THE CLAIMING OF CHILDREN ON US TAX RETURNS

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Tax benefits tied to children form a central component of the social safety net in the United States. To participate in these programs, taxpayers must claim a child on their tax return. We study the claiming of children on tax returns by drawing on health insurance information returns to establish the presence of children in the United States. We estimate that the vast majority of insured children (approximately 95 percent) and a significant majority (between 88 and 97 percent) of all US children are claimed on tax returns. Unclaimed children are disproportionately concentrated in lower-income households.

Keywords: tax policy, child tax benefits, tax filing

JEL Codes: H24, H53, J13

I. INTRODUCTION

Providing financial assistance to low-income households with children is an important policy goal. In the United States, a large and growing share of such assistance is provided through the income tax. Families seeking to benefit from tax-administered programs must file a tax return stating their eligibility to participate. For tax-administered programs tied to children, participation requires taxpayers to claim one or more children on their tax return.

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In practice, there is evidence that the requirement to file taxes operates as a significant barrier to participating in tax-administered programs that benefit children. For example, approximately one in five households that qualify for the Earned Income Tax Credit (EITC) fail to claim it, and of that group, approximately two-thirds did not file a tax return (Jones, 2014). Conversely, claiming of the EITC is quite high among those who qualify for the credit and do file a return, more than 90 percent (US Census, 2013).

In this paper, we study the claiming of children on federal income tax returns by estimating the child claim rate — the share of children residing in the United States who are claimed on a US tax return. Estimating this quantity is difficult because the universe of individuals connected to the US tax system is not limited to individuals living in the United States. Conversely, children who have not been claimed on a tax return may not appear in administrative tax records.

To surmount these challenges, we draw on health insurance information returns to identify a population of children who are known to live in the United States and who can be linked to administrative tax records. Doing so allows us to calculate the child claim rate for children who are reported to be enrolled in at least one month of health insurance coverage during the year — a group we estimate to represent 92–94 percent of all children living in the United States, depending on the year. We use this approach to shed light on the child claim rate for the overall population of children in the United States, as well as for various subgroups of US children defined by age, state, and various neighborhood characteristics. We estimate these parameters for tax years 2017 through 2021, a sample period that spans multiple policy changes in child-linked tax provisions.

Our results suggest that in recent years, a significant majority of children living in the United States were claimed on tax returns. For our sample period, we estimate that the annual child claim rate among children with health insurance ranged from 95.1 to 96.5 percent. As a robustness check, we also calculate the child claim rate obtained by scaling the total number of children claimed on US tax returns by US Census-derived estimates for the total number of children residing in the United States; this approach yields a slightly higher estimate for the child claim rate. Finally, we estimate worst-case bounds for the overall US child claim rate based on the share of US children appearing on health insurance information returns; these bounds imply child claim rates between 88 and 97 percent.

In addition to estimating the overall child claim rate, we document substantial heterogeneity in the child claim rate by demographic characteristics. For most years in our sample period, taxpayers with no earnings did not benefit from tax-administered programs, and very-low-income taxpayers were eligible for only modest benefits. Consistent with these reduced incentives to file a tax return, we observe lower claiming rates for the children in our sample whose parents earned very low wages, as well as for children who obtained health insurance coverage through Medicaid or the Children's Health Insurance Program. We also estimate lower child claim rates for children living in neighborhoods with more Black

and Hispanic residents, consistent with prior research documenting differences in child tax benefit eligibility along this dimension (Collyer, Harris, and Wimer, 2020; Goldin and Michelmore, 2020).

Understanding the child claim rate is important for several reasons. First, it sheds light on the degree to which tax-administered social programs like the EITC and Child Tax Credit (CTC) are reaching children — a group for whom the antipoverty benefits of such programs may be particularly large (National Academies of Science, 2019). Not all children qualify for tax-administered programs, so one should not assume that every unclaimed child is missing out on an available benefit. That is, a child might go unclaimed because the child does not qualify a taxpayer for any benefit, because any benefits for which the child qualifies a taxpayer are outweighed by other considerations, or because of an error on the part of the taxpayer. At the same time, claiming a child on a tax return is a necessary condition for participating in a child-linked tax program. And because the vast majority of taxpayers or their preparers use semiautomated software to file their tax returns, a taxpayer who claims a child on a return is likely to claim the full range of benefits for which the child qualifies (Goldin, 2018). For these reasons, a child being claimed on a tax return is generally a good indication of whether tax-administered social programs are reaching the child.

