NBER WORKING PAPER SERIES

THE POTENTIAL LONG-RUN IMPLICATIONS OF A PERMANENTLY-EXPANDED CHILD TAX CREDIT

Elizabeth Ananat
Irwin Garfinkel

Working Paper 32870
http://www.nber.org/papers/w32870

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
August 2024

There are no funding sources or material or relevant financial relationships to disclose. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 32870
August 2024
JEL No. H31, I38

ABSTRACT

For many of those who worked to include an expanded Child Tax Credit in the 2021 American Rescue Plan, an important motivation was to test the feasibility and effectiveness of a permanent U.S. child allowance similar to those provided in other rich countries. Because this expansion was short-lived, however, evaluations of its effects cannot provide complete evidence on the long-run effects of a permanently expanded CTC. We leverage theoretical predictions from standard economic models, behavioral science, and child development frameworks, along with empirical evidence from literature evaluating previous long-term cash and quasi-cash transfers to families with children, to predict the likely long-run impacts of a permanent child allowance. We find that it would lead to increased future earnings and tax payments, improved health and longevity, and reduced health care, crime, and child protection costs; using conventional valuations, benefits to society outweigh costs nearly 10 to 1, with most benefits due to credit refundability.

Elizabeth Ananat
Barnard College
Columbia University
3009 Broadway
Office 1019 Milstein Building
New York, NY 10027
and NBER
eananat@barnard.edu

Irwin Garfinkel
Columbia University
School of Social Work
1255 Amsterdam Avenue
New York, NY 10027
ig3@columbia.edu

For many of those who worked to include an expanded Child Tax Credit in the 2021 American Rescue Plan, an important motivation was to test the feasibility and effectiveness of a permanent U.S. child allowance similar to those provided in other rich countries. Because this expansion was short-lived, however, evaluations of its effects cannot provide complete evidence on the long-run effects of a permanently expanded CTC. In this paper, we leverage theoretical predictions from standard economic models, behavioral science, and child development frameworks, along with empirical evidence from literature evaluating previous long-term cash and quasi-cash transfers to families with children, to predict the likely long-run impacts of a permanent child allowance.[1]

I. How would a permanently expanded CTC compare to current policy?

As explained elsewhere in this volume, the U.S. federal Child Tax Credit has been altered and expanded repeatedly over the years since its introduction. Its current form, established in the 2017 Tax Cuts and Jobs Act (TCJA) and slated to continue through tax year 2025[2], provides a $2000 tax credit per child under age 17 that phases in at 15% of earned income above $2500 and phases out by 5% of family income above $200,000 for single parents and $400,000 for married parents. This credit is also only partially refundable, meaning that families that owe less than the amount of the credit in taxes can receive only a maximum of $1400 per child for which they otherwise qualify.

With its flat $3600/$3000 per child aged 0 to 5/6 to 17 until a 5% phaseout at income of $112,500 (single parent) or $150,000 (married parents), an expanded CTC targets low-income families with a large increase in funds, and middle to upper-middle income families with smaller increases in funds, compared to the current system. Relative to the current permanent program, it would:

- Improve the targeting of government spending toward those who benefit most. While the expanded CTC is near-universal, the move to an expanded CTC from the current system nonetheless improves targeting because the current system is highly untargeted, directing more resources to moderate and high earners (roughly $50,000-$400,000 in annual earnings), fewer resources to low earners ($2,500-$50,000), and no resources to those with no or very low earnings. The new system, by contrast, would direct the largest resources to non-, low-, moderate-, and moderately-high earners (0-$150,000) and relatively fewer resources to high earners ($150,000 and above).
- Eliminate a wage subsidy for moderate earners. While the expanded CTC is a non-distortionary unconditional transfer for families earning less than six figures, because it would replace an existing program that subsidizes work for moderate earners, it

[1] Specifically, the allowance proposed in the American Families Act.

[2] Under current law, after 2025 the Child Tax Credit will revert to its pre-TCJA structure of $1000 per child phasing out at 5% of income above $75,000 for single parents and $110,000 for married parents.

removes a wage subsidy for these families and lowers the financial benefits of working additional hours.

