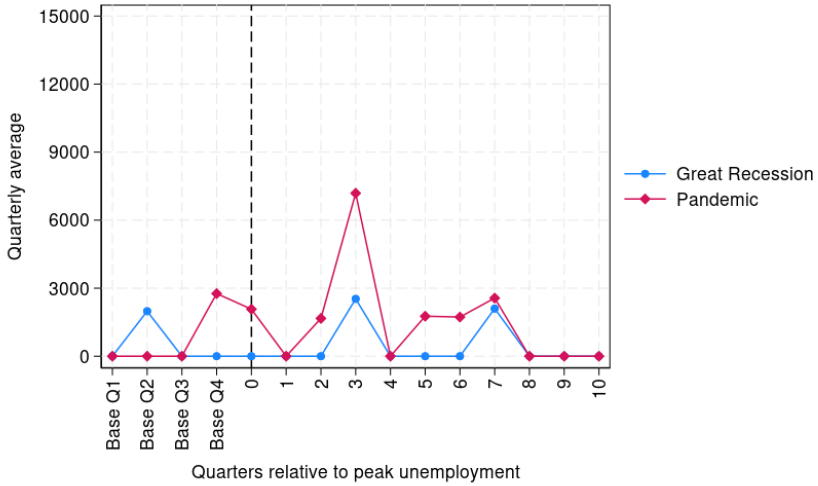


Figure 14. Total Personal Income ($)

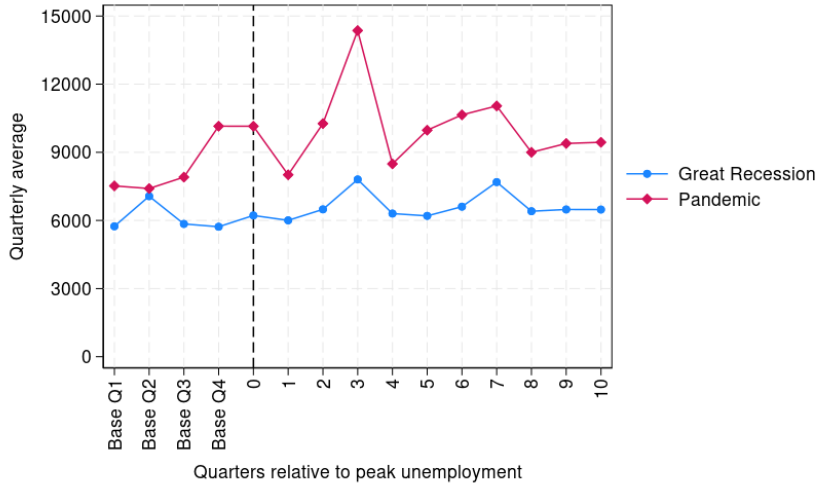


Figure 15. Deep Poverty (%)

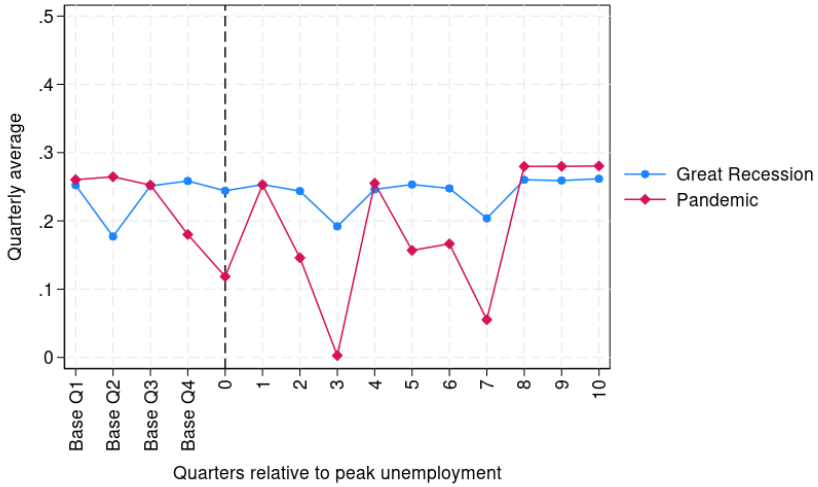
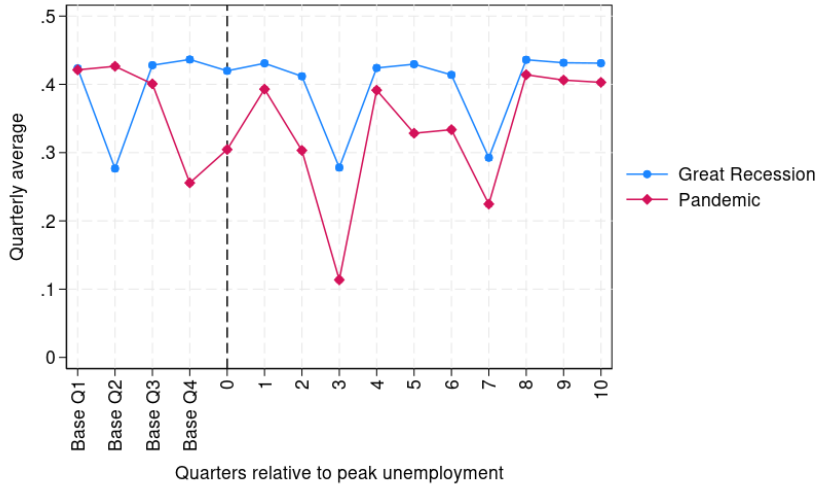


Figure 16. Poverty (%)



Notes: N=141, 534**.** Figures show the average level of the outcome for each cohort of custodial parents and for each quarter of the study period. For Figures 1–14, the y-axis units are in dollar amounts. For Figures 15 and 16, the y-axis units are proportions.

Results from Fixed Effects Models

The next set of figures shows results from fixed effects regression models. The figures show the marginal effects from these models, which represent the average within-person change between the baseline period (the average of the four baseline quarters) and each quarter in the follow-up period. The effects we describe below are all statistically significant unless otherwise noted. We focus on the substantive meaning of the effects rather than statistical significance because our large sample size allows us to detect very small effects that are not always meaningful.

Noncustodial Parents

The effects of each recession on NCPs' earnings (Figure 17) and UI benefits (Figure 18) differed between the GR and PR. In the GR, NCPs' earnings were consistently $190 to $1,307 lower than they were at baseline—a change of 2.3% to 15.8% relative to earnings at baseline. This contrasted earnings during the PR, which dropped by $601 (6.2% of baseline values) at the onset of the pandemic but returned to baseline levels by the end of 2020. Earnings stayed near or above baseline levels for the remainder of the follow-up period. Figure 18 shows that both groups of NCPs experienced increased UI benefits from the baseline to the first quarter of the follow-up period. The spike in benefits at the onset of the follow-up period (Q0 in the figure) was higher among NCPs in the PR cohort ($789) than those in the GR cohort ($469). Increases in UI benefit levels declined much more rapidly for NCPs in the PR cohort and returned to baseline levels in 2022. However, NCPs in the GR cohort received $469 to $517 more quarterly than they did at baseline for a full year after peak unemployment. UI benefits then began to decline but remained higher than the amounts received at baseline until the end of the follow-up period, ranging from $142 to $374.

Changes in tax benefits also differed markedly between the two cohorts (Figure 19). NCPs in the GR cohort received $609 to $861[7] more in tax benefits than they did at baseline during the quarters when taxes were filed (Q3 and Q7 in the figure). Because the average NCP in our sample owed money through tax liabilities, this difference is likely explained by decreased tax liabilities when unemployment was high during the GR. NCPs in the PR cohort also received higher levels of tax benefits during quarters when refunds and stimulus checks were issued compared to baseline. Their net benefits were higher by $1,151 when EIP 1 was issued (Q0 in the figure), $938 when EIP 2 was issued (Q2 in the figure), and $1,118 when EIP 3 was issued (Q3 in the figure). However, NCPs appeared to owe slightly more in taxes in 2022 than baseline (Q7 in the figure).

With respect to NCPs' child support outcomes, we observed different patterns in the PR versus GR cohorts. During the GR, NCPs paid less in child support relative to their baseline levels throughout the follow-up period (Figure 20). On average, NCPs paid $21 less than they did at baseline during peak unemployment, $117 less (7.1% decline from baseline) one year after peak unemployment (Q4) and $198 less (12% decline from baseline) in the last month of the follow-up period (Q10). Despite this, NCPs in the GR cohort were still roughly as likely to be at least 90% compliant with their child support order as they were during the baseline period (Figure 21). NCPs in the PR cohort, by contrast, increased their child support payments at the onset of the PR follow-up period: they paid, on average, $208 (13.8% of baseline) more in 2020 Q2 than they did in 2020 Q1. Child support payments remained higher in the latter half of 2020

[7]We do not interpret changes in tax benefits as a percent of or change from baseline. Because our baseline period encompasses three quarters when tax benefits/liabilities are coded as 0, and one quarter when benefits/liabilities are non-zero (excluding 2020, when EIPs were allocated in Quarters 2 and 4), the percent change reflects a change from the average over the entire year. As a result, the percent change is too low in quarters when tax benefits/liabilities were allocated.

(Q1 and Q2 in the figure) before they declined below baseline levels beginning in 2021 (Q3 in the figure); in Q10, NCPs paid $197 less in child support compared to baseline (13% decline). Figure 21 shows that NCPs in the PR were more likely to be compliant with their child support orders when the first two EIPs were distributed: they were 6 percentage points more likely when EIP 1 was allocated (Q0 in the figure) and 3 percentage points more likely when EIP 2 was allocated (Q2 in the figure). As of the end of 2021, NCPs were as, or less, likely to be compliant.

NCPs' arrears increased in both recessions (see Figure 22), though increases were higher among NCPs in the GR cohort (28.8% increase from baseline) than the PR cohort (4.3% increase from baseline) at the start of the follow-up period. The average NCP's arrears increased by $15,319 by the end of the GR follow-up period, which corresponds to a 59.6% increase from baseline. Average arrears increased by $2,330 by the end of the PR follow-up period: a 9% increase from baseline.