Second, the child claim rate provides context for interpreting estimates of the take-up of tax-administered social programs (e.g., Dickert-Conlin, Fitzpatrick, and Hanson, 2005; Plueger, 2009; Jones, 2014). Studies that produce such estimates typically do so by first identifying a set of benefit-eligible households and then calculating the fraction of such households that claim the benefit. However, children in the nonclaiming household may have been claimed by some (potentially ineligible) other taxpayer (Leibel, Lin, and McCubbin, 2020). By focusing on filing at the level of the child rather than the household, the child claim rate may present a more complete picture of the degree to which children are actually benefiting from tax-administered social programs for children.

Third, a series of influential studies investigate intergenerational mobility using tax data (Auten, Gee, and Turner, 2013; Chetty et al., 2014a, 2014b, 2020). Because the matching of individuals across generations in such studies requires a child to have been claimed on a tax return, understanding the child claim rate sheds light on the degree to which these study results are representative of the overall US population.[1]

Finally, understanding the child claim rate speaks to the merits of administering new safety-net programs through the tax code. To the extent that most children are already being claimed on tax returns, take-up of a new child tax benefit program is

[1] A related question that comes up in this context is the share of US adults appearing on tax returns. Auten and Gee (2009) compare Census counts of adult residents with filers and estimate that 85.5 percent of residents over the age of 25 filed a 1996 return. More recent work investigates this question using income information returns to construct the US adult resident population (e.g., Larrimore, Mortenson, and Splinter, 2021).

likely to be high, especially in light of high documented rates of nonparticipation in nontax programs such as the Supplemental Nutrition Assistance Program, Medicaid, and unemployment insurance (e.g., Currie, 2004; Bitler et al., 2022; Ko and Moffitt, 2024).

The remainder of the paper is organized as follows. Section II provides background information on child benefits available through the tax code during our sample period. Section III describes our data and estimation strategy. Section IV presents our results. Section V concludes.

II. INSTITUTIONAL BACKGROUND

A large number of tax provisions depend on whether taxpayers claim children on their returns. For illustration, we describe in detail the rules governing one such provision, the CTC, before briefly describing the rules for other child-linked tax programs.

The CTC provides a tax credit to taxpayers based on the number of qualifying children they claim. The maximum per child credit varied over our sample period, ranging between $1,000 for 2017, $2,000 for 2018–2020, and $3,000–$3,600 for 2021.

There are a number of rules that govern which children are considered to be a "qualifying child" for purposes of the CTC. First, the child must be younger than 17 on the last day of the year. Second, the child must not provide more than half of his or her own support. Third, beginning in 2018, the child must have a Social Security number (SSN) authorizing him or her for work.[2] Fourth, the child must not file a joint return with his or her spouse.

There are additional limits on which taxpayers may claim which children for purposes of the CTC. In particular, the taxpayer must generally live with the child for more than half the year and must be related to the child through one of a specified set of relationships (e.g., the child's parent, grandparent, sibling, aunt, or uncle).[3] If no taxpayer satisfies these requirements with respect to a specific child for a tax year, then that child cannot be claimed for the CTC.[4] In contrast, if two or more taxpayers qualify to claim the same child during a single year, a series of tiebreaker tests determine which taxpayer's claim will prevail.

For most years in our sample period, the CTC was only available to taxpayers with income from work. In these years, children could not be claimed for the CTC if the only taxpayer who met the requirements to claim them did not have earned

[2] In contrast, the taxpayer claiming the child need not have an SSN to qualify for the credit.

[3] In certain cases, a parent who did not live with a child for more than half the year may nonetheless claim the child if the child lived with any parent, or any combination of parents, for more than half the year.

[4] This might occur if a child was being raised by an individual who does not satisfy the relationship test, such as the child's cousin, or if the child did not live with any one individual for more than half the year.

income. For 2021, however, the American Rescue Plan Act modified the CTC rules to eliminate the income phase-in. Thus, for 2021 only, children could be claimed for the CTC even by taxpayers without income from work. In addition to making the CTC fully refundable for 2021, this legislation provided for advanced CTC payments and increased the maximum CTC benefit for 2021 to $3,600 per child under the age of 6 and $3,000 per child between the ages of 6 and 18.

Another important child-linked tax benefit is the EITC, a refundable credit for low- and middle-income taxpayers with income from work. The EITC provides a larger credit the more children a taxpayer claims, up to a maximum of three children per return. The rules that determine which children a taxpayer may claim for the EITC are similar to those that govern the CTC, but there are several differences. First, the EITC is available for children up to the age of 19 (24 if the child is a full-time student) or any age if the child is permanently and totally disabled. Second, a taxpayer may claim a child for the EITC even if the child provides more than half her own support. Third, unlike the CTC, the EITC's residency requirement cannot be waived by a custodial parent to allow a noncustodial parent to claim a child. Fourth, taxpayers without an SSN authorizing work cannot claim a child for the EITC, even if the child does have a qualifying SSN.