- Increase a wage tax on high earners. Families earning above a threshold of $112,500/$150,000 see their credit reduced by 5% of their above-threshold income. This change lowers the financial benefits of working additional hours.
- Provide a guaranteed income floor for families with children. No family raising children, whether currently poor or currently high-income, would run the risk of a period with no cash income should job loss occur. Every child would receive at least $3000 every year of childhood. By contrast, under the current system the federal government provides no cash to most families during periods when they are without earnings, leading some children to experience extreme levels of hardship that do not exist in countries that provide a child allowance.

In considering the effects of transitioning to a permanently-expanded CTC from the current system, we therefore consider the effects on parents and children of reliably experiencing a CTC with these characteristics relative to their experiences under the current design of the CTC.

II. Conceptual differences between temporary and permanent programs

Social science provides several theories that speak to differences between temporary and permanent policies in their effects on parent behavior and child development. Here, we apply those theories to predict effects of the changes listed above when instituted permanently rather than announced as temporary.

A. Standard economics models

Canonical models that are standard in labor economics and public finance include two concepts relevant to predicting the effects on parent labor supply of moving from the current to an expanded CTC, and for predicting the differential effects on families of a permanently rather than temporarily expanded CTC, substitution effects and income effects.

Substitution effects

Standard economic theory makes an important distinction between the substitution effects of temporary and permanent price changes, and thus between the likely effects of a temporarily versus permanently expanded CTC. In particular, price cuts that are expected to be temporary increase the temporarily cheaper action more over a given time period than price cuts that are expected to be permanent. The reason is that a temporary price change induces two types of behavioral substitution.[3] First, people may take more of the now-cheaper action in place of

[3] Similarly, this is the motivation when a seller offers a sale price "for a limited time only"—because it allows the seller to leverage two ways that consumers will substitute toward buying more of the good in response to a price

other actions that are now comparatively more expensive; in this case they may spend more time doing tasks at home rather than working, now that taking time away from work costs less than before. Second, people may take the temporarily-cheaper action now rather than doing it in the future; people who had planned at some point to take some time away from the labor force to go back to school, renovate their home, or spend more time with family may choose to do so now in order to take advantage of the temporarily lower price, a phenomenon known as intertemporal substitution.

In this case, knowing that the 2021 CTC expansion was temporary may have induced people to re-time breaks from the labor force that they planned for future years to 2021 instead, because for that year only, cutting back on work was temporarily cheaper. By contrast, a permanently expanded CTC would lead only to the first type of substitution, and therefore would necessarily have smaller substitution effects on behavior. Thus, under standard economics assumptions, the labor supply substitution response to the temporarily expanded 2021 CTC would be larger than the response to a permanently expanded CTC.

Income effects

In contrast to substitution effects, under standard economics assumptions, income effects are larger for a permanent increase in income than for a temporary one. This is because an increase of $1000 or more in family income for each year of childrearing increases family income by much more than an increase for one year. In other words, the income effect on parent labor supply from a permanent CTC expansion is expected to be as large or larger than the effect from the temporary expansion.

Implications from the standard economics model

While no other country has replaced a structure similar to the existing U.S. CTC with a child allowance, and therefore no other country can provide evidence on the full long-term effects of such a policy change, Canada, among others, introduced a permanent child allowance from whole cloth. In such cases, families see increased income but no change in the price of work, which means that their labor supply effect, if any, derives entirely from an income effect. Quasi-experimental research on such policy changes therefore isolates the long-term income effect resulting from the introduction of a permanent child allowance. An evaluation of the Canadian program found no net change in parent labor supply (Baker et al. 2023), suggesting that the long-run income effect of a permanent child allowance on labor supply is zero.

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change. First, consumers faced with a temporary sale on, for example, pizza will buy more pizza compared to other foods that are not on sale. Second, consumers will increase pizza purchasing now compared to in the future when it will no longer be on sale. When a pizzeria cuts the price of its pizza permanently going forward, it is unlikely to sell as much pizza in the first week after the price change as it would if it had announced that the price cut were for that week only, because while people would still tend to buy more pizza compared to other foods, they would have no reason to buy pizza now instead of in the future.