Figures 17–22: Fixed Effects Model Results for Noncustodial Parents

Figure 17. Earnings ($)

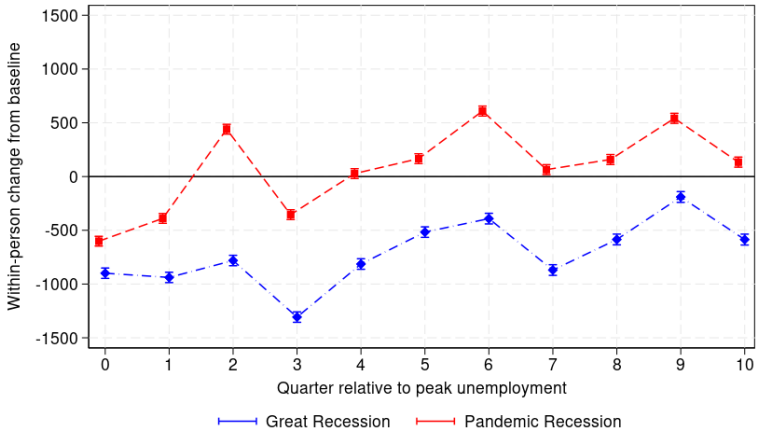


Figure 18. UI Benefits ($)

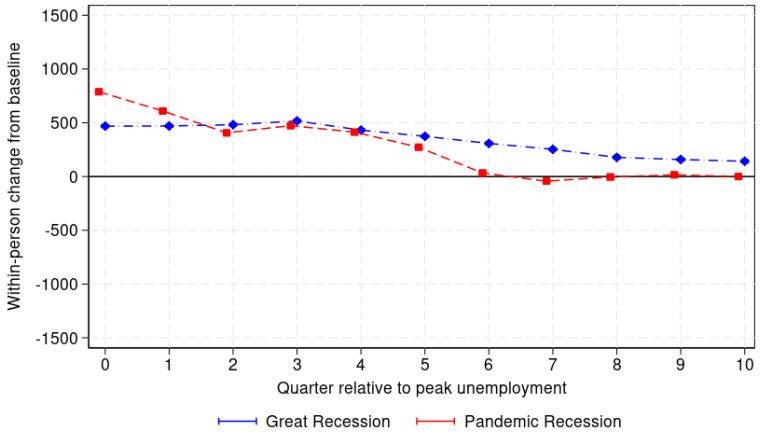


Figure 19. Estimated Tax Benefits ($)

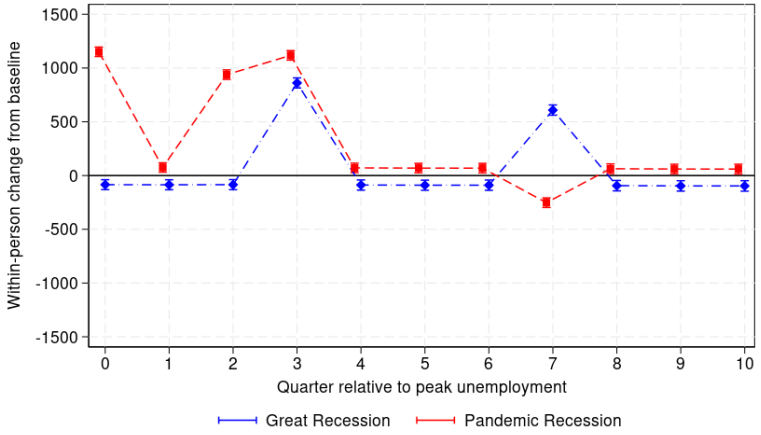


Figure 20. Child Support Payments ($)

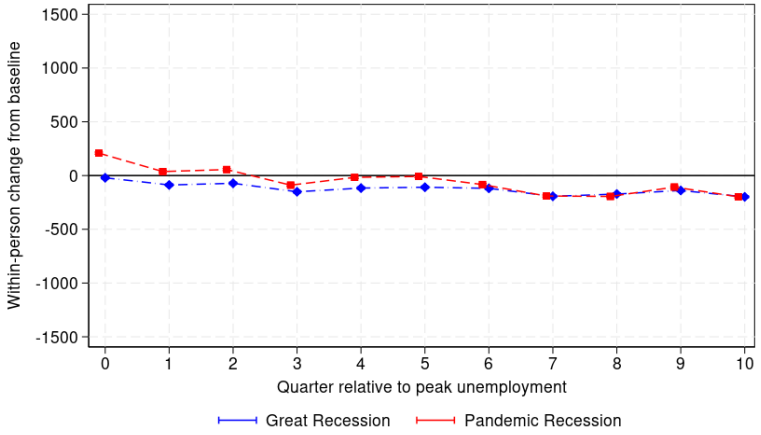


Figure 21. Compliance (%)

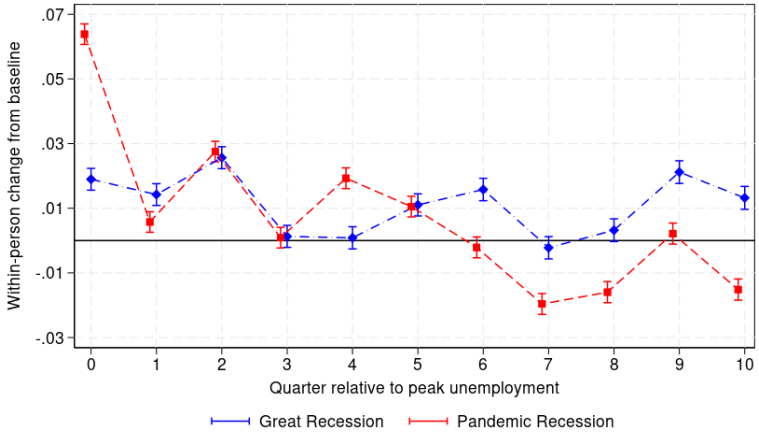
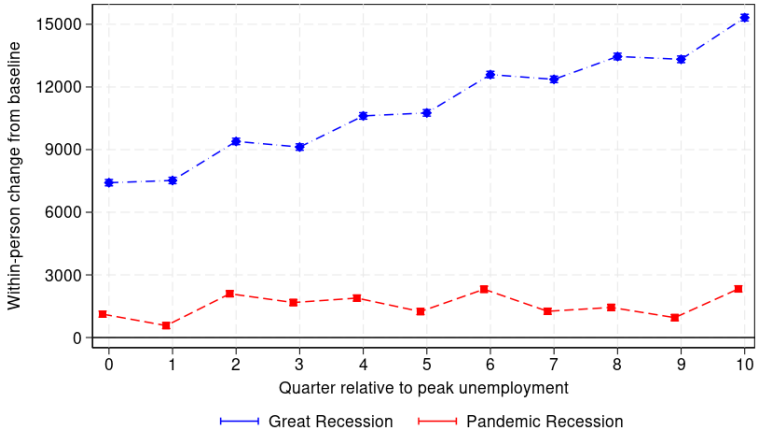


Figure 22. Arrears ($)



Notes: N=137,820**.** Figures show marginal effects from fixed effects models, which can be interpreted as the average within-person change in the outcome in a given quarter relative to the baseline period. For Figures 17, 18, 19, 20, and 22, the y-axis units are in dollar amounts. For Figure 21, the y-axis units are proportions.

Custodial Parents

CPs' earnings and child support outcomes followed different trajectories during the pandemic and Great recessions. During the GR follow-up period, CPs' earnings did not change markedly from baseline (see Figure 23). Changes in earnings ranged from a 3.7% increase from baseline to a 6.9% decrease from baseline, reflecting seasonal variation in earnings. In the PR, CPs' earnings fell by $463 (6.4% of baseline earnings) in Q0 but then followed an upward trajectory, peaking at $908 (a 12.5% increase) in Q9. We observed changes in child support income as well (see Figure 24). CPs in the GR experienced declines in child support income during each quarter of the follow-up period. Following downward trends in NCPs' quarterly child support payments, the average child support payment decreased by $25 (1.5% change) in Q0 and $180 (11% change) in Q10. In contrast, CPs in the PR cohort received $165 more in child support during the quarter of peak unemployment (an 11.2% increase from baseline). However, by Q3, CPs' child support income fell below baseline levels and continued to decline to a low of $199 (13.6% decline) in Q10.

CPs' UI benefits increased from baseline levels during both recessionary periods, though, like NCPs, the magnitude and duration of these changes differed across recessions (Figure 25). In the two years following peak unemployment, CPs in the GR cohort received between $182 to $295 more per quarter in UI benefits. This increase tapered to $144 at the end of 2011 but remained statistically significant and relatively high compared to baseline values (130% of baseline benefits). UI benefits spiked at $1,165 more per quarter at the onset of the pandemic, and then declined throughout the rest of 2020 and 2021. By Q2 of 2022, Q7 in the figure, benefits were indistinguishable from baseline levels.

Figures 26, 27, and 28 show the average change in CPs' SSI, SS/SSDI, and TANF benefits, respectively. Although CPs in the GR cohort received more SSI throughout the follow-

up period relative to the baseline period (Figure 26), the average benefit increases never exceeded $7.31. There was little to no change in SSI benefits during the PR cohort. SS/SSDI benefits increased steadily throughout the follow-up period for CPs in the GR cohort, up to $51 (94% increase from baseline) by the end of 2011 but did not change markedly for CPs in the PR cohort (see Figure 27). As shown in Figure 28, changes in TANF benefits were small in magnitude in both cohorts but modestly large relative to baseline levels. In the GR era, TANF benefits decreased by about $2 (about a 20% decline) in the first year of the follow-up period and then increased by about $3 to 4 dollars (40% increase) by the end of the follow-up period. By contrast, in the PR, TANF benefits increased in the first year of the follow-up period by up to $2.50 (a 79% increase) before declining to near baseline levels. Of note, we observe small amounts in TANF benefit increases due to the low number of CPs who received any TANF benefits in both cohorts.

While there were few differences in CPs' tax benefits during the GR follow-up period (see Figure 29), the impact of tax-based pandemic relief programs was visible. The average CP in the PR cohort received nearly 3 times more than they did at baseline with the first EIP (Q0 in the figure), 2.3 times more with the second EIP (Q2), 6.8 times more with the third EIP and their 2020 income tax returns (Q3), and more than 2.4 times more in the second half of 2021 (Q5–Q6) when advance CTC payments were available.

Figures 30–32 show how these changes affected CPs' total income and risk of poverty in both recessionary periods. We found that the larger increase in safety net benefits—notably UI and tax benefits—led to larger increases in income (relative to baseline) during the PR era. Quarterly income increased by $83 to $979 (1–11% increase) during the GR and by $385 to $4,632 (4–50% increase) during the PR. During the PR, benefits distributed via the tax code led

to large spikes in total income during the quarters when they were allocated, which resulted in substantively large declines in the incidence of deep poverty and poverty. For example, in the first quarter of 2021, when the third EIP was available and CPs received their 2020 tax returns, CPs' incidence of deep poverty decreased by 18 percentage points (see Q3 of Figure 31) and poverty decreased by 14 percentage points (see Q3 of Figure 32). However, by the end of the follow-up period (Q8–Q10)—once the EIPs and expanded CTCs ended—the poverty rate returned to baseline levels and deep poverty was higher by 2–3 percentage points. In contrast, CPs in the GR cohort were about as likely to be in poverty (or deep poverty) throughout the entire follow-up period as at baseline, with effect sizes ranging from between a 1-percentage-point decline in poverty (or deep poverty) to a 3-percentage-point increase in poverty (or deep poverty).