There are a number of additional child-linked tax provisions beyond the EITC and CTC:

1. The Child and Dependent Care Tax Credit (CDCTC) provides a tax credit for child-care expenses. During most of our sample period, the CDCTC provided a nonrefundable credit of up to $3,000 in child-care expenses per child for up to two children.[5] It is generally available only for children below the age of 13.
2. The Head of Household Filing Status provides a larger standard deduction and lower marginal tax brackets for unmarried taxpayers who claim a child or other dependent.
3. Prior to 2018, taxpayers could claim children for purposes of the dependent exemption deduction. Then, following the elimination of that provision in the 2017 tax reform, dependents who would have qualified for the dependent exemption but who do not qualify for the CTC — including certain children — can be claimed for a smaller, nonrefundable credit of $500 per dependent.
4. The American Opportunity Tax Credit and various other provisions provide tax credits or other tax savings to those who pay for a dependent's college expenses.

[5] As with the CTC, the American Rescue Plan made the CDCTC refundable for the 2021 tax year and temporarily increased its generosity to $4,000 per child for that year.

5. The Premium Tax Credit is a refundable tax credit that subsidizes the cost of purchasing health insurance, including coverage that taxpayers obtain for their dependents.
6. During 2020 and 2021, the Internal Revenue Service (IRS) and Treasury Department disbursed three rounds of Economic Impact Payments (EIPs) to taxpayers and their dependents. These payments provided $500, $600, and $1,400 per dependent, respectively.[6] Taxpayers did not need to report earned income to qualify for these payments, and eligibility for the payments was limited to taxpayers with an SSN authorizing work. Taxpayers who received these payments for themselves or their dependents on the basis of a prior-year tax return or other administrative record were not required to file a current-year tax return claiming the dependent, but taxpayers who did not receive an automatic payment could claim the benefit by filing a current-year return and claiming themselves or a dependent.
7. A large number of other tax provisions are at least peripherally linked to the claiming of children, such as the deduction for unreimbursed medical expenses, which allows taxpayers to deduct medical expenses incurred on behalf of their dependents.

The eligibility requirements for children to qualify for these benefits vary across provisions. The requirements to claim a child for the CDCTC most closely resemble those of the EITC and CTC, whereas many of the other provisions impose looser requirements; for example, allowing taxpayers to claim biologically unrelated children who qualify as their dependents. One notable difference, which will be significant for the purposes of our analysis, in the child-eligibility rules across provisions is that although most of these benefits are limited to children residing in the United States during the tax year, the dependent exemption (for 2017) and the $500 credit for other dependents (for subsequent years) may be claimed for children living in other countries (any country if the child is a US citizen, and Canada or Mexico if the child is a noncitizen).

Claiming a child for purposes of one or more of these provisions generally requires filing a tax return.[7] Typically, taxpayers file returns during the calendar year following the tax year for which the child is being claimed. However, taxpayers may generally amend their returns for up to three years following the filing deadline; thus, a taxpayer could retroactively claim a child for tax year 2018 by filing a late or amended return for that year at any time prior to April 18, 2022.

[6] The first two EIPs were limited to dependents who were qualifying children; the third included other dependents as well.

[7] During 2020 and 2021, many taxpayers who had claimed children in prior tax years automatically received EIPs, the advanced CTC, or both prior to filing the year's tax return. In 2021, the IRS provided a simplified portal to allow families to claim EIPs and the expanded CTC without filing a full tax return. In our analysis, we treat children who were claimed through this portal the same way as children who were claimed on a standard tax return.

III. METHODOLOGY AND DATA

Our main parameter of interest is the child claim rate for the United States. The *child claim rate* for year t, CCR_t, is defined as the share of children residing in the United States during year t that are claimed on at least one US tax return filed for tax year t:

$$CCR_t = \frac{\text{children claimed on a year } t \text{ tax return and residing in US in year } t}{\text{children residing in US in year } t}. \quad (1)$$

A child may be claimed by a taxpayer for purposes of a single tax provision or for multiple tax provisions; we classify a child as claimed in a year if she appears on one or more returns that are filed for that year. Note that the child claim rate differs from the *take-up rate* for a particular tax benefit, in that the latter is typically defined as the fraction of individuals who claim a benefit from among the population of individuals who are eligible to do so. In contrast, the child claim rate is not defined with respect to eligibility for any particular benefit.[8] We focus on children who are aged 0–16 at the conclusion of a year, which corresponds to the age cutoff for the CTC during most of our sample period.