Meanwhile, the 2021 expanded CTC can provide evidence on the likely substitution effects due to changes in the effective wage that would occur for some families if the U.S. implemented a permanently expanded CTC, since the substitution effect from a temporary change is predicted to be larger than from a permanent change. Here, the fact that most studies have found no net change in labor supply due to the temporary CTC expansion, including for those families with the largest decrease in the effective wage (Ananat et al. 2022, Jones et al. 2023), suggests that the substitution effect from a permanent CTC expansion is zero or nearly so. Combined with the evidence on zero income effects, under standard economics assumptions these results imply that the long-run effects on parent labor supply of switching from the current to an expanded CTC would be negligible.

B. Critiques of the standard economics model

The standard economics model, while having the virtue of making strong and simple predictions about behaviors, has been demonstrated not to describe them fully and accurately. Three significant critiques complicate its predictions about labor supply responses to a permanently expanded CTC.

Learning costs

The first is that, while a standard economics assumption holds that people acquire new information costlessly and immediately, in reality it takes time and effort to learn about changes in government policy and incorporate shifted incentives into decision-making. Learning over time about how the expanded CTC works—and in particular about the fall in the effective wage for parents on the old phase-in and new phase-out—could mean that substitution effects increase with permanent expansion instead of decreasing. There is some evidence from previous literature suggesting that understanding of tax system work incentives develops over several years (Chetty et al. 2013; Lippold 2020).

Market failures

The second is that, while a standard economics assumption holds that markets function perfectly, including for credit and for insurance, in reality there are significant frictions and failures in these markets. Given evidence that many Americans do not have access to a few hundred dollars for an emergency (Federal Reserve 2022), it is likely that they also are sometimes constrained from making up-front investments in the labor market—e.g. for childcare, car repairs, or work licensing fees. Indeed, many parents spent the 2021 expanded CTC on exactly these sorts of work investments (Michelmore and Pilkauskas 2023; Parolin et al. 2023). Given low and unstable earnings for large swaths of American workers, a small income stream to address emergencies and smooth consumption may facilitate steady employment, particularly if it were reliable over years as part of a permanently expanded CTC.

Scarcity mentality

The third is that, while the canonical economics model assumes that people make perfectly rational decisions about the future based on their preferences, which cannot be changed by policy, in reality increasing income for people facing a lack of material resources necessary to meet their basic needs increases their orientation toward the future and willingness to make investments (Mullainathan and Shafir 2013). Such effects are much larger for a permanent income stream than a temporary one.

C. Child development

Research in child development, from both developmental psychology and economics, has identified two ways that increased family income from a permanently expanded CTC would likely provide additional benefits above those from a temporary expansion.

Family Stress Theory

The first pathway is described under family stress theory (Conger et al. 2010), a key model in developmental psychology. A large body of evidence (Masarik and Conger 2017) demonstrates that when families do not consistently have enough material resources to meet their basic needs, parents' ability to cope is overstretched, harming their mental health and their ability to support healthy family functioning. This theory strongly predicts that a permanently expanded CTC, by providing reliable income every month throughout childrearing rather than a few months of temporary income, will have much more positive effects on parent mental health—and therefore on parenting practices, family functioning, and child mental health and development—than a temporary expansion, which in some ways actually exacerbated instability. Research from other countries with permanent child allowances showing beneficial effects on parents and children is consistent with this prediction (Kwon and Nam 2022; Milligan and Stabile 2011), as is research from the 2021 CTC expansion showing mixed mental health effects of the temporary expansion (Gennetian and Gassman-Pines 2024).

Dynamic complementarity

The second pathway is described under dynamic complementarity, an economic model of human capital development (Cunha and Heckman 2007). A significant body of evidence for this model (Cunha et al. 2006) demonstrates that investment in children's development at each age has multiplicative effects, because greater human capital at each period allows higher returns to additional investment in the next period, leading to greater human capital acquisition and therefore still higher returns to additional investment in the following period. These investments include higher-quality childcare and educational environments, which research has shown are among the ways families spent their 2021 expanded CTC. Thus, dynamic complementarity strongly predicts that a permanently increased CTC would benefit children's development—including their eventual physical and mental health, educational attainment, earnings, and own parenting—more than a temporary expansion.

D. Overall implications from theory

Empirical evidence from Canada's permanent child allowance and from the temporary 2021 CTC expansion, combined with theoretical predictions from social science, leave some ambiguity about effects of permanent CTC expansion on parent labor supply, including positive, negative, and null possibilities. By contrast, both empirical and theoretical predictions for parent and child health and development are positive, and unambiguously imply greater benefits from a permanently expanded CTC than what has been observed from the temporary 2021 expansion.