Figures 23–32: Fixed Effects Model Results for Custodial Parents

Figure 23. Earnings ($)

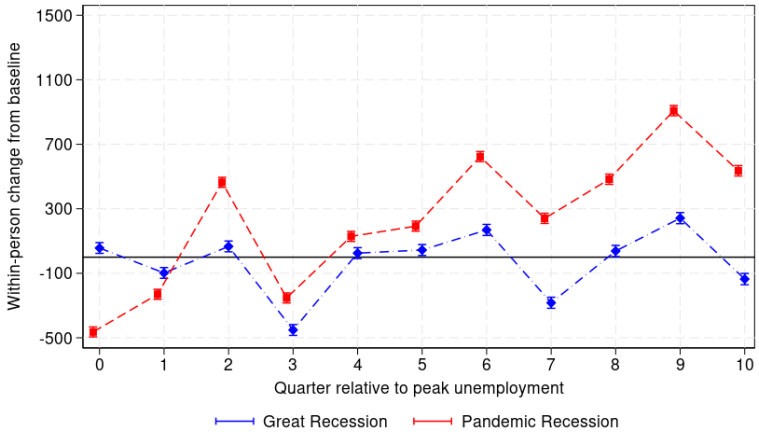


Figure 24. Child Support Received ($)

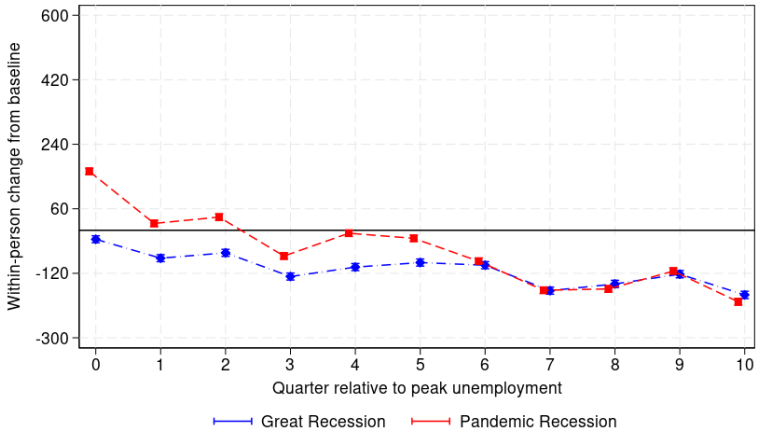


Figure 25. UI Benefits ($)

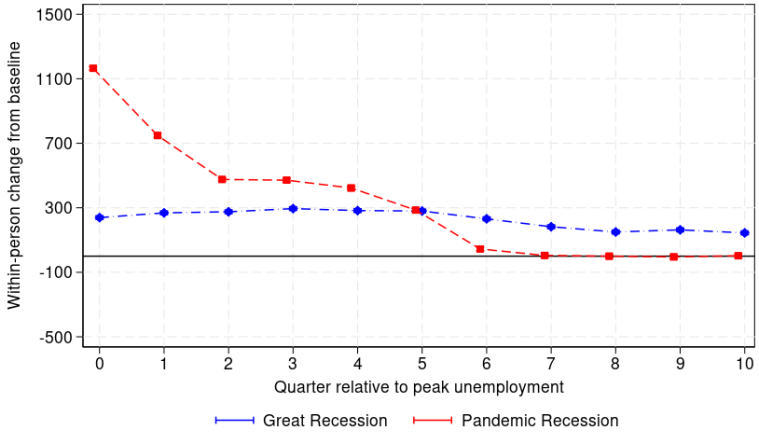


Figure 26. SSI Benefits ($)

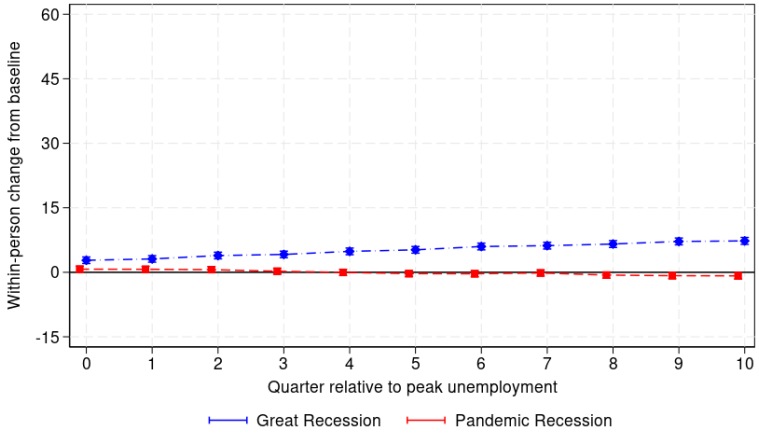


Figure 27. SS/SSDI Benefits ($)

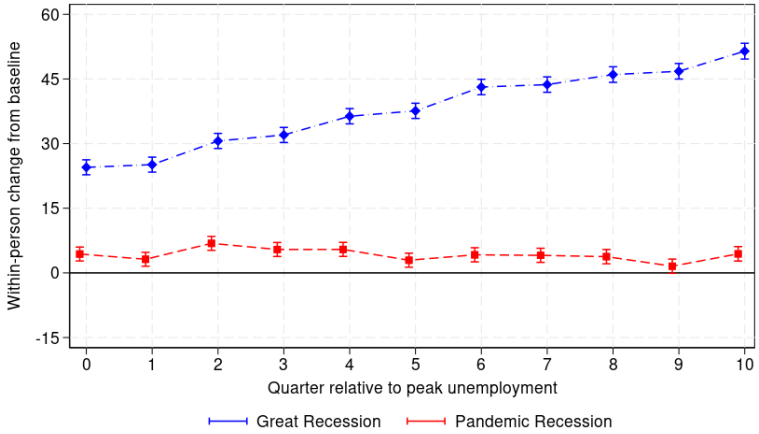


Figure 28. TANF Benefits ($)

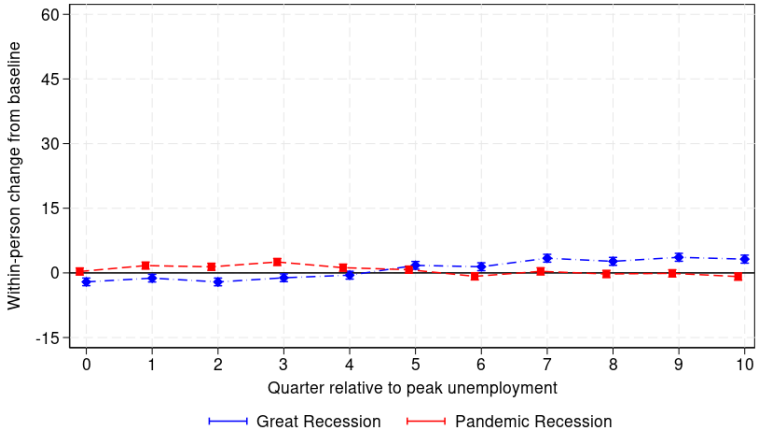


Figure 29. Estimated Tax Benefits ($)

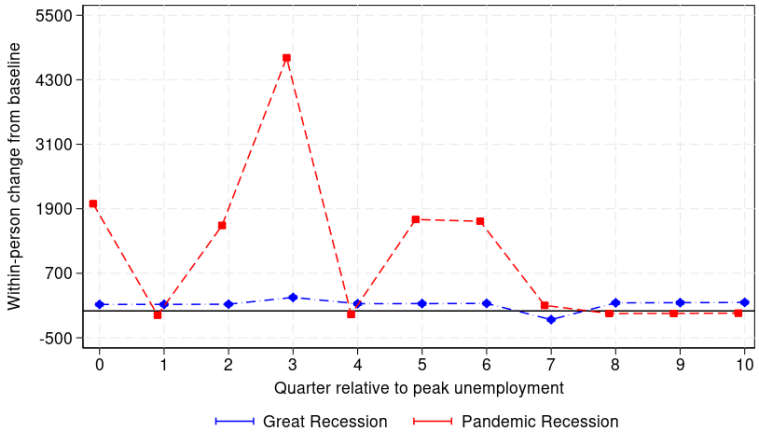


Figure 30. Total Personal Income ($)

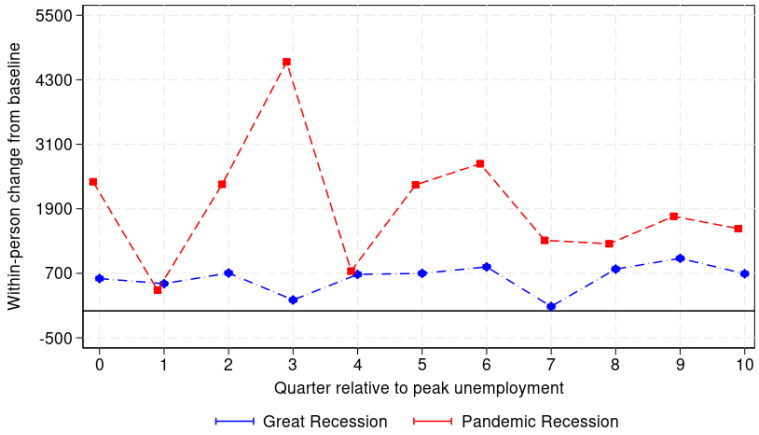


Figure 31. Deep Poverty (%)

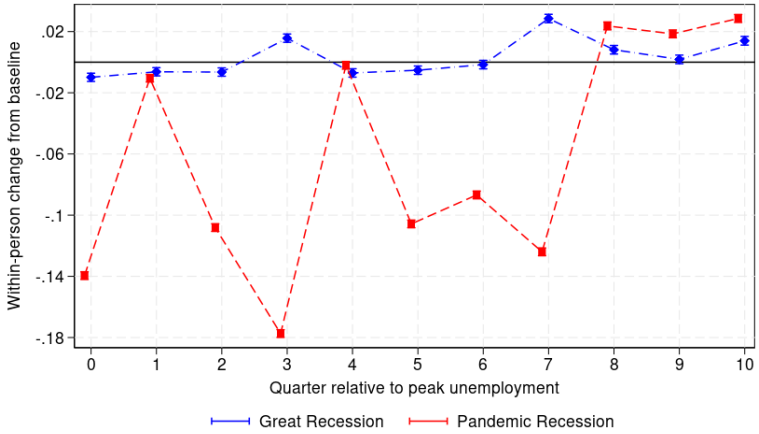
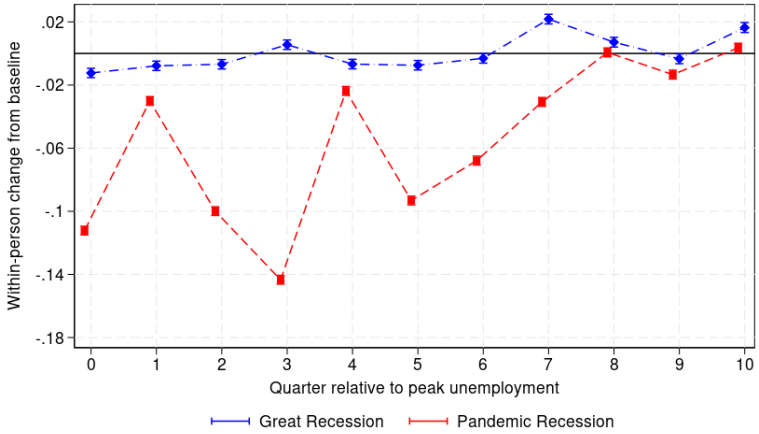


Figure 32. Poverty (%)



Notes: N=141, 534**.** Figures show marginal effects from fixed effects models, which can be interpreted as the average within-person change in the outcome in a given quarter relative to the baseline period. For Figures 23–30, the y-axis units are in dollar amounts. For Figures 31 and 32, the y-axis units are proportions.