A natural approach to measuring the child claim rate would be to compare the count of children who appear on tax returns with Census-based estimates of the US population. However, some of the children claimed on US tax returns may not actually live in the United States.[9] In particular, if some taxpayers claim children living outside of the United States, the child claim rate derived from this approach would be biased upward. Indeed, Cilke (2014) and Larrimore, Mortenson, and Splinter (2021) provide evidence that for some ages, the number of children claimed on returns exceeds the number of children physically present in the United States, suggesting this issue is likely to be important in practice.[10]

To avoid this concern, we focus on a specific subpopulation of US children for which we can reliably identify US residence and tax-claiming status: children listed

[8] The denominator of the child claim rate includes some children residing in the United States who do not qualify to be claimed for any tax benefit and excludes some children residing outside of the United States who do qualify to be claimed for one or more US tax benefits. Depending on the year, the first category may include children whose parents have no income from work or certain children who are not US citizens.

[9] Children living outside of the United States may be claimed on a US resident's tax return either in violation of the law or with respect to a tax provision that does not require the child to be physically present in the United States or living with the taxpayer during the year. Provisions in the latter category include the dependent exemption for tax year 2017 and the credit for other dependents for subsequent tax years.

[10] An alternative approach would be to define the universe of US children based on the Social Security Numident file of birth records; however, this would likely underestimate the true child claim rate because it includes children who received an SSN but who are no longer living in the United States. In addition, the version of the Numident file we can access does not allow us to determine the date that non-US-born individuals immigrated to the United States, so we do not know whether they were present during a particular prior tax year.

on a health insurance information return (Form 1095 A/B/C). These forms are provided to the IRS by private and public insurers, self-insured employers, and health insurance marketplaces and report the months, if any, that an individual was enrolled in health insurance coverage during a calendar year. One Form 1095 is annually provided per health insurance policy and lists each individual (including children) who was enrolled in health insurance through the policy for one or more months of coverage during the calendar year. In general, Form 1095s are only issued for US residents.[11] For this reason, restricting our focus to children who received a Form 1095 allows us to be reasonably sure we have identified a group that spent at least some portion of the year in the United States. At the same time, a downside of our approach is that our sample excludes children who were uninsured during each month of the year. Thus, the parameter that we directly estimate is the child claim rate for the insured population, CCR_t^I, defined as

$$CCR_t^I = \frac{\text{children claimed on a year } t \text{ tax return and reported on a Form 1095 for year } t}{\text{children reported on a Form 1095 for year } t}. \quad (2)$$

To construct our sample, we link several sources of administrative data maintained by the IRS. In particular, each Form 1095 contains a taxpayer identification number, or in cases where a taxpayer identification number is not available, a name and birth date for the covered individual.[12] We use this information to match children to tax returns on which they are claimed and to Social Security records to obtain the child's age during the year. For additional details about these forms and a similar matching process, we refer readers to Lurie and Pearce (2021).

To measure the numerator of the child claim rate, we treat a child as having been claimed on a return if the child is listed as a dependent on the return, which occurs when the child is claimed for any of the tax provisions described in the previous section. Although a child may be claimed for a given benefit on only one return in a given year, in some cases, the same child may be claimed for different benefits on different returns for the same year. In our data, approximately 3.6 percent of all children claimed within a given year appear on multiple tax returns.[13] In such cases, we treat the child as claimed on a single return only, randomly assigning the child to one return from the set of returns on which the child appears for that year.[14]

[11] In rare cases, nonresidents may receive a Form 1095, typically if they receive Medicare or, less frequently, if they work for a US employer.

[12] Children appearing on a Form 1095 who could not be identified using this methodology, or who did not appear in the Social Security Numident file of birth records, were excluded from our sample. For this reason, children with individual tax identification numbers are likely underrepresented in our sample.

[13] This percentage includes children claimed as dependents by two or more taxpayers and children who file a dependent return.

[14] One potential limitation of the tax return data we observe is that it reflects only the initially filed return rather than adjustments from amended returns or following an audit. Another limitation of our data is that for the approximately 8 percent of returns that are not electronically filed each year, we observe only the first four dependents claimed on the return. To address this issue, we assessed a

Table 1
Child Claim Rate (%) by Year

	Insured	Child Claim Rate	Worst-Case Lower Bound	Worst-Case Upper Bound
	(1)	(2)	(3)	(4)
2017	92.0	95.1	87.5	95.5
2018	93.8	95.4	89.5	95.7
2019	93.0	96.5	89.8	96.7
2020	91.8	96.2	88.2	96.5
2021	92.1	95.5	88.0	95.9

Note: Column 1 reports the estimated fraction of US children who appear on a Form 1095 by year; the estimate is derived by dividing the total number of US children appearing on a Form 1095 by the total number of children estimated by the US Census (2020) to live in the United States. Column 2 reports our baseline estimate of the child claim rate by year; the estimate is equal to the fraction of children appearing on a Form 1095 who are claimed on one or more tax returns. Columns 3 and 4 report extreme bounds on the child claim rate for the overall population of US children (not limited to children claimed on a Form 1095) under the assumptions that uninsured children are claimed at a rate of 0 (Column 3) or 100 percent (Column 4).

