Short-Term Effects of Tax Credits on Rates of Child Maltreatment Reports in the United States

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abstract

OBJECTIVES: Poverty and low income are associated with increased risk for child maltreatment. The Earned Income Tax Credit (EITC) and Child Tax Credit (CTC) are among the largest antipoverty programs in the United States. We estimated associations between income transfer payments via the EITC and CTC and child maltreatment reports in the period shortly after families receive payments from these programs.

METHODS: We linked weekly EITC and CTC refund data from the Internal Revenue Service to state-specific child maltreatment report data from 48 states and the District of Columbia during the 2015 through 2018 tax seasons (January – April). We leveraged the natural experiment of a legislated change in the timing of EITC and CTC transfer payments to low-income families and quasi-experimental methods to estimate the association between EITC and CTC payments and child maltreatment reports.

RESULTS: EITC and CTC payments were associated with lower state-level rates of child maltreatment reports. For each additional $1000 in per-child EITC and CTC tax refunds, state-level rates of reported child maltreatment declined in the week of and 4 weeks following refund payments by an overall estimated 5.0% (95% confidence interval = 2.3%–7.7%).

CONCLUSIONS: Federal income assistance programs are associated with immediate reductions in child maltreatment reporting. These results are particularly relevant at this time, as expansions to such programs continue to be discussed at the state and federal levels.

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Ms Kovski conceptualized and designed the study, led data management and analysis, and drafted the initial manuscript; Drs Hill, Mooney, Rivara, and Rowhani-Rahbar conceptualized and designed the study and critically reviewed and revised the manuscript; and all authors approved the final manuscript as submitted and agree to be held accountable for all aspects of the work.

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WHAT'S KNOWN ON THIS SUBJECT: Child maltreatment disproportionately affects children living in poverty. However, little is known about the ways in which income support programs that target poverty influence child maltreatment rates in the United States.

WHAT THIS STUDY ADDS: Using a quasi-experimental design, we found that receipt of tax refunds containing the Earned Income Tax Credit and Child Tax Credit are associated with immediate reductions in child maltreatment reports made to child welfare authorities.

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Family poverty is a key risk factor for child maltreatment.[1] Limited economic resources increase the likelihood of maltreatment, particularly neglect, by preventing caregivers from adequately meeting children's basic material, safety, medical, and supervisory needs.[2] Economic adversity indirectly contributes to maltreatment risk by increasing parental stress or depression that can lead to harsh or neglectful parenting behaviors.[3,4] In addition to chronic economic strain, income volatility, and abrupt negative changes in financial resources have been shown to elevate maltreatment risk.[5,6]

Income assistance programs have been proposed as a strategy for child maltreatment prevention.[7] However, evidence that additional income reduces child maltreatment is sparse, largely because of limitations in existing data, study methodologies, and ability to randomize exposure to income.[4] In the current study, we leveraged policy-induced variation in the payment schedule of 2 tax-benefit programs that are central components of the US social safety net, the Earned Income Tax Credit (EITC) and the Child Tax Credit (CTC), to examine the effect of income transfer payments on child maltreatment report rates.

The EITC and CTC are among the most effective US antipoverty programs, lifting 8.3 million individuals out of poverty, including 4.5 million children, in 2017.[8] The EITC is a fully refundable tax credit, which means that if the credit amount exceeds a recipient's tax liability, the balance is received as a cash transfer with their tax refunds. In recent years, the CTC has provided a partially refundable credit to tax filers. Because refundable tax credits are delivered to families as a lump-sum payment with their tax refunds, these credits create unusual "financial slack" at tax time for low-income families living on tight budgets.[9] Lump-sum refundable tax credits, worth up to 45% of a family's annual earnings,[10] enable families to purchase household necessities, pay outstanding bills, and reduce debt upon receipt,[11,12] which may reduce families' material hardship and improve family functioning. Studies indicate that families are sensitive to the timing of payments; a survey of EITC and CTC filers with children indicated that 86% used a portion of their tax refund within a month of receipt, and 30% anticipated that even a short-term delay in their payment could present a financial challenge.[11]