None of this evidence, however, allows for a comprehensive accounting of the likely costs and benefits of permanent expansion. In what follows, we leverage a wider body of prior quasi-experimental evidence on the effects of a broad set of cash and near-cash transfers—all of it consistent with, but more specific than, the discussion above—in order to make more precise predictions about the long-term costs and benefits of a permanently expanded CTC.

III. Summary of historical evidence on effects of permanent programs that increase family income during childhood

While no permanent child allowance has been attempted in the United States, we do have a history of cash and near-cash transfer programs whose effects on a variety of long-run outcomes have previously been evaluated using rigorous experimental or quasi-experimental analysis. Between them, these evaluations (gathered using a meta-analysis-style approach, described in Garfinkel et al. 2022) provide evidence on nearly every conceivable long-run cost and benefit of providing income support to families. All of these programs are targeted toward low- and/or moderate-income families; since it is likely that lower-resource families benefit more from increased resources than do high-resource families, evidence from these programs might overstate the effects of a near-universal program, were they to be assumed to apply to all families. On the other hand, these programs phase out rapidly at relatively low incomes, generating larger decreases in the effective wage than the expanded CTC; to the extent that those larger decreases reduce parent labor supply and therefore dampen the programs' effects on family income more than the expanded CTC would, the estimates of their effects are a conservative lower bound for the effects of the expanded CTC.

Mothers' pensions

The oldest programs informing our estimates of costs and benefits of family income transfers are the mothers' pensions that were provided in many states prior to the New Deal. Aizer et al. (2016) identify families who applied to receive pensions and compare the long-term outcomes of families who were accepted and received benefits to those for families who were rejected because their incomes were too high. They find improvements in children's earnings as adults

and both children's and mothers' longevity and increases in the intermediate outcome of children's educational attainment.

One drawback of these estimates is that they capture effects of transfers in a very different economic setting, as the United States was much poorer at the time, and so benefits of transfers of a given amount may have been greater; however, it is impossible to empirically measure the effects of recent programs on children's lifetime outcomes, so this is a necessary constraint. Other drawbacks work in the opposite direction: benefits were received on average for only about three years, which will likely understate the benefits of receipt throughout childhood; and the program phased out at very low levels of parent earnings, decreasing the effective wage much more than the expanded CTC would.

Food Stamps

Many strong papers have leveraged the 1960s Food Stamps rollout to identify quasi-experimental effects of increased family income. Almond et al. (2011) compare outcomes for those born in county-years with and without the program and find reductions in neonatal mortality, along with increases in birthweight.[4] Hoynes et al (2016) compare outcomes for those born in county-years with more versus less childhood exposure to the program, finding improvements in children's earnings and health during adulthood and increases in birthweight. Bailey et al. (2020) similarly find increases in children's earnings, health, and longevity in adulthood and reductions in crime.

While not as stark as for mothers' pensions, the Food Stamps rollout also took place in a United States with much lower incomes, worse health, and lower education than today, so the benefits of transfers may have been larger. Again, however, it is not possible to empirically measure the effect of recent income transfers in childhood on lifetime outcomes, so this is a necessary constraint. As with mothers' pensions, other drawbacks work in the opposite direction. First, this program also phased out at low incomes, reducing parents' effective wage more than an expanded CTC would. Second, Food Stamps were a near-cash, rather than cash, transfer, that were likely worth less than cash; Schanzenbach (2002) estimates that they are worth about 80 cents on the dollar, suggesting that their benefits are smaller than would be the case for an expanded CTC distributed as cash.

Negative Income Tax Experiments

[4] Along with other intermediate outcomes such as education (which contributes to earnings and health), we do not separately value birthweight in our estimates, as it is an intermediate contributor to eventual outcomes that we monetize, including adult health and longevity and earnings.

One set of estimates we use, from Price and Song (2018), reanalyzes the 1960s Negative Income Tax (SIME/DIME) experiment. They merge experimental assignment with later administrative records, finding that experimental transfers reduced children's earnings and health in adulthood and parent health and longevity. Drawbacks of this study include that it took place during roughly the same, very different, era as the Food Stamp rollout; that benefits phased out strongly with earnings; and that the program was announced to be temporary, potentially resulting in stronger intertemporal substitution away from work, and fewer mental health benefits due to increased stability, for parents than would a permanently expanded CTC. Kehrer and Wolin (1979), based on the rural negative income tax experiment, provide evidence that benefits reduced low birth weight, which other research shows should improve long term adult outcomes; this result conflicts with Price and Song in that it finds positive rather than negative effects of the program. As described above, however, we do not use birth weight studies in our estimates, which here biases our estimates downward.