Finally, to shed light on the degree to which our sample captures the population of US children, Column 1 of Table 1 compares the number of children listed on a Form 1095 with Census-based estimates of the number of children present in the United States (US Census, 2020). The results suggest that 92–94 percent of the children living in the United States are included in our sample, depending on the year.[15] In the next section, we use these results to shed light on what the estimated child claim rate for our sample implies about the child claim rate for the overall population.

IV. RESULTS

This section reports our estimated child claim rates. We first provide national estimates. We next explore heterogeneity in the child claim rate by taxpayer and child characteristics.

A. National Estimates

Column 2 of Table 1 reports the estimated child claim rate for tax years 2017 through 2021. The child claim rates are estimated from our main sample, children

random 0.1 percent sample of tax year 2015 returns, for which we do observe all dependents on each return, and determined that approximately 0.17 percent of dependents were missing for this reason. Consequently, in all analyses, we scale our estimate of the number of children claimed on returns by $1/(1 - 0.0017)$.

[15] Table A1 (appendix is available online) reports the estimated fraction of US children appearing on a 2018 Form 1095 by the child's age; the results suggest that a lower share of children, approximately 83–88 percent, appear on a Form 1095 for their first year of life, likely due to reporting delays.

appearing on a Form 1095. Among this group, 95–96 percent of children were claimed each year. The estimated child claim rate peaks in 2019, which is somewhat surprising given that 2020 and 2021 both saw expansions in the number of children who were eligible to be claimed for a tax benefit. However, the lower claim rate in more recent years could reflect the fact that some children are claimed on late returns, which are not included in our data for the most recent years.[16] Consistent with this hypothesis, when we compare returns filed within the same calendar year as the filing deadline — for example, tax year 2020 returns filed before December 31, 2021 — we observe that the child claim rate increases steadily by year (Figure 1).

As noted above, there are several reasons a child might not be claimed on a return, ranging from misperceptions or inattention to voluntary nonfiling because the child would not qualify the parent for benefits. Focusing on the child claim rate for tax year 2021 can help distinguish among these possibilities, because unlike other years in our sample, virtually all US children qualified for child tax benefits in 2021 because of the 2021 expanded CTC and the EIPs. As such, it is striking that the child claim rate is only slightly higher for 2021 than for prior years, even after restricting the analysis to timely filed returns. That being said, it may be misleading to directly compare child claiming in 2021 with earlier years due to the distinctive nature of tax administration in 2021.[17]

A limitation of the estimated child claim rates reported in Column 2 of Table 1 is that they are based only on those children who appear on a Form 1095; the estimates could therefore be biased for the overall child claim rate if uninsured children are claimed at higher or lower rates than children with insurance. Columns 3 and 4 of Table 1 report worst-case bounds for the overall child claim rate based on the most extreme values that the child claim rate might take on for the uninsured population, in the spirit of Manski (1990). Under our maintained assumption that children reported on a Form 1095 for year t resided in the United States during year t, we can write

$$CCR_t = I_t CCR_t^I + (1 - I_t) CCR_t^{UI}, \tag{3}$$

where I_t denotes the insurance rate among US-resident children in year t and CCR_t^I and CCR_t^{UI} refer to the respective child claim rates among the insured and uninsured populations. Using the annual insurance rates reported in Column 1 of Table 1, we can calculate bounds for CCR_t by alternatively imposing that CCR_t^{UI} equals 0

[16] The deadlines for filing a late return to claim benefits for tax years 2020 and 2021 are May 17, 2024, and April 18, 2025, respectively. In addition, there can be delays in returns being posted to the administrative tax data, especially for returns filed by paper. Our filing data were pulled in late October 2023.

[17] Factors that could affect the generalizability of tax year 2021 results include the COVID-19 pandemic and related challenges for tax administration, the recency of the enacted benefits, and our lack of data through the end of the time period for filing late returns for that year. We provide evidence consistent with these considerations below.