Considerable evidence suggests that poverty-reducing tax credits not only influence families' economic outcomes,[13,14] but they also improve recipient and child health and wellbeing. For instance, the EITC is associated with reduced low birth weight,[15] lower infant mortality,[16] and improved self-reported maternal and child health.[17,18] Prior studies also provide evidence for an association between more generous EITCs and reductions in several indicators of child maltreatment, including hospital admissions for pediatric abusive head trauma,[19] self-reported parenting behaviors that approximate neglect,[20] foster care entries,[21] and child protective services involvement.[20,22] Past studies have not considered the effects of the EITC and CTC on administratively-reported child maltreatment in the period immediately after payments are distributed despite evidence that household financial well-being and spending on necessities reflect the timing of lump-sum EITC and CTC payments.[9–12,23]

In this study, we linked unique weekly EITC and CTC tax refund data from the Internal Revenue Service (IRS) to state-specific child maltreatment report data during the 2015 through 2018 tax seasons (January – April) and used a legislated policy change in the timing of tax refund receipt to estimate effects on child maltreatment report rates. Our quasi-experimental estimation strategy used comparisons from before and after the legislative change at the weekly timescale, controlling for other changes that might have influenced the outcome over longer time frames (eg, expanded definitions of maltreatment or differential agency response to cases).[24] Based on prior evidence supporting an association between income, the EITC, and reductions in reports of child maltreatment, we hypothesized that short-term rates of child maltreatment would be reduced following families' receipt of EITC and CTC refunds.

STUDY DATA AND METHODS

Refundable Tax Credits

This study used administrative IRS data on weekly state-level total tax refunds to tax filers claiming the EITC or the refundable portion of the CTC, obtained through a special request from the IRS's Research, Applied Analytics, and Statistics Group. Our analysis covered the 2015 through 2018 tax filing seasons (January – April), during which over 99% of all refundable credits were delivered to tax filers each year. These data capture the timing of IRS issuance (ie, when the IRS sent out refundable credits to households); families' receipt of payments follows within a few days.[23]

We leveraged policy-induced variation in the payment schedule of EITC and CTC refunds because of the Protecting Americans Against Tax Hikes (PATH) Act. The PATH

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Act took effect on January 1, 2017 and mandated a delay in the IRS's issuance of tax refunds to families who claim the EITC or refundable portion of the CTC. This delay gives the IRS additional time to verify self-reported wages on tax returns against employer-reported wages, with the intention of reducing erroneous refunds. Figure 1 illustrates the extent of the refund delay caused by the PATH Act with tax refund data from the 2015 through 2018 tax seasons (January – April). Refund amounts are adjusted for inflation and expressed in 2018 dollars. Specific dates associated with each week are presented in Supplemental Table 2.

On average, the IRS issued $121 billion in refunds containing the EITC or refundable portion of the CTC to 27.7 million tax filers during the 2015 and 2016 tax seasons and $111 billion to 25.9 million filers during the 2017 and 2018 tax seasons. During the 2015 and 2016 tax seasons, the IRS began releasing refunds containing these tax credits in late January (week 3), whereas during the 2017 and 2018 tax seasons, the first batch of such refunds was not released until late February (week 7). Following the PATH Act mandate, issuance in 2017 and 2018 spiked in week 7, compared with weeks 4 through 6 in pre-PATH Act years (2015 and 2016). These data show that a substantial share of all refundable tax credits issued to families was affected by this legislated delay. In pre-PATH Act years, $63.9 billion (53%) was issued to 12.6 million tax filers in late January and early February (weeks 3–6), whereas in post-PATH Act years, no refunds were issued over the same period. Supplemental Figs 2 and 3 present these weekly issuance amounts disaggregated by state and years before and after the PATH Act. In our analysis, we made EITC and CTC tax refunds comparable across states by dividing dollar amounts by the state child population (hereafter "per child tax refunds").

Child Maltreatment Reports

We obtained state-level counts of child protective services (CPS) reports and substantiations for each date over the study period through special request to the National Data Archive on Child Abuse and Neglect (NDACAN). Reports of child maltreatment are made by both mandatory reporters (eg, professionals who have formal contact with children) and voluntary reporters (eg, neighbors). Lags can occur between an incident (or pattern) of maltreatment and a report made to CPS. However, report dates are among the best available proxies for the timing of child maltreatment, and state laws and policies generally require mandated reporters to immediately report known or suspected child maltreatment to authorities. Although widely used as a proxy for maltreatment, CPS reports are not a direct measure of parenting behavior; they also reflect factors beyond potential underlying maltreatment, such as children's visibility to mandatory reporters[25] and bias on the part of potential reporters and the CPS system.[26]

Our primary analysis focused on all child maltreatment reports, regardless of substantiation status, since both substantiated and unsubstantiated cases predict similar risks of future revictimization[27] and poor behavioral, developmental, and health outcomes.[28] We tested the robustness of our results to using substantiated reports only, which comprise ∼ 1 in 5 screened-in reports of child maltreatment made during the study period.