Earned Income Tax Credit

The most recent program that studies have leveraged to identify effects of increasing family income is the Earned Income Tax Credit (EITC), which was significantly expanded in the 1990s and to which many states have since added their own expansions. Larrimore (2011) compared families exposed to more versus less EITC generosity and found improvements in parent health, as did Evans and Garthwaite (2014) and Morgan et al. (2020). Averett and Wang (2018) found improvements in children's immediate health, while Braga et al. (2020) found improvements in children's health in adulthood. Bastian and Michelmore (2018) found increases in children's earnings in adulthood and improvements in children's educational attainment. Berger et al. (2017) found reductions in the need for child protective services.

While the EITC evidence comes from a period much closer to the present, these studies have their own drawbacks in terms of comparability to a permanently expanded CTC. First, the EITC phases in at low levels of earnings, increasing the effective wage for some parents, and then phases out at moderate earnings, decreasing the effective wage for most recipients, meaning that its effects on work are difficult to compare to those of a permanently expanded CTC. In addition, the EITC arrives annually rather than monthly (unlike the other programs studied), which decreases its potential benefits through income stabilization relative to a permanently expanded CTC.

Summary of the empirical evidence

Of the 20 studies that Garfinkel et al (2022) identified for their child allowance benefit-cost analysis, only one finds negative effects. Four find positive effects on birthweight: Kehrer and Wolin (1979), Almond (2011), Hoynes et al (2016), and Markowitz (2017). One finds positive effects on neonatal mortality (Almond 2011). One finds positive effects on child health (Averett

and Wang 2018). Two of three find positive effects on adult health: Hoynes et al. (2016) and Bailey et al. (2020). One of two finds positive effects on longevity (Bailey et al. 2020), while Price and Song (2018) find negative effects on adult health and longevity as well as earnings. Six find positive effects on educational attainment: Akee et al. (2010), Michelmore (2013), Maxfield (2014), Aizer et al (2016), Bastian and Michelmore (2018), and Thompson (2019). Four of five find positive effects on adult earnings: Aizer et al. (2016), Hoynes et al. (2016), Bastian and Michelmore (2018), and Bailey et al (2020). One finds the EITC reduces CPS involvement (Berger 2017) and one finds Food Stamps reduces crime (Bailey et al. 2020).

More recent evidence strengthens the overall conclusion that transfers improve long-run parent and child outcomes.[5] Barr and Smith (2023) find that being exposed to Food Stamps between the *in utero* period and age 5 reduces crime when the children are 18 to 24 years old. Barr et al. (2023) and Rittenhouse (2022) compare children born in December who are eligible in their first year of life for the EITC to children born in January who are not eligible for the EITC until their second year of life, finding children whose families receive the EITC in the first year of life have lower involvement in child protective services and higher earnings as young adults. These papers suggest the possibility of additional gains from beginning child allowance payments as early as *in utero*, similar to WIC and Medicaid eligibility.

IV. Our predictions about the long-run costs and benefits of a permanently expanded CTC

Main estimate

We used the average amount transferred to families in each study listed above, adjusted for inflation, and standardized the payment amount and outcome sizes in order to reflect the effects of a $1000 increase in household income per year on the outcomes of interest. For outcomes for which we had multiple estimates, we took an average. We then monetized the value of each benefit and cost that was not initially measured in dollars, using standard values for health and life, administrative data on costs (including excess burden from tax financing and costs to government programs from increased longevity), and a three percent per year social discount rate to discount the value of benefits that accrue in the future. We estimated the costs of the transfer and their distributional impacts using a microsimulation based on CPS data, incorporating potential labor supply responses. We then converted the estimated benefits and costs per $1000 increase in household income for low-income families into estimates of

[5] Two studies that were inadvertently overlooked by Garfinkel et al (2022) also strengthen the case: Song (2022) and Braga et al. (2020) find that EITC receipt in childhood leads to better health in adulthood. Further, two studies on casino revenue sharing, Akee et al. (2010) and Thompson (2019), both find increases in educational attainment, an intermediate input into outcomes we measure including health and earnings; we do not separately value educational attainment in order to avoid double-counting.

aggregate benefits and costs for all families, using a linear decrease in benefits per dollar spent as family income rises from $50,000 to $100,000 per year.