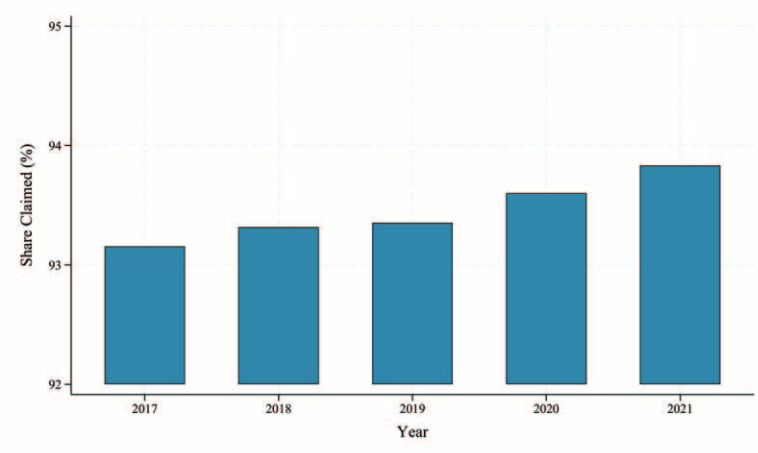


Figure 1. Child claim rate among timely filed returns. The fraction of US children who were claimed on a tax return for the specified tax year. For this figure, children are treated as being claimed on a return for a tax year only if the return was filed prior to December 31 of the calendar year following the tax year. The sample consists of all children who received a Form 1095 reporting health insurance coverage for one or more months in the specified tax year.

or 1. Depending on the year, this analysis implies a lower bound for the overall population child claim rate of 88–90 percent and an upper bound of 96–97 percent.

We next consider several analyses to shed light on the degree to which our estimate of the insured child claim rate extrapolates to the overall population of US children. First, we attempt adjusting our estimate to account for the correlation between child claiming and health insurance coverage. More precisely, we can write the child claim rate for the full US population, CCR, as a function of the child claim rate among children with insurance, CCR^I, and the covariance between a child having insurance (indicated by $I_i \in \{0, 1\}$) and being claimed on a tax return (indicated by $C_i \in \{0, 1\}$):

$$CCR = CCR^I - \frac{\text{Cov}(C_i, I_i)}{E[I_i]}. \tag{4}$$

To estimate $\text{Cov}(C_i, I_i)$, we rely on the 2016 Medical Expenditure Panel Survey (MEPS), administered by the Agency for Healthcare Research and Quality, which contains information about whether a child has health insurance and whether the child is the dependent of an individual who files a tax return. The estimated covariance between health insurance and being claimed is only slightly positive: $\text{Cov}(C_i, I_i) \approx 0.001$. Combining this estimate with the child claim rate among children with 1095s and the share of children with 1095s from Columns 1 and 2 of Table 1 allows us to estimate the child claim rate for the full population. Because this analysis suggests that having health insurance and being claimed are almost entirely uncorrelated, the adjusted estimates (reported in Column 1 of Table 2) closely track the unadjusted estimates.

Table 2
Imputed Child Claim Rate (%) by Year

	Covariance Adjusted (MEPS)	Linear Extrapolation	Any Return	Any Return (Likely Resident)
	(1)	(2)	(3)	(4)
2017	95.0	94.6	98.6	96.5
2018	95.3	95.1	97.8	97.0
2019	96.4	96.2	98.3	97.5
2020	96.0	95.9	96.4	95.7
2021	95.4	95.4	95.8	95.3

Note: The table reports estimates of the child claim rate by year under alternative assumptions concerning the statistical relationship between child claiming and whether a child appears on a Form 1095. The estimate in Column 1 adjusts for the empirical correlation between child claiming and health insurance coverage that is present in MEPS data. Column 2 imputes the child claim rate among children without coverage reported on a Form 1095 by linearly extrapolating the relationship between coverage and child claiming observed in our sample and reflected in Figure A1. The reported child claim rate in Column 2 is the weighted average of the baseline child claim rate among insured children (reported in Table 1, Column 2) and the estimated child claim rate among children without reported coverage that is obtained from this method, where the weights are derived from the estimated share of US children who received a Form 1095 (reported in Table 1, Column 1). Column 3 is the ratio of children claimed on US tax returns to the number of children present in the United States, reported by the US Census (2020). Column 4 is the same as Column 3 except that the numerator reflects the subset of children claimed on US tax returns for the Child Tax Credit or the Earned Income Tax Credit, or who received a Form 1095.

A potential concern with the MEPS-based adjustment is that response to the MEPS may be positively correlated with appearing on a Form 1095, which would imply that both approaches exclude the same individuals. We therefore consider an alternative approach for extrapolating our 1095-sample results to the overall population of children in the United States by taking advantage of monthly data on health insurance coverage. Figure A1 plots the relationship between child claiming and months of reported coverage during the year, which are reported on the Form 1095s we observe. The figure shows that the relationship between child claiming and months without coverage is downward-sloping and approximately linear, with each additional month of coverage associated with a 0.38 percentage point increase in the average claim rate. Extrapolating this relationship out-of-sample to children with 0 months of coverage implies an average claim rate for uninsured children of 90.6 percent. Column 2 of Table 2 incorporates this estimated claim rate for uninsured children along with our main estimates in Column 1, weighting by the share of children who appear on a Form 1095 (Column 1 of Table 1). Here as well, the estimated child claim rates for the population are similar to those reported in Columns 1 and 3, although we caution that the results of this analysis could be biased if the true relationship between child claiming and coverage varies nonlinearly between 0 and 1 month of coverage.