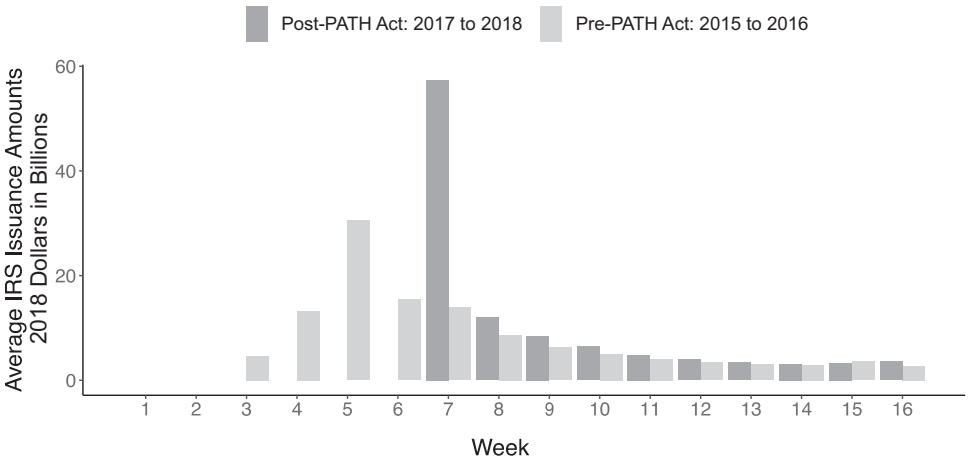

FIGURE 1
EITC and CTC refunds from January to April of years 2015 through 2018; Sources include authors' analysis of data from the Internal Revenue Service: Research, Applied Analytics, and Statistics Group. Dollar amounts include entire refunds containing the EITC or refundable portion of the CTC. All refunds amounts expressed in 2018 dollars.

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We assembled our outcome variable, weekly, and state-level rates of child maltreatment reports per 100 000 children using information about the number of reports made per week in each state and child population estimates from the US Census Bureau.[29] We constructed weeks to match those in the IRS administrative dataset and excluded observations for states that did not submit consistent child maltreatment data to NDACAN over the study period (128 state-week observations associated with 2 states: North Carolina and Vermont). In total, our panel dataset contained 3136 state-week observations of child maltreatment report rates in 48 states and the District of Columbia from 2015 to 2018.

Statistical Analysis

Our quasi-experimental approach used a fixed-effects, difference-in-differences analysis that relied on changes to the timing and magnitude of EITC and CTC payments in the weeks of tax season caused by the PATH Act. Our models regressed weekly state child maltreatment report rates on weekly state per child tax refunds, controlling for state and time fixed-effects. The models included a lag structure to test whether child maltreatment report rates were associated with tax refund amounts up to 4 weeks after the initial cash transfer. Specifically, we estimated the following model specification:

$$CM_{\mathrm{swy}} = \alpha + \sum_{i=0}^{4} \beta_i TaxRefunds_{\mathrm{swy}-i} + \gamma_s + \lambda_w + \delta_y + \sigma_H + \varepsilon_{\mathrm{swy}}$$

In the above model, CM_{swy} is the number of child maltreatment reports made per 100 000 children in state (s), in week (w), and in year (y). The primary variable of interest in our model is $TaxRefunds_{\mathrm{swy}-i}$, which indicates the per-child EITC and CTC refund dollars issued (i) weeks before week (w), in *year* (y), and in state (s). β represents the change in the state-level child maltreatment report rate associated with an additional $1000 in per-child EITC and CTC tax refunds. We controlled for state fixed-effects (γ_s) to adjust for any time-invariant factors affecting each state that may be correlated with both EITC and CTC tax refunds and child maltreatment reports. For example, per-child EITC and CTC refunds are larger in states with higher poverty rates, and poverty is positively correlated with maltreatment risk. We also controlled for the week (λ_w), year (δ_y), and holiday (σ_H) fixed effects to adjust for any temporal factors that are correlated with both EITC and CTC tax refunds and child maltreatment report rates.