We estimate that the net cost of the permanently expanded CTC is $96.8 billion per year. $63.8 billion is predicted to go to families with incomes below $50,000, $23.1 billion to families with incomes between $50,000 and $100,000, and $9.8 billion to families with incomes above $100,000.

Table 1 presents aggregate estimates of the annual benefits and costs of a permanently expanded CTC (Garfinkel et al (2022). Children's future earnings in adulthood rise by a present discounted value of $202 billion, over twice the initial outlay. These increased earnings generate $57 billion in higher tax payments that benefit taxpayers. Even larger than the increased earnings are the health and longevity benefits, which represent a gain to society of $420 billion using conventional valuations. Improved health saves taxpayers an additional $13 billion in avoided health care costs (including over $4 billion of reduced health insurance premiums). Taxpayers also save over $300 billion due to reduced expenditures on police, courts, and incarceration and most important, victim costs of crime, along with $4 billion from avoided spending on child protective services. Children's increased schooling costs society $70 billion. Children and their parents live longer, which increases Medicare and Social Security costs for taxpayers by $49 billion, a cost offset by benefits to recipients.

On net, the present discounted value of benefits for society is $929 billion, nearly 10 times the initial costs. Taxpayers net $243 billion above their initial $97 billion investment. This return is consistent with the large returns from other investments in children, including health care at a ratio of 10 to 1 (Currie and Gruber 1996), K-12 education spending at a ratio of between 4 and 10 to 1 (Angrist and Krueger 1991), and early childhood education at a ratio of between 7 and 12 to 1 (Heckman et al. 2010).

Sensitivity analysis

One particular sensitivity of any cost-benefit analysis is the necessary reliance on parameters that are currently considered to be reasonable for making projections. If a permanent CTC were enacted at a future time, interest rates and therefore the social discount rate might be higher or lower, the value society places on a statistical life might be higher or lower, etc.

For a more complete examination of the possible long-run benefits of a permanently expanded CTC under a variety of circumstances, Garfinkel et al. (2022) conducted a Monte Carlo analysis that randomly drew one million different combinations of empirical estimates and assumptions (e.g. about the value of a statistical life and the social discount rate, along with other parameters such as the family income at which the returns to transfer income begin to decline). In less than 3% of draws did initial outlays on the program exceed the net present value of

eventual benefits, meaning we are 97% confident that a permanently expanded CTC would on net have benefits that exceed costs for society.

Updated Results

Because effects of income support for families continues to be an active research topic, frequently generating new, high-quality publications, the best estimate of the long-run costs and benefits of a permanently expanded CTC is a moving target. Therefore, at https://www.povertycenter.columbia.edu/publication/2024/updating-benefit-cost-child-allowance-model we will continue to update our analysis in a living document. (We encourage readers to refer to it for the most up-to-date child allowance analysis.) Our first update, which incorporates the studies discussed in Section III as well as some methodological improvements, produces increases in benefits to transfer recipients, deceases in taxpayer benefits and an increase in net social benefits from $929 billion to $1009 billion relative to Garfinkel et al (2022).

Implications for social disparities

While a permanently expanded CTC would benefit most families, it is nonetheless predicted to have greater benefits for lower-income families. These include lower infant mortality, better child health, higher educational attainment, higher earnings in adulthood, and greater longevity for child recipients, along with better health and longevity for adults. Notably, all of these outcomes currently exhibit large disparities in the U.S. by race and income. Thus, it is likely that a permanently expanded CTC would result in smaller racial and economic disparities in health, education, and income, although more research on this topic is urgently needed.

Not all families, however, received the 2021 CTC. If the government disproportionately misses lower-income families and fully misses undocumented families (who are disproportionately low-income) with a permanently expanded CTC, then the country will not fully reap the predicted benefits from investing in low-income families, which are precisely those for whom the program has the largest return. In the absence of efforts to reduce administrative burden and maximize access, then, its overall net benefits will be lower than calculated here; reductions in disparities will also be smaller.