Our third approach to recovering the child claim rate for the overall population is to attempt to estimate that parameter directly, without restricting the sample to children reported on a Form 1095. This naive estimate of the child claim rate, CCR_t^N, is defined as

$$CCR_t^N = \frac{\text{children claimed on a year } t \text{ tax return}}{\text{children residing in US in year } t}. \quad (5)$$

Specifically, the estimates in Column 3 of Table 2 are obtained by comparing the total number of distinct children claimed on tax returns originating from a US address with Census counts for the total number of children present in the United States drawn from US Census (2020). As discussed in Section III, a potential concern with this approach is that some of the children claimed on US tax returns may not be physically present in the United States, even if the taxpayers claiming these children are themselves located in the United States. Because such children would be included in the numerator of the estimated child claim rate but not the denominator, this estimate is likely to be biased upward. Indeed, as shown in Column 3 of Table 2, the child claim rate derived from this approach exceeds that derived from our main sample. In fact, in each year, the naive estimates exceed the upper bound for the national child claim rate reported in Column 4 of Table 1.[18]

To reduce the potential for bias in the Column 3 estimates due to some claimed children not being physically present in the United States, Column 4 of Table 2 includes in the numerator of the naive child claim rate only those children who were claimed on a year *t* tax return and who either appear on a Form 1095 or who were claimed for either the CTC or EITC. The rationale behind this additional restriction is that children in these categories are more likely to have been physically present in the United States during the year in question. In particular, recall that insurers are directed to send Form 1095s only to US residents and that children claimed for the CTC or EITC are generally supposed to have resided with the taxpayer who claims them for at least half the year. Even after imposing these restrictions, the estimated child claim rates for 2017–2019 presented in Column 4 exceed the upper bound implied by the 1095 data, suggesting the possibility of a Census undercount for the US child population or that, notwithstanding the legal requirements, some children claimed for the EITC and CTC actually resided outside the United States during those tax years.

Finally, our measure of child claiming is annual, but for some purposes it may be important to understand the dynamics of child claiming across time. For example, children who are unclaimed in one year may still automatically receive benefits for that year if they were claimed during a prior year, as occurred with the administration

[18] A different potential source of bias is that the Census estimates undercount the total number of children present in the United States; these biases may have been particularly severe during the COVID-19 pandemic.

of the EIPs and advanced CTC. Figure A2 reports the share of children who were unclaimed in one year but were claimed in a prior or subsequent year during our sample. Among children who were unclaimed for 2019, we estimate that 63 percent were claimed for either the prior or subsequent tax year, and 76 percent were claimed within two prior or subsequent tax years.

B. Heterogeneity in the Child Claim Rate

This subsection explores potential sources of heterogeneity in the child claim rate. Unless otherwise noted, we report results for tax year 2018. We primarily focus on that year because it reflects changes to the tax law adopted in the 2017 tax reform and the filing year occurred before the onset of the COVID-19 pandemic.

Figure 2 investigates heterogeneity in the child claim rate by the age of the child. The estimated child claim rate peaks for four-year-olds, of whom approximately 96 percent are claimed, and declines monotonically for younger and older children. Despite these relative differences, the absolute level of claiming is quite similar by age; the minimum claim rates are for children born during the tax year (93.5 percent) and 16-year-olds (94.5 percent).[19] However, a lower share of very young children appear on a Form 1095 (Table A1), which leads to wider bounds for the population child claim rate for those ages (Figure A3). Interestingly, although older children are more likely to file their own tax return (Figure A5), this behavior is sufficiently infrequent that it does not appear to explain the lower child claim rates we observe for older children (Figure A6).

Figure 3 investigates heterogeneity in the child claim rate by state. The state with the highest claim rate for 2018 was Utah (96.9 percent), and the state with the lowest claim rate for that year was West Virginia (92.8 percent). Table A2 reports the full set of estimated child claim rates by state.

We next investigate heterogeneity in the child claim rate by parental income. Child claiming could vary by income for a number of reasons. For example, during the majority of our sample period (2017–2019), taxpayers without earned income received no benefit from claiming children on their tax returns for the EITC or CTC, so the incentive for such taxpayers to claim their children was limited.[20] Similarly, taxpayers' take-up of credits for which they do qualify may also vary by income.