To assess the robustness of our results, we repeated our analyses but included state-specific linear time trends (at the year and week levels) in the model to account for any temporal changes within states that may be correlated with both changes in the child maltreatment report rates and EITC and CTC refunds. We also tested the sensitivity of our estimates to the exclusion of either post-Path Act year (2017 or 2018) because EITC and CTC claimants were largely unaware of the refund delays[11] in 2017, but awareness had likely increased in 2018. For financially vulnerable families, the unanticipated delay in 2017 might have made consumption smoothing or bill paying more difficult.[11]

RESULTS

Among 48 states and the District of Columbia, the average weekly rate of reported child maltreatment was 67 reports per 100 000 children. Average state-level per-child EITC and CTC refund dollars were $1467 per child. These 2 variables are shown in Supplemental Table 3. Regression results in Table 1 indicate a statistically significant reduction in rates of child maltreatment reports associated with higher EITC and CTC tax refund amounts in the week of issuance, the week after issuance, and 3 weeks after issuance. The largest impact of EITC and CTC refunds occurred 3 weeks after refund issuance, with child maltreatment reports decreasing by 7.1 per 100 000 children (95% confidence interval [95% CI]= −10.2 to −3.9), which may reflect the time needed for tax refunds to alleviate forms of material hardship that can increase maltreatment risk, such as food

TABLE 1 EITC and CTC Tax Refund Effects on Child Maltreatment Report Rates

	Number of Child Maltreatment Reports Per 100 000 Children (95% CI)	Number of Substantiated Child Maltreatment Reports Per 100 000 Children (95% CI)
EITC and CTC: wk of issuance	−3.6 (−6.0 to −1.2)**	−0.9 (−1.8 to 0.1)
EITC and CTC: issued 1 wk before	−3.8 (−6.9 to −0.8)*	−0.4 (−1.0 to 0.2)
EITC and CTC: issued 2 wk before	−2.4 (−5.1 to 0.3)	0.1 (−0.6 to 0.8)
EITC and CTC: issued 3 wk before	−7.1 (−10.2 to −3.9)**	−0.9 (−1.7 to −0.1)*
EITC and CTC: issued 4 wk before	0.1 (−4.2 to 4.3)	0.7 (−0.1 to 1.5)
Cumulative effect	−16.8 (−26.0 to −7.7)**	−1.3 (−3.0 to 0.3)
N	3136	3136

Tax refund data is from the Internal Revenue Service: Research, Applied Analytics, and Statistics Group; and child maltreatment data is from the National Data Archive on Child Abuse and Neglect from January to April of years 2015 through 2018. Data are at the state-week-year level. Standard errors were clustered at the state level. Models included state, week, year, and holiday fixed effects. EITC and CTC refund amounts were adjusted for inflation and expressed in 2018 dollars. Refund dollars were made comparable across states by dividing dollar amounts by the state child population. Each coefficient represents a change in the state-level child maltreatment report rate associated with an additional $1000 in per-child EITC and CTC tax refunds.

*$P < .05$; **$P < .01$.

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insecurity or problems paying for utilities or rent. The total cumulative effect over the week of refund issuance plus the 4 weeks following issuance is shown in the bottom row of Table 1. In total, state-level rates of reported child maltreatment decreased by an estimated −16.8 reports per 100 000 children (95% CI = −26.0 to −7.7), equivalent to a 5.0% reduction in maltreatment reports (95% CI = 2.3% to 7.7%), with each additional $1000 per child in the state. The estimate of the cumulative EITC and CTC effect based solely on substantiated cases was smaller in size and less precise (−1.3 substantiated reports per 100 000 children; 95% CI = −3.0 to 0.3), partially reflecting that 1 in 5 reports reached substantiated status. Results were largely unchanged by the inclusion of state-specific linear time trends in our models (Supplemental Table 4). Results excluding either post-Path Act year 2017 or 2018 maintained the same direction and general patterns, although effects appear slightly stronger after omitting 2018 compared with omitting 2017 (Supplemental Table 5).

DISCUSSION

We used a legislative change in the timing of EITC and CTC payments to estimate the association between state per child income assistance and state reports of child maltreatment in the weeks after families received the additional income. Results of our study suggest an association between EITC and CTC tax refunds and lower rates of maltreatment reports. We found that for each additional $1000 in per-child EITC and CTC tax refunds, rates of reported maltreatment declined in the several weeks immediately following refund payments by an estimated 5.0%.