Results Using Alternative GR Follow-Up Period

We repeated the above analyses using a sample of CPs and NCPs during an alternate follow-up period for the Great Recession—2007 Q4 to 2009 Q1 (6 quarters) which includes the period directly spanning the start of the GR until peak unemployment. These results are available in the appendix. Overall, the biggest difference in our findings compared to our main results is that the decline in parents' earnings and rise in UI benefits is smaller at the start of the GR alternative follow-up period, when unemployment rates were lower. This is not surprising because we would expect earnings declines and UI benefit increases to track unemployment rates. We also observe larger declines in NCPs' child support payments (and in CPs' child support income) and larger increases in arrears at the end of the alternative follow-up period than at the beginning of the alternative follow-up period. Compared to our main results, NCPs' arrears increased by a smaller amount relative to baseline (24% versus 60%), and this is likely in part because there was less time for arrears to accrue due to the shorter observation period (3 years versus 5 years). With respect to CPs' income packages, we similarly observed little change at the start of the alternative follow-up period while safety net benefits and total income increased towards the end of the follow-up period in mid-2008 and beginning of 2009: the period when unemployment rates increased. These findings suggest that the safety net is responsive to increases in unemployment rates.

Supplemental Analyses

We conducted several supplemental analyses to further understand differences in safety net responses and CPs' economic well-being in both recessions. Figures 33–35 show changes in CPs' pre-tax cash-income sources and pre-tax income poverty during the follow-up periods of both recessions. These analyses were intended to disentangle changes in cash income sources

from changes in estimated tax benefits since our measures of tax benefits are estimates of what CPs were eligible for and likely overstate the amount of tax benefits they actually received.

Comparisons between Figures 33, 34, 35, and 30, 31, 32 suggest that, while both cohorts experienced net increases in pre-tax cash income, tax-code programs were essential to lowering poverty rates during the PR recessionary period. Figure 33 shows that CPs' pre-tax cash-income was $123 to $800 higher (2–10% increase) at follow-up than at baseline during the GR and $312 to $1,843 higher (4–21% increase) at follow-up than at baseline during the PR (see Figure 33). The increase in pre-tax cash income during the PR is markedly smaller than the increase in total cash income, including tax benefits. Similar to our main results using total cash income, poverty hovered near baseline levels throughout the follow-up period during the GR. However, for the PR period, the decline in poverty rates is much smaller when we consider only pre-tax cash income (1 percentage point decline in deep poverty and 3 percentage point decline in poverty), and poverty rates returned to or exceeded baseline rates more quickly, starting in the second half of 2021 (Q5 in Figure 34).

Figures 33–35: Supplemental Fixed Effects Models for Custodial Parents

Figure 33. Pre-Tax Total Personal Income ($)

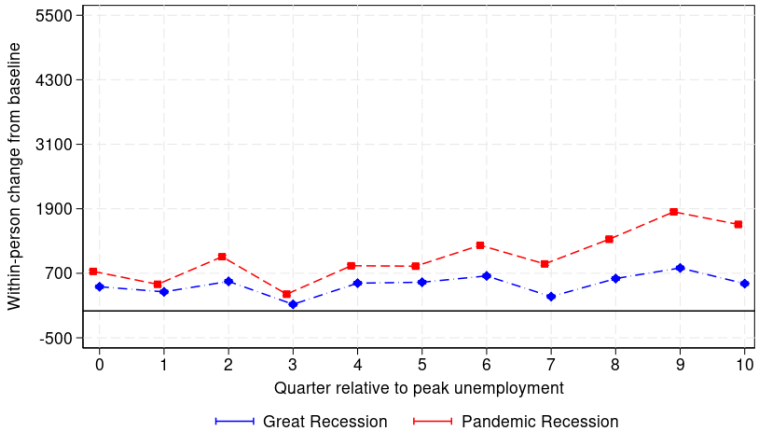


Figure 34. Pre-Tax Personal Income, Deep Poverty (%)

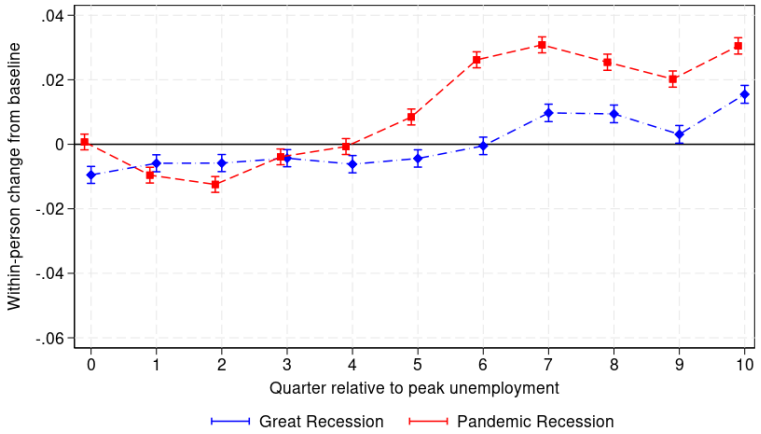
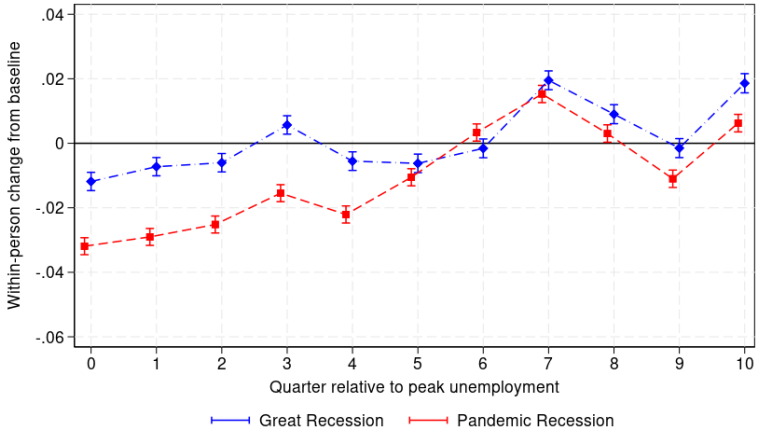


Figure 35. Pre-Tax Personal Income, Poverty (%)



Notes: N=141, 534**.** Figures show marginal effects from fixed effects models, which can be interpreted as the average within-person change in the outcome in a given quarter relative to the baseline period. For Figure 33, the y-axis units are in dollar amounts. For Figures 34 and 35, the y-axis units are proportions.

DISCUSSION

This study examined the longer-term effects of the PR on NCPs' child support outcomes and CP's income packages through 2022, and compared these outcomes to those during the GR. Our findings contribute to the growing body of research comparing the economic impact of the GR and the PR on families with low incomes, specifically focusing on the role of each recession's governmental response. Our analysis also contributes to the limited scholarship on child support outcomes during recessionary periods, revealing differences in NCPs' child support outcomes and CPs' income packaging relative to different sets of government resources provided during recessions.

A key contribution of our study is the comparison of child support outcomes during the PR and GR, with a particular focus on how different government responses may have influenced these outcomes. Our findings reveal that safety net expansions during the PR—such as expanded and extended UI and the distribution of EIPs—played an important role in increasing child support payments in the short-term and in mitigating short-term income losses for both NCPs and CPs. Like Pilarz and Cuesta (2023), we observed that PR-era policies led to short-term increases in child support payments and compliance, especially during 2020 when PR provisions were most robust. However, these gains largely disappeared as the safety net retracted in 2021 and 2022, leading to a decline in child support payments back to or below pre-recession levels. By the last quarter of 2022, NCPs were paying $197 less in child support on average, representing a 13% decline from pre-recession levels.

In contrast, child support payments during the GR did not have short-term child support improvements despite modest increases in UI payments and a large extension to the duration of UI benefits during that period. Instead, child support payments steadily declined through the GR,

reaching a low of $198 below pre-recession levels by Q4 of 2011—a 12% decrease. This suggests that the PR's policy response was more effective in temporarily supporting NCPs' ability to meet their child support obligations, compared to the GR, where payments consistently fell over time. Our results also show that child support compliance followed a similar trajectory: compliance rates rose at the onset of the PR due to the expanded safety net, but then returned to pre-recession levels as economic support contracted. During the GR, compliance rates remained near pre-recession levels throughout the entire GR, without substantial improvements. Therefore, our results indicate that more robust cash support is important for buffering the effects of employment and earnings declines that disproportionately affect low-income families during recessions (Hembre et al., 2023; Hoynes et al., 2012).

Notably, arrears also diverged between the GR and PR. Arrears increased by as much as 24% to 60% during the GR—depending on the length of the follow-up period—while they grew by a smaller margin (by as much as 9%) during the PR. These findings further support the role of the PR's safety net expansions. In particular, automatic withholding of child support from expanded UI benefits and the interception of the first EIP for NCPs with past due support likely helped to mitigate increases in arrears (Vogel et al., 2021, 2022). Another reason arrears might have increased by a smaller margin during the PR than the GR is a policy change that lowered the interest rate charged on arrears in 2014 (Riser & Meyer, 2023), and our study cannot disentangle the effects of this policy change on arrears from the effects of the safety net expansions. Taken together, our results suggest that for policymakers looking to mitigate declines in child support payments driven by high unemployment, the PR safety net expansions offer a more effective blueprint than the GR.

At the onset of the PR, CPs' quarterly earnings declined by 6% but their quarterly child support income increased by $165 (11% above baseline). As CPs' earnings recovered in 2021, child support income declined, falling from baseline levels by as much as 14% by the end of 2022. This contrasts with the GR, where CPs' earnings declined by a smaller magnitude in the quarter of peak unemployment, but child support income began declining almost immediately. By the end of 2011, quarterly child support income was down by $180 (11% below baseline). This is consistent with prior research that found declines in single mothers' child support income during the GR (Waring & Meyer, 2020) and an initial increase at the start of the PR (Pilarz & Cuesta, 2023). Our findings suggest that while child support briefly increased during the PR, this was short-lived, and long-term child support trajectories were otherwise similar.

In both recessions, safety net expansions buffered declines in CPs' earnings and child support income, but the magnitude and duration of these expansions differed substantially. During the PR, CPs' UI benefits increased by up to 3 times their baseline amount at the onset of the PR, before falling back to near-baseline levels by the end of 2021. In comparison, UI benefits during the GR increased by more than 200% at peak unemployment and remained elevated through 2011. These differences in UI reflect, in part, the quicker recovery in unemployment rates during the PR, compared to the prolonged high unemployment rates during the GR. Other cash-based safety net programs, SSI, SS/SSDI, and TANF, played a smaller role in both recessions, reflecting, in part, as fewer than 4% of CPs participated in these programs. Benefits levels for these programs were small in both recessions, but we found evidence that SSI and SS/SSDI benefit amounts increased during the GR but not the PR. TANF benefits also increased during both recessions, though TANF consistently had the lowest benefit amounts of any program, underscoring the diminished role of the program since the 1996 welfare reform.