Alternative legislative approaches

Colorado, Minnesota, and Oregon have expanded their own child tax credits to include refundability, and more states are considering it. Analysis parallel to that shown here at the sub-national level shows comparable effects (Garfinkel et al. 2021). As these credits vary in size and structure, future evaluations can leverage this variation to gather more detailed evidence on credits' effects.

Some discussions of CTC reform have raised the possibility of lowering costs by implementing a policy such as that proposed in the American Families Act but without additional refundability relative to the current policy. As shown in Table 2, while such a reform would cut costs from $97 to $31 billion, it would cut benefits by much more, reducing net benefits for taxpayers from $243 to $11 billion and for direct beneficiaries from $686 to $120 billion. Refundability allows the CTC to reach the low-income families who benefit most—and whose improved circumstances benefit taxpayers most—so the "bang for the buck" of dollars spent on refundability is much higher than for those spent increasing the credit for families already eligible for non-refundable payments. A direct corollary of this result is that the current (TCJA) structure of the CTC, which directs benefits to families up to the top of the income distribution and away from those at the bottom, minimizes society's return on investment.

V. Conclusion

The empirical evidence that cash and near cash transfers for families with children lead to short and long term positive social impacts on low-income mothers and their children is highly consistent. The recent quasi experimental literature finds declines in low birth weight, neonatal mortality, child abuse and neglect and crime and increases in child health that stretch into adulthood and longevity; increases in child education and earnings as an adult; and improvements in maternal health. This body of evidence is not necessarily surprising, as the association between income and positive effects for parents and children is well documented (Duncan and Brooks-Gunn 1997). But a prominent strain of research has historically argued that income from welfare programs was different and actually had harmful effects on long-run outcomes (Murray 1984; Haskins 2007). As this synthesis demonstrates, recent evidence from quasi-experimental research is inconsistent with this argument. It is instead consistent with recipient and taxpayer benefits from a child allowance that, using conventional valuations, each exceed outlays.

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Table 1. Aggregate annual benefits and costs of a fully refundable $3000/$3600 child allowance: Present discounted value using mean impact estimates (in $billions).

	Direct Beneficiaries	Indirect Taxpayers	Total Society
Child allowance transfer	97	-97	0
Increased future earnings of children	202	0	202
Increased future tax payments by children	-57	57	0
Decreased neonatal mortality	2	0	2
Increased children's health and longevity	420	0	420
Increased parents' health and longevity	29	0	29
Avoided expenditures on other cash or near-cash transfers	-4	4	0
Avoided expenditures on child protection	0	4	4
Avoided expenditures and victim costs of crime	0	326	326
Increased costs of children's education	-56	-14	-70
Avoided expenditures on children's health care costs	2	13	14
Avoided expenditures on parents' health care costs	0.02	0.18	0.2
Increased payment due to increased children's longevity	43	-43	0
Increased payment due to increased parents' longevity	6	-6	0
Decreased tax payments from parents	2.4	-2.4	0
Administrative costs	0	-0.4	-0.4
Excess burden for taxpayers	0	2	2
Total	686	243	929

[reprinted from Garfinkel et al. (2022)]

Table 2. Aggregate annual benefits and costs of a $3,000/$3,600 with TCJA partial refundability structure: Present discounted value using mean impact estimates (in $billions).

	Direct Beneficiaries	Indirect Taxpayers	Total Society
Child allowance transfer	31	-31	0
Increased future earnings of children	30	0	30
Increased future tax payments by children	-8	8	0
Decreased neonatal mortality	0.3	0	0.3
Increased children's health and longevity	62	0	62
Increased parents' health and longevity	6	0	6
Avoided expenditures on other cash or near-cash transfers	-1	1	0
Avoided expenditures on child protection	0	1	1
Avoided expenditures and victim costs of crime	0	48	48
Increased costs of children's education	-8	-2	-10
Avoided expenditures on children's health care costs	0.2	1.8	2
Avoided expenditures on parents' health care costs	0.004	0.035	0.039
Increased payment due to increased children's longevity	6	-6	0
Increased payment due to increased parents' longevity	1	-1	0
Decreased tax payments from parents	1	-1	0
Administrative costs	0	-0.1	-0.1
Excess burden for taxpayers	0	-7	-7
Total	120	11	131