The study design had several strengths. First, given the difficulty of randomizing an income support intervention, the PATH Act created variation in weekly issuance that is unlikely to have been affected by individual tax filers behavior or by other economic and policy factors, including changes in state's child welfare policies and practices, that might confound a purely observational study. Second, the size of the population affected by the legislated shift in the timing of EITC and CTC refund issuance was large: the PATH Act shifted the timing of receipt of refunds containing the EITC or CTC for an estimated more than 12 million families in the tax seasons following implementation. Third, evidence points to lump-sum tax credits as a salient income source, which many low-income families spend shortly after receipt on necessities or to pay down debt, increasing the likelihood of an observable effect on child maltreatment in the short-term.

Our results align with a small body of evidence on the role of income support policies in child maltreatment incidence. One study found a $1000 increase in income via the EITC led to a 3% to 4% decrease in child neglect and an 8% to 10% decrease in CPS involvement among low-income single-mother families.[20] Another study found that the introduction of a refundable EITC credit, offered at the state level, was associated with a 13% decrease in state-level rates of hospital admissions for pediatric abusive head trauma.[19] These studies indicate how even relatively small increases in income may decrease maltreatment risk.

The short-term changes to child maltreatment rates that we observed after EITC and CTC refund issuance aligns with the notion that child maltreatment risk is responsive to not only chronic economic hardship among parents but also to more immediate income availability. This finding has important implications for policies seeking to improve families' economic security, particularly amid rising levels of intrayear income volatility among low-wage US workers.[30] Policymakers might consider how income support programs can mitigate income volatility such that short-term financial insecurity does not translate to long-term negative consequences (eg, long-term health problems caused by child maltreatment). In 2021, the American Rescue Plan temporarily expanded the CTC to a nearly universal child benefit, partially paid to families in monthly installments from July to December 2021. Early evaluations of the CTC extension found that these monthly supplements reduced child poverty[31] and material hardship.[32,33] More frequent payments of benefits to families may reduce intrayear material hardship and financial stress[34] by encouraging savings[9] and aligning payments with the timing of critical financial events throughout the year.

This study had some limitations. First, our analysis was based on cases of suspected maltreatment reported to CPS. However, a substantial fraction of incidents go unreported, and some subsets of reported cases do not reflect actual maltreatment. Therefore, observed declines in CPS reports might reflect a change in reporting rather than a true change in maltreatment. Nonetheless, official reports are considered among the best available indicators of child maltreatment risk and track other key indicators of risk (eg, infant mortality).[35] Furthermore, if tax credits reduce needless CPS reports, they would alleviate the burden of unnecessary reports on families and potentially improve the functioning of the child welfare system.[24] Second, the

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administrative child maltreatment dataset that we obtained and could be matched to the weekly IRS data did not include information on child or family characteristics, such as child age, race, ethnicity, or family income level, nor on the type of maltreatment alleged (eg, physical abuse, neglect, sexual abuse) because of privacy concerns. In the future, an analysis focused on neglect, which is strongly associated with families' economic circumstances and makes up the single largest report category,[36] would be informative. Third, these data did not allow us to assess the precise effect of EITC and CTC refunds on maltreatment reports at the family level. Consequently, our results should be viewed as pertaining to state-level rates of CPS reports and caution should be taken in generalizing these aggregate estimates to the individual level. Fourth, our EITC and CTC measure is based on the timing of IRS issuance. The refund delivery method, such as direct deposit, paper check, or refund anticipation loan, can influence the exact timing of receipt, which we were only able to approximate from the IRS data. Finally, we could not separately determine the effects of tax refunds containing the CTC or EITC since refund amounts were aggregated. Because of differences between the EITC and CTC, in terms of eligibility rules and credit structure (eg, full versus partial refundability), the 2 tax credits have different distributional consequences and thus may have differential impacts that depend on which households are targeted with benefits.

CONCLUSIONS

Child maltreatment increases risks for behavioral, physical, and mental health problems over the life course. This study adds to evidence that poverty-reducing tax credits improve several outcomes for children, as well as to a body of evidence that child maltreatment is malleable to social policy. Past studies indicate that expansions of minimum wage laws,[37] the Affordable Care Act,[38] and state paid family leave[39] are each associated with reductions in various indicators of child maltreatment. Collectively, these findings highlight how expansive public policies and programs can influence children's wellbeing. These findings are particularly relevant because the EITC and CTC are active areas of policy-making at both the state and federal levels.

ABBREVIATIONS

CPS: Child Protective Services
CTC: Child Tax Credit
IRS: Internal Revenue Service
EITC: Earned Income Tax Credit
PATH Act: Protecting Americans Against Tax Hikes Act

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