Estimated tax benefits were a key source of income for CPs during both recessions. These findings corroborate prior research on CPs during the PR and GR (Pilarz & Cuesta, 2023; Waring & Meyer, 2020), and align with findings for low-income families more generally (Hembre et al., 2023). Estimated tax benefits increased more sharply during the PR due to EIPs and the expanded CTC, which were not available during the GR. We observed large spikes in CPs' estimated tax benefits during the PR by as much as $4,711 above baseline (a 682% increase), although estimated tax benefits returned to near baseline levels by 2022.

CPs' total income was higher in every quarter of the GR follow-up period by 1–11% and higher in every quarter of the PR follow-up period by 4–50%. In turn, poverty declined by a larger margin—as much as 14 percentage points or 37%—during the PR. Declines in poverty were small and inconsistent throughout the GR period (ranging from a 1-percentage-point reduction to a 2-percentage-point increase). Decreases in poverty were also attenuated in 2022 during the PR when UI and tax benefit expansions expired. When we excluded estimated tax benefits from CPs' total income, we found smaller increases in total income driven primarily by expansions in UI benefits in both recessionary periods. While poverty rates hovered near baseline levels during the GR, the reduction in poverty during the PR was very small (no more than 3-percentage-point decline), and poverty rates were above baseline levels in the last year of the follow-up period during both recessions (i.e., 2011 in the GR and 2022 in the PR). These findings underscore the importance of tax benefits for CPs' economic well-being and raise concerns about CPs' ability to make end meets after the expiration of the PR-era expanded CTC.

Limitations

Our findings should be interpreted while considering several limitations. We were unable to include SNAP benefits in these analyses due to data availability. As a result, our measures

likely undercount CPs' total cash and near-cash income. While our use of administrative data is a strength of the study, as it does not rely on parents' self-reported earnings or safety net benefit receipt, our measure of earnings excludes resources from informal sources, like informal jobs and informal child support or other informal support from friends and family. We also did not have information on parents' marital status or household composition, meaning we cannot account for income from other household members, which likely results in underestimations of household resources.

Our measure of estimated tax benefits relied on the tax benefits parents were eligible for based on the information available in the WADC, but we lacked information on the actual amounts received and the timing of receipt. Because we assumed that all parents received what they were eligible for, our results likely overestimate the amount of tax benefits received. Finally, we were missing information on incarceration in 2022, preventing us from controlling for incarceration in our regression models. However, given that few parents in our sample were incarcerated in the years prior to 2022, this is unlikely to substantially bias our findings.

CONCLUSION

This study highlights the differential impacts of the GR and PR and their associated policy responses on the socioeconomic well-being of low-income NCPs and CPs. Our findings suggest that while the PR's robust safety net expansions temporarily alleviated socioeconomic hardships, these effects diminished as safety net expansions expired. For example, NCPs child support payments increased by up to 14% more in in 2020 compared to pre-recession levels, but this faded after the expiration of safety net expansions, resulting in a 13% decline in payments by the end of 2022. In contrast, during the GR, despite a modest increase in UI benefits, child support payments declined, reaching a low of 12% below pre-recession levels by 2011.

For CPs, earnings and child support income declined more gradually during the GR. While the safety net provided some buffer in both recessions, the degree of support was notably larger during the PR. CPs' total income increased by as much as 50% during the PR, driven primarily by tax benefits, compared to a more modest increase during the GR. Our findings suggest that timely, robust, and sustained policy interventions during recessions may be more effective at offsetting hardships for families experiencing poverty and deep poverty. Policymakers may want to consider the lessons of both the PR and GR when considering future recessionary supports for families with low incomes.

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APPENDIX

Appendix Table A1. Characteristics of Sample at Baseline, Alternative GR Cohort

	Noncustodial Parents		Custodial Parents	
	GR Cohort (alternative)	Pandemic Cohort	GR Cohort (alternative)	Pandemic Cohort
Sex				
Male	96.62%	95.60%	3.69%	4.59%
Age (years)	36.18	37.13	34.22	35.30
	(8.04)	(7.59)	(7.42)	(6.92)
Age Categories				
18–24	7.42%	3.77%	10.71%	5.25%
25–34	38.64%	38.18%	44.49%	45.99%
35–44	39.00%	42.19%	36.02%	39.31%
45+	14.94%	15.86%	8.77%	9.45%
Race/Ethnicity				
White, non-Hispanic	61.51%	55.00%	70.25%	64.95%
Black, non-Hispanic	22.59%	23.02%	17.28%	16.64%
Native American, Asian or Pacific Islander, non-Hispanic	1.46%	1.43%	1.51%	1.46%
Mixed (multiple races excluding Hispanic selected)	0.01%	0.03%	0.02%	0.02%
Hispanic (any race)	5.10%	6.29%	4.02%	5.23%
Has Children with More than One Partner				
Yes	30.89%	35.26%	38.20%	40.25%
No	69.01%	64.67%	61.51%	59.64%
Undetermined	0.10%	0.07%	0.29%	0.11%
Number of Children	1.90	2.07	1.94	2.07
	(1.13)	(1.24)	(1.02)	(1.09)
Number of Children Categories				
One	46.03%	39.17%	40.09%	35.50%
Two	31.97%	33.82%	36.19%	36.48%
Three or More	22.00%	27.02%	23.72%	28.02%
Age of Youngest Child				
0–5	41.24%	40.86%	41.87%	41.65%
6–11	36.76%	41.75%	36.73%	41.30%
12–17	22.01%	17.39%	21.41%	17.05%
Born Outside the US				
Yes	5.27%	8.30%	3.39%	6.16%
Incarcerated in State Prison				
Yes	4.46%	3.13%	0.05%	0.06%
Type of Child Support Order				
Paternity	54.63%	62.58%	53.73%	62.05%
Divorce	40.42%	33.11%	41.66%	33.97%
Both	4.95%	4.31%	4.61%	3.98%
N	93,524	72,625	96,420	76,159

Notes: Measures from the end of the last quarter of the baseline period. Means (and standard deviations) or proportions presented. Some observations are missing data on race/ethnicity and/or nativity.

Appendix Table A2. Noncustodial Parents' Ability to Pay, Great Recession Cohort

			Child Support			Income Sources		
	Quarter in Figures	Calendar Quarter	Percent Compliant	Total Amount of CS Paid	Total Arrears	Total Earnings	UI	Estimated Tax Benefits
Baseline	BQ1	2006 Q4	58%	$1,583.82	$24,339.14	$8,481.13	$159.05	$0.00
	BQ2	2007 Q1	60%	$1,703.83	$25,336.98	$7,936.71	$305.67	-$5,357.82
	BQ3	2007 Q2	61%	$1,724.40	$26,096.55	$8,235.99	$176.47	$0.00
	BQ4	2007 Q3	58%	$1,567.50	$27,110.48	$8,356.49	$132.22	$0.00
Follow-Up	Q0	2009 Q2	62%	$1,691.84	$32,657.46	$7,322.71	$644.86	$0.00
	Q1	2009 Q3	60%	$1,498.60	$33,505.75	$7,410.45	$616.30	$0.00
	Q2	2009 Q4	61%	$1,519.04	$34,233.52	$7,788.09	$650.34	$0.00
	Q3	2010 Q1	61%	$1,553.99	$34,851.36	$6,730.42	$783.35	-$4,760.21
	Q4	2010 Q2	61%	$1,591.32	$35,747.56	$7,417.40	$605.62	$0.00
	Q5	2010 Q3	59%	$1,470.86	$36,629.24	$7,840.07	$518.17	$0.00
	Q6	2010 Q4	60%	$1,465.01	$37,320.89	$8,183.98	$474.26	$0.00
	Q7	2011 Q1	60%	$1,503.80	$37,983.63	$7,172.50	$517.60	-$5,007.37
	Q8	2011 Q2	61%	$1,526.75	$38,480.61	$7,649.00	$350.19	$0.00
	Q9	2011 Q3	60%	$1,430.88	$39,084.59	$8,168.50	$300.48	$0.00
	Q10	2011 Q4	60%	$1,375.17	$39,944.24	$7,989.78	$306.36	$0.00

Notes: Sample includes 65,195 parents with a child support order as payor throughout and in sample for all months October 2006–September 2007 and April 2009–December 2011. Monetary amounts adjusted to 2022 dollars.

Appendix Table A3: Noncustodial Parents' Ability to Pay, Pandemic Recession Cohort

	Quarter in Figures	Calendar Quarter	Child Support			Income Sources		
			Percent Compliant	Total Amount of CS Paid	Total Arrears	Total Earnings	UI	Estimated Tax Benefits
Baseline	BQ1	2019 Q2	63%	$1,557.51	$25,006.61	$9,617.84	$49.23	$0.00
	BQ2	2019 Q3	61%	$1,461.12	$25,501.76	$9,754.86	$32.54	$0.00
	BQ3	2019 Q4	62%	$1,453.50	$25,930.58	$10,042.65	$52.16	$0.00
	BQ4	2020 Q1	64%	$1,564.21	$26,716.94	$9,526.62	$106.69	-$6,021.03
Follow-Up	Q0	2020 Q2	70%	$1,777.46	$26,593.61	$9,072.47	$833.41	$1,074.34
	Q1	2020 Q3	62%	$1,479.02	$26,782.92	$9,410.50	$625.04	$0.00
	Q2	2020 Q4	64%	$1,501.56	$27,167.00	$10,459.35	$443.49	$863.08
	Q3	2021 Q1	64%	$1,469.55	$27,633.70	$9,132.60	$608.67	-$4,663.52
	Q4	2021 Q2	66%	$1,543.59	$27,248.48	$9,706.99	$455.82	$0.00
	Q5	2021 Q3	62%	$1,424.05	$27,340.94	$9,970.96	$285.55	$0.00
	Q6	2021 Q4	61%	$1,351.28	$27,266.13	$10,631.85	$67.97	$0.00
	Q7	2022 Q1	62%	$1,356.61	$27,095.56	$9,553.56	$89.96	-$6,026.00
	Q8	2022 Q2	62%	$1,353.84	$26,684.88	$9,839.18	$36.45	$0.00
	Q9	2022 Q3	62%	$1,311.63	$26,935.98	$10,346.46	$26.46	$0.00
	Q10	2022 Q4	60%	$1,223.70	$27,174.66	$10,156.18	$32.74	$0.00

Notes: Sample includes 72,625 parents with a child support order as payor throughout and in sample for all months April 2019-December 2022. Monetary amounts adjusted to 2022 dollars.

Appendix Table A4: Custodial Parents' Income sources, Great Recession cohort

	Quarter in Figures	Calendar Quarter	Income Sources							Total Income	Income Poverty Using Total Income	
			Total Amount of CS Received	SSI	SS/SSDI	TANF	Estimated Tax Benefits	UI	Total Earnings		<50% FPL	<100% FPL
Base-line	BQ1	2006 Q4	$1,616.42	$16.83	$51.35	$10.54	$0.00	$94.04	$6,697.16	$8,484.71	25%	42%
	BQ2	2007 Q1	$1,683.97	$17.31	$53.92	$8.84	$1,985.68	$120.73	$6,474.72	$10,342.70	18%	28%
	BQ3	2007 Q2	$1,705.51	$17.35	$55.37	$8.23	$0.00	$109.00	$6,565.37	$8,459.40	25%	43%
	BQ4	2007 Q3	$1,595.46	$17.30	$57.68	$9.01	$0.00	$121.14	$6,429.04	$8,228.67	26%	44%
Follow-Up	Q0	2009 Q2	$1,681.33	$19.95	$78.40	$7.19	$0.00	$343.85	$6,580.24	$8,710.14	24%	42%
	Q1	2009 Q3	$1,527.10	$20.35	$80.79	$8.04	$0.00	$382.07	$6,319.40	$8,337.21	25%	43%
	Q2	2009 Q4	$1,553.40	$20.90	$83.68	$7.84	$0.00	$371.63	$6,900.38	$8,937.51	24%	41%
	Q3	2010 Q1	$1,560.39	$21.54	$87.09	$7.73	$2,528.96	$411.08	$6,120.38	$10,736.39	19%	28%
	Q4	2010 Q2	$1,596.73	$22.06	$90.47	$8.61	$0.00	$385.71	$6,570.05	$8,673.11	25%	42%
	Q5	2010 Q3	$1,506.84	$22.52	$93.53	$10.85	$0.00	$391.66	$6,483.55	$8,508.60	25%	43%
	Q6	2010 Q4	$1,509.62	$23.06	$96.49	$11.19	$0.00	$326.32	$7,024.26	$8,990.68	25%	41%
	Q7	2011 Q1	$1,510.81	$23.65	$99.12	$12.08	$2,100.43	$296.74	$6,310.23	$10,352.34	20%	29%
	Q8	2011 Q2	$1,537.44	$23.85	$100.53	$11.61	$0.00	$251.00	$6,604.19	$8,528.04	26%	44%
	Q9	2011 Q3	$1,460.36	$24.56	$103.19	$12.48	$0.00	$273.08	$6,702.10	$8,575.23	26%	43%
	Q10	2011 Q4	$1,411.05	$24.46	$105.35	$12.65	$0.00	$237.03	$6,741.91	$8,532.04	26%	43%

Notes: Sample includes 65,375 parents with a child support order as payee throughout and in sample for all months October 2006–September 2007 and April 2009–December 2011. Monetary amounts adjusted to 2022 dollars.

Appendix Table A5: Custodial Parents' Income Sources, Pandemic Recession Cohort

	Quarter in Figures	Calendar Quarter	Income Sources							Total Income	Income Poverty Using Total Income	
			Total Amount of CS Received	SSI	SS/SSDI	TANF	Estimated Tax Benefits	UI	Total Earnings		<50% FPL	<100% FPL
Base-line	BQ1	2019 Q2	$1,513.27	$21.13	$83.37	$3.82	$0.00	$31.66	$7,159.81	$8,810.65	26%	42%
	BQ2	2019 Q3	$1,423.48	$21.33	$84.60	$3.21	$0.00	$37.72	$7,078.27	$8,647.47	26%	43%
	BQ3	2019 Q4	$1,422.41	$21.30	$85.33	$3.08	$0.00	$30.56	$7,605.82	$9,167.63	25%	40%
	BQ4	2020 Q1	$1,503.99	$21.57	$86.76	$2.65	$2,762.79	$44.20	$7,308.50	$11,728.11	18%	26%
Follow-Up	Q0	2020 Q2	$1,676.02	$22.05	$89.07	$3.41	$2,074.43	$1,196.07	$6,780.83	$11,838.75	12%	30%
	Q1	2020 Q3	$1,429.22	$22.11	$89.68	$4.76	$0.00	$788.31	$6,908.35	$9,240.67	25%	39%
	Q2	2020 Q4	$1,457.42	$21.79	$90.79	$5.16	$1,666.52	$498.89	$8,018.45	$11,757.99	15%	30%
	Q3	2021 Q1	$1,421.18	$21.80	$91.42	$5.20	$7,188.27	$513.71	$7,039.75	$16,279.71	0%	11%
	Q4	2021 Q2	$1,493.67	$21.34	$90.50	$4.16	$0.00	$452.22	$7,393.81	$9,454.01	26%	39%
	Q5	2021 Q3	$1,376.41	$21.15	$89.85	$3.66	$1,764.35	$323.96	$7,350.98	$10,928.79	16%	33%
	Q6	2021 Q4	$1,321.56	$20.90	$88.56	$2.79	$1,727.56	$65.86	$8,198.21	$11,424.86	17%	33%
	Q7	2022 Q1	$1,311.04	$21.47	$90.52	$2.85	$2,564.35	$45.23	$7,553.20	$11,587.32	6%	22%
	Q8	2022 Q2	$1,323.30	$20.79	$89.32	$2.51	$0.00	$27.38	$7,768.50	$9,230.93	28%	41%
	Q9	2022 Q3	$1,269.66	$20.76	$88.98	$2.60	$0.00	$31.66	$8,087.04	$9,500.23	28%	41%
	Q10	2022 Q4	$1,192.51	$20.50	$89.34	$2.47	$0.00	$21.60	$8,130.91	$9,456.88	28%	40%

Notes: Sample includes 76,159 parents with a child support order as payee throughout and in sample for all months April 2019–December 2022. Monetary amounts adjusted to 2022 dollars.

TAXSIM Decisions

We used NBER's TAXSIM program to estimate parents' tax benefits during the study period. This document details the assumptions and decisions made when generating estimates. It also details how pandemic-era tax policies, like the Economic Impact Payments (EIPs) and expanded Child Tax Credit, were estimated and allocated.

Assumptions

To estimate tax liabilities and refunds for all years, we ran TAXSIM after inputting information on demographic characteristics and taxable income sources (wages, unemployment insurance, and Social Security income) from the previous calendar year. Because we cannot determine how parents claimed dependents, we assumed that custodial parents claimed all dependents, while non-custodial parents claimed none. Although parents can claim full-time students ages 18–24 as dependents, we did not count them because we do not have access to data on school enrollment status. We assume all custodial and noncustodial parents filed as "single." We also lacked information on the following sources of income, which meant that they defaulted to zero: dividend income, capital gains, property income, non-property income (alimony, nonwage fellowships, and state income tax refunds for itemizers), taxable pensions and IRA distributions, information used for calculating state property tax rebates and deductions for the Alternative Minimum Tax, childcare expenses, mortgage deductions, Qualified Business Income, and Specified Service Trade or Business (SSTB) information. We also exclude non-taxable income sources, including Temporary Assistance for Needy Families (TANF) and Supplemental Security Income (SSI), as well as child support payments (made and received) because they are neither taxable nor deductible.[8]

[8]https://www.irs.gov/faqs/filing-requirements-status-dependents/dependents/dependents-6#:%7E:text=Child%20support%20payments%20are%20neither,for%20federal%20income%20tax%20purposes

To avoid double counting the pandemic-era tax relief programs in annual tax returns, we excluded the three EIPs and the expanded CTC from these calculations (i.e., option 22 was set equal to 1 when calculating the tax returns, which stops TAXSIM from including the EIPs with the tax return estimates). We describe how we estimated the pandemic-era tax relief programs below.

We distributed tax refunds and liabilities in the first quarter of the receiving year (e.g., quarter 1 of 2021 for tax year 2020) because research has found that most individuals received their returns in February, March, and April during the pandemic period (Parolin et al., 2022). We also assumed that all eligible individuals filed taxes and received returns, if eligible. This may overstate the impact of tax-relief programs in both study periods.

Note on Pandemic Programs that Referenced Multiple Tax Years

Three pandemic-era tax relief programs, the first EIP through CARES, the third EIP through ARPA, and the expanded Child Tax Credit (CTC), calculated eligibility using the previous tax year if people did not file in the most recent tax year. Specifically, 2018 tax information could be used to estimate the first EIP if taxes weren't yet filed in 2019.[9] Similarly, 2019 returns could be used to determine eligibility for the third EIP and expanded CTC if taxes weren't yet filed in 2020.[10] We used the most recent year income year to estimate benefit levels for these programs for consistency and ease of calculation.

[9]https://www.irs.gov/statistics/soi-tax-stats-coronavirus-aid-relief-and-economic-security-act-cares-act-statistics

[10]https://www.irs.gov/newsroom/heres-how-the-third-economic-impact-payment-is-different-from-earlier-payments

Estimating Pandemic Tax Programs

The Economic Impact Payments and advance CTC benefits were calculated separately from the 2020 and 2021 tax returns due to differences in the tax years used to determine eligibility. We also subtracted the CTC estimate (line v22) from the 2021 tax return estimates because the CTC payments were estimated and allocated separately to account for the advance CTC program in 2021. This process is explained below.

EIP 1 and EIP 2 were calculated by running the 2020 tax code with 2019 income. TAXSIM exports estimates for the CARES program benefits in a separate line, which, in 2020, includes both the first and second EIPs. We assigned 55% of the estimate to be EIP 1 and 45% of the estimate to be EIP 2. We decided to use this split because the average custodial parent in our sample in 2020 had two children. The maximum value of the first EIP for single filers with 2 children was $2,200 and $1,800 for the second EIP. On average then, EIP1 was $2,200 / (2200+1800) = 55% and EIP2 was $1,800/(2200+1800) = 45%. The third EIP was estimated by using 2020 income data with the 2021 tax code.

The recovery rebate credits were calculated by running the 2020 and 2021 tax codes using income data from 2020 and 2021, respectively. The 2020 Recovery Rebate Credit was calculated by subtracting the CARES estimates produced above from the value of the CARES benefits produced using 2020 income with the 2020 tax code, if the latter estimate was greater. We followed this same process for the 2021 Recovery Rebate Credit but compared the third EIP payments to the estimates using 2021 income with the 2021 tax code.

The expanded CTC benefits were calculated using the 2021 tax code with 2020- and 2021-income data. The advance payments were calculated by halving the value of the CTC based on 2020 income. To calculate the remaining amount of the CTC allotted to parents with their 2021 tax returns, we subtracted these advance payments from the estimated CTC using

2021 income data. A small number of parents in our sample (N = 60) received advance payments that exceeded the CTC estimates using 2021 income data. To account for full and partial repayment protection, we did not impose liabilities on these individuals if their household income fell under $100,000 in 2021.[11] We imposed the full liability on the cases earning more than $100,000 when estimating their 2021 tax returns.

Allocating Pandemic Tax Programs

Because we do not know when families received payment from the IRS, we allocated pandemic-era tax relief payments to quarters when they were first available to families. This was quarter 2 of 2020 for the first EIP and quarter 4 of 2020 for the second EIP (U.S. Government Accountability Office, 2022). The 2020 rebate was allocated with the rest of the 2020 tax returns in Q1 of 2021 and the 2021 rebate credit was allocated with the rest of the 2021 tax returns in Q1 of 2022. We allocated the third economic impact payment to Q1 of 2021 because issuance began March 17th (U.S. Government Accountability Office, 2022). We then allocated half of the estimated CTC benefits to families in quarters 3 and 4 of 2021, and the remaining half with families' tax returns in Q1 of 2022.[12]

[11]https://www.irs.gov/pub/taxpros/fs-2022-32.pdf

[12]https://www.irs.gov/credits-deductions/2021-child-tax-credit-and-advance-child-tax-credit-payments-topic-a-general-information

Alternative Great Recession Follow-Up Period Results: Noncustodial Parents

We repeated our main analyses using a sample of NCPs during an alternate follow-up period for the Great Recession: 2007 Q4 – 2009 Q1 (6 quarters), which includes the period directly spanning the start of the GR until peak unemployment.

In Q4 of 2007, NCPs' earnings and UI benefits are unchanged from baseline (Figures A1 and A2, but by the first quarter of 2009, earnings among NCPs in the GR cohort were $833 lower than they were at baseline (see Q5, Figure A1) and UI benefits were $345 higher (see Q5, Figure A2). Tax liabilities were slightly smaller during the quarter when taxes were filed in 2009—$5,560 versus $5,642 in 2007 (Q5, Figure A3). Child support payments were below baseline levels throughout the GR alternate follow-up period, similar to the main results (Figure A4). NCPs' likelihood of being at least 90% compliant with child support orders increased slightly in 2008 compared to baseline but was below baseline levels in the first quarter of 2009 (Figure A5). Arrears increased throughout the GR and increased markedly at the end of 2008: by the start of 2009, the average NCP owed 24% more than they did at baseline (see Q5, Figure A6).

Figures A1-A6: Alternative GR Follow-Up Period Fixed Effects Models for Noncustodial Parents

Figure A1. Earnings ($)

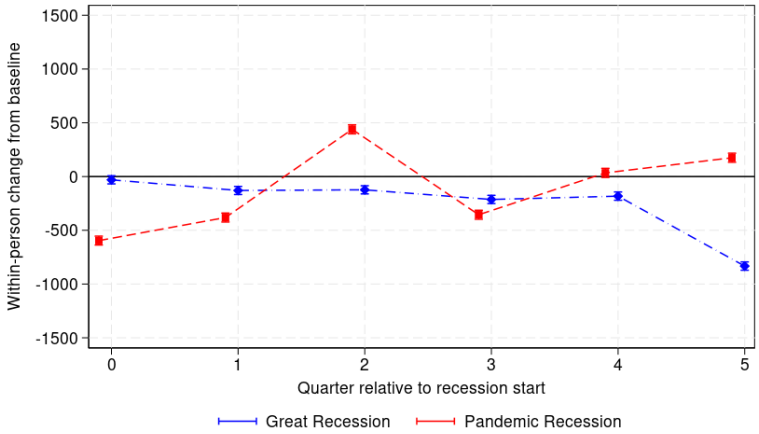


Figure A2. UI Benefits ($)

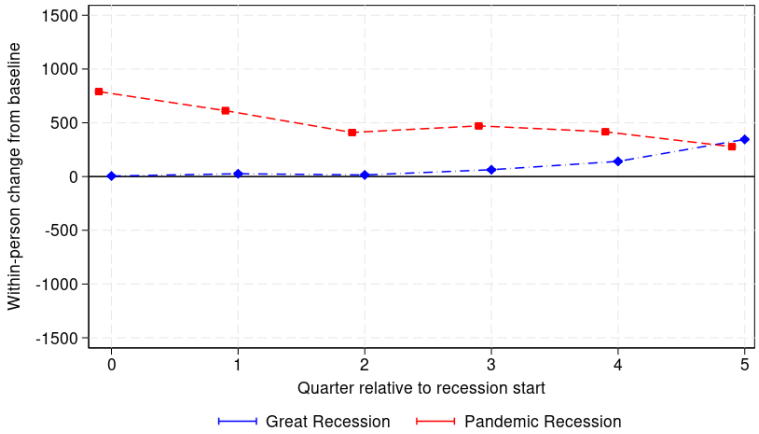


Figure A3. Estimated Tax Benefits ($)

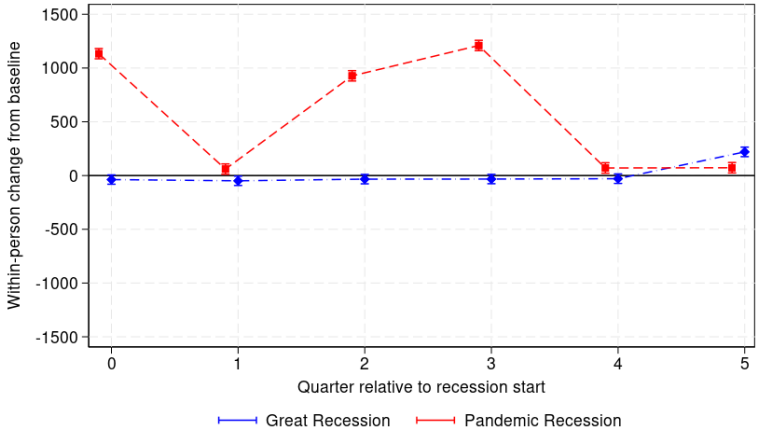


Figure A4. Child Support Payments ($)

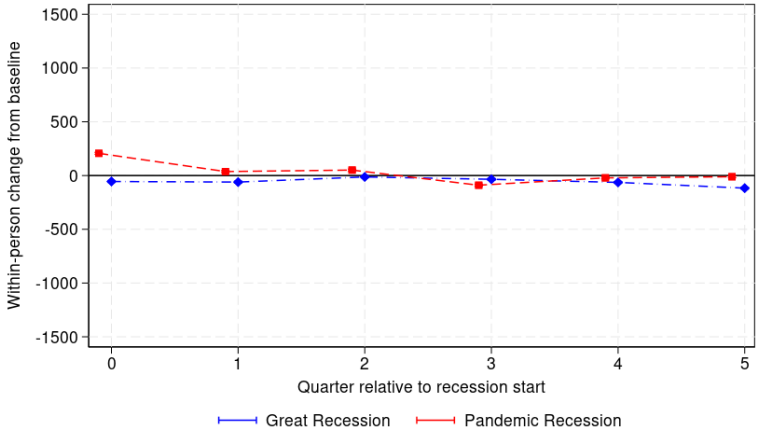


Figure A5. Child Support Compliance (%)

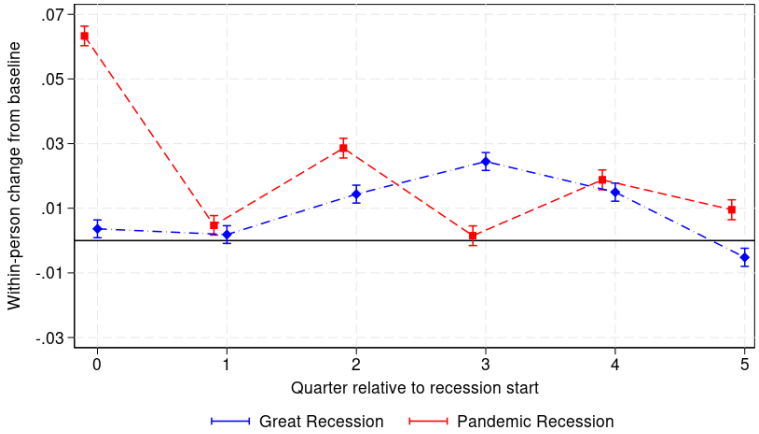
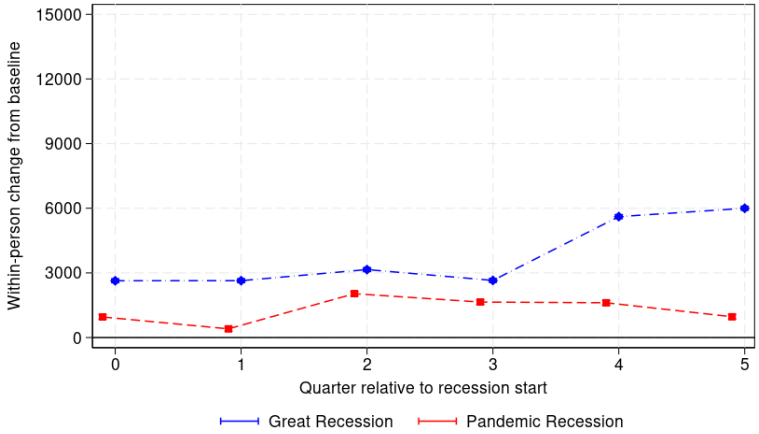


Figure A6. Arrears ($)



Notes: N=137,820**.** Figures show marginal effects from fixed effects models, which can be interpreted as the average within-person change in the outcome in a given quarter relative to the baseline period. For Figures A1, A2, A3, A4, and A6 the y-axis units are in dollar amounts. For Figure A5, the y-axis units are proportions

Alternative Great Recession Follow-Up Period Results: Custodial Parents

We repeated our main analyses using a sample of CPs during an alternate follow-up period for the Great Recession: 2007 Q4 – 2009 Q1 (6 quarters), which includes the period directly spanning the start of the GR until peak unemployment.

Figure A7 shows that CPs' earnings began to decrease at the end of the GR alternative follow-up period, just before the quarter when unemployment was highest in Wisconsin. Earnings were $109 lower in quarter 1 of 2009 (Q5), a change equal to 1.6% of baseline earnings. Throughout the alternative GR follow-up period CPs received, on average, about $56 less in child support, a 3.4% change from baseline, and received $103 less (6.3% decline) in quarter 1 of 2009 (Figure A8). With respect to safety net benefits, CPs' UI, SSI, and SS/SSDI were similar to baseline levels until the last two quarters of the GR alternative follow-up period, when they increased substantially. By the start of 2009, CPs received, on average, $291 more in UI benefits (Figure A9), $4 more in SSI (Figure A10), and $21 more in SS/SSDI (Figure A11) compared to baseline. TANF benefits were below baseline levels in all quarters except for quarter 1 of 2009 (Figure A12). These changes, coupled with the average tax return that was 86.6% of baseline values in 2009 Q1 (Figure A13), led to higher total personal income levels beginning in 2008 Q2 (Q2 in figure). This resulted in a net $306 increase in total personal cash income, or a 5% increase from baseline, in quarter 1 of 2009 (see Figure A14). These small increases in income were not sufficient to decrease CPs' likelihood of being in poverty until 2009 Q1, when deep poverty decreased by 2 percentage points from baseline levels (8.1% change; see Figure A15). The poverty rate hovered near baseline throughout the follow-up period and was at 1-percentage-point below baseline in 2009 Q1 (5.7% change; see Figure A16).

Figures A7-A16: Alternative GR Follow-Up Period Fixed Effects Models for Custodial Parents

Figure A7. Earnings ($)

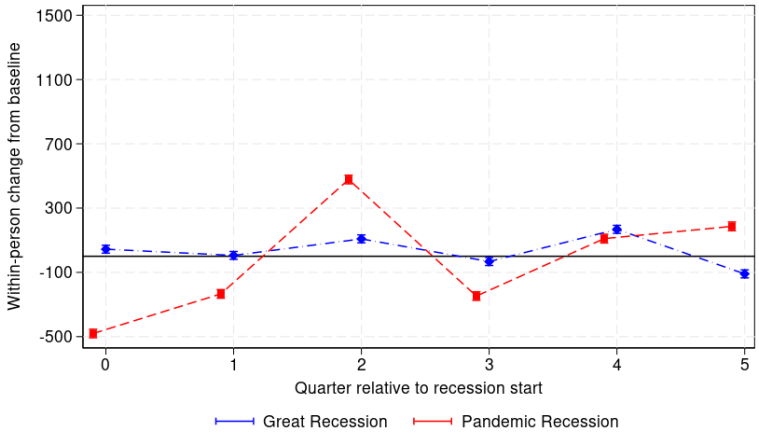


Figure A8. Child Support Received ($)

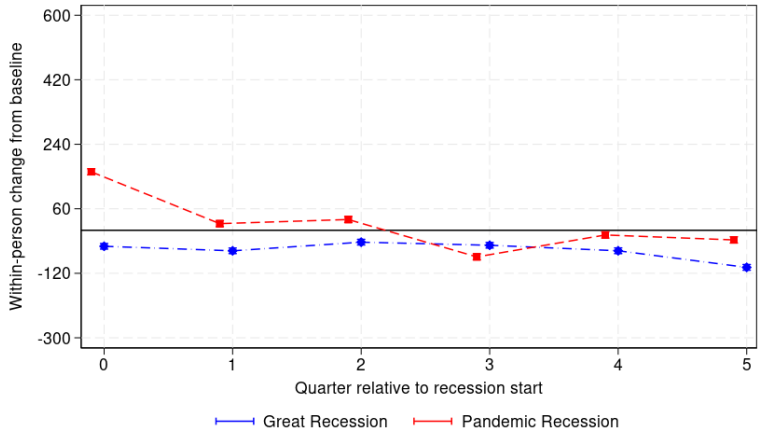


Figure A9. UI Benefits ($)

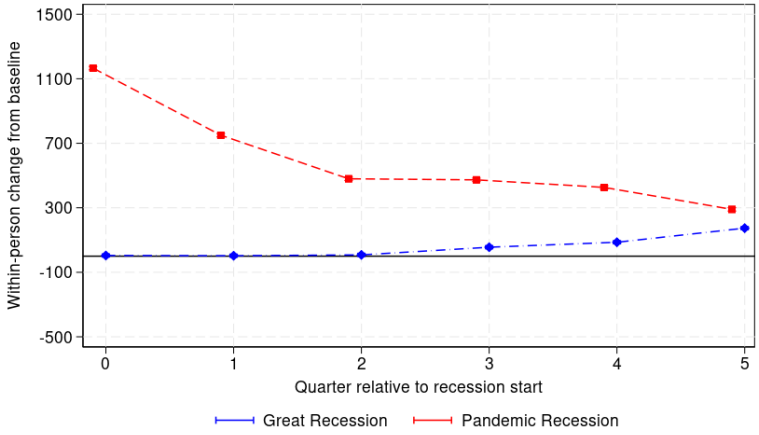


Figure A10. SSI Benefits ($)

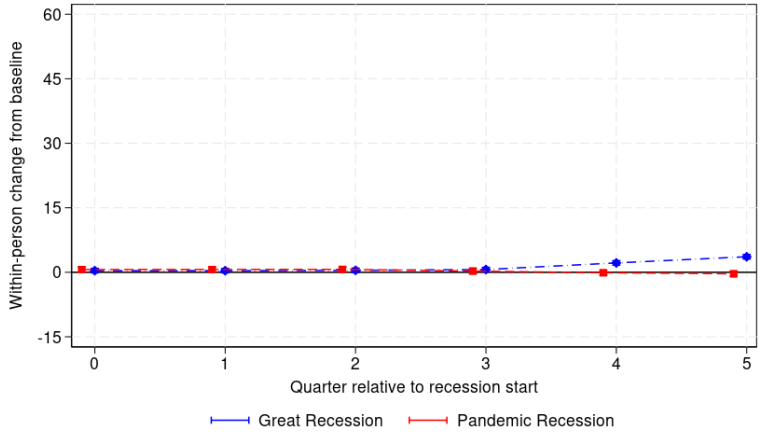


Figure A11. SS/SSDI Benefits ($)

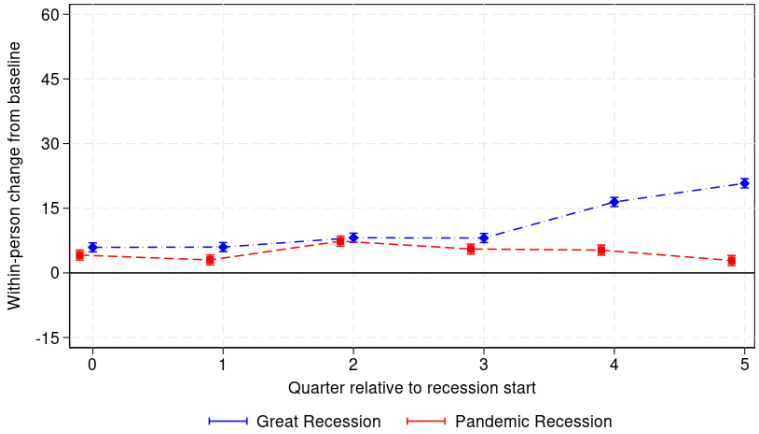


Figure A12. TANF Benefits ($)

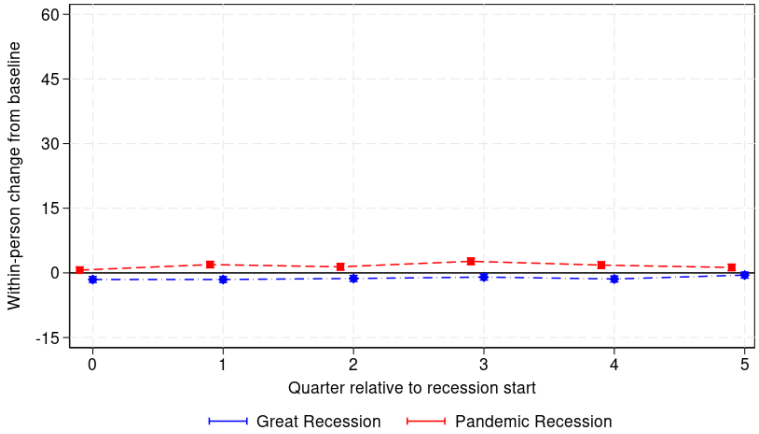


Figure A13. Estimated Tax Benefits ($)

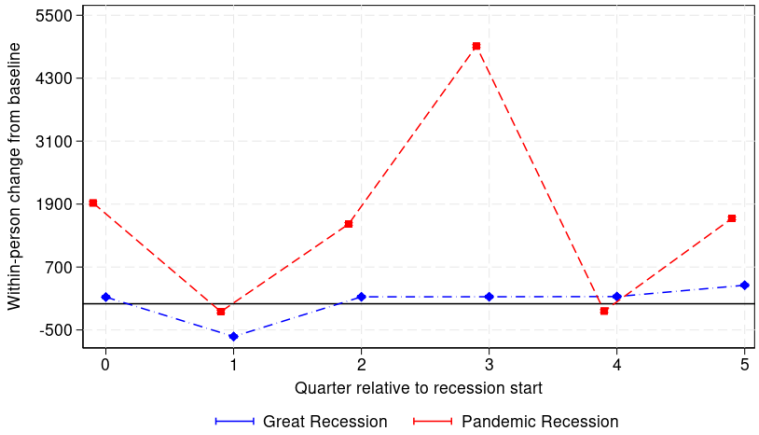


Figure A14. Total Personal Income ($)

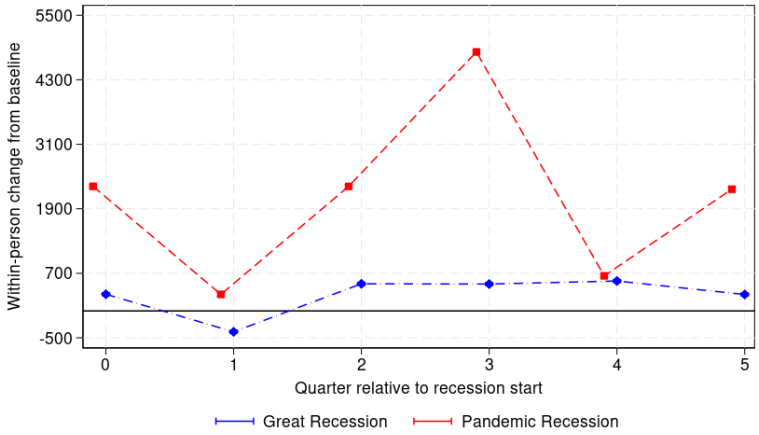


Figure A15. Deep Poverty (%)

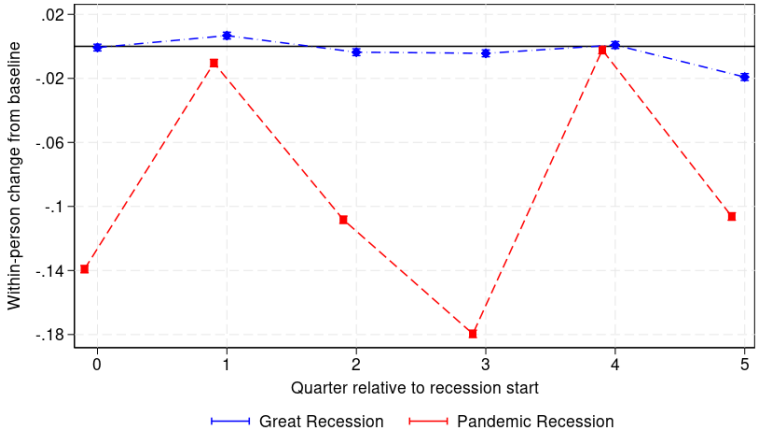
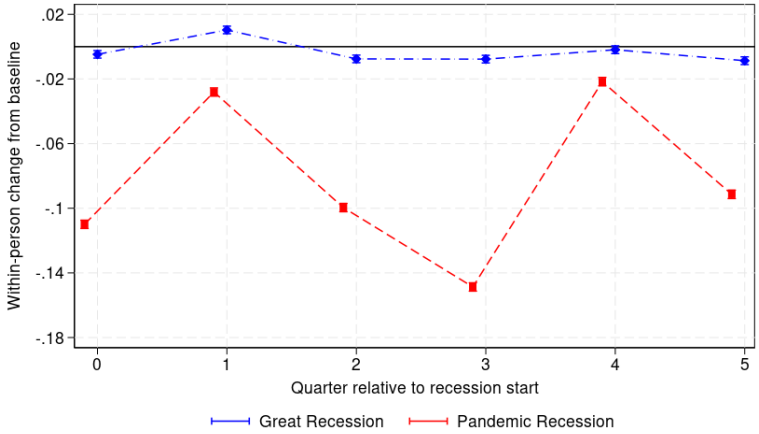


Figure A16. Poverty (%)



Notes: N=141, 534**.** Figures show marginal effects from fixed effects models, which can be interpreted as the average within-person change in the outcome in a given quarter relative to the baseline period. For Figures A7-A14, the y-axis units are in dollar amounts. For Figures A15 and A16, the y-axis units are proportions.