Because we do not observe reported income for children who are not claimed, we measure income using the third-party reported wages of the child's parents. We primarily focus on mothers rather than fathers because of the greater likelihood

[19] We observe a similar pattern for the other years in our sample period, with the exception of 2021, for which we observe high and monotonically declining rates of claiming the youngest children (see Figure A4).

[20] For tax year 2020, parents without income from work who had not filed a tax return during 2018 or 2019, and had therefore not received an automatic EIP, could benefit from filing a tax year 2020 return. For tax year 2021, nonworking parents had an incentive to file a return to claim the expanded CTC.

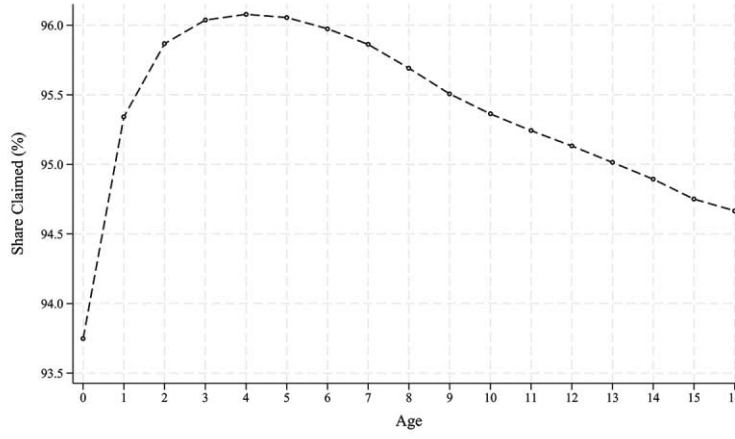


Figure 2. Child claim rate by age. The fraction of US children who were claimed on a 2018 tax return, by the age of the child. Age is measured as of December 31, 2018. The sample consists of all children who received a Form 1095 reporting health insurance coverage for one or more months in 2018.

that children reside with the former compared with the latter.[21] Figure 4 plots the results of this analysis for 2018. The figure shows that the child claim rate rises by income, from approximately 90 percent for children whose mothers earn low incomes to approximately 98 percent for children whose mothers have annual wage earnings of $20,000 or greater. Figure A7 reports similar results when replicating the analysis with the sum of wages for the child's mother and father.[22]

We find a similar story when we use the form of health insurance coverage as a proxy for socioeconomic status. In particular, because Medicaid eligibility is means-tested, the subpopulation of children who obtain health insurance coverage through these programs tends to be lower income than our overall sample. Table A3 reports the child claim rate by whether the child was enrolled in one or more months of Medicaid coverage during the year. In each year, the child claim rate is substantially lower for children with Medicaid coverage than for children with other forms of insurance. In 2018, for example, only 92 percent of children on Medicaid were claimed on a tax return, compared with almost 98 percent of children who were enrolled in other forms of health insurance coverage.

[21] Using the 2018 Current Population Survey, for example, we estimate that 91.3 percent of children live with their mother, compared with 73.4 percent who live with their father.

[22] For tax year 2021, we observe higher child claim rates for children with the lowest-income parents but lower child claim rates for all other children (Figures A8 and A9). This pattern suggests one should exercise caution before directly comparing 2021 results with earlier years, because tax administration, beyond changes in CTC eligibility, appears to have shaped child claim rates for that year.

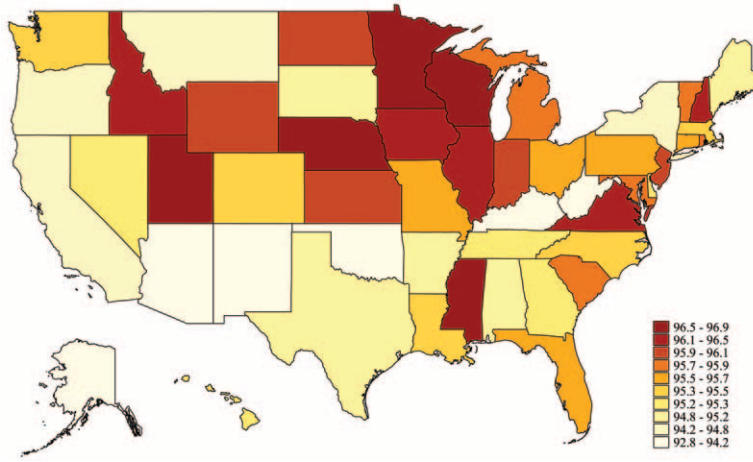


Figure 3. Child claim rate by state. The percentage of US children who were claimed on a 2018 tax return, by the state in which the child resides. A child's state of residence is measured based on the state reported on the Form 1095 that lists the child. The sample consists of all children who received a Form 1095 reporting health insurance coverage for one or more months in 2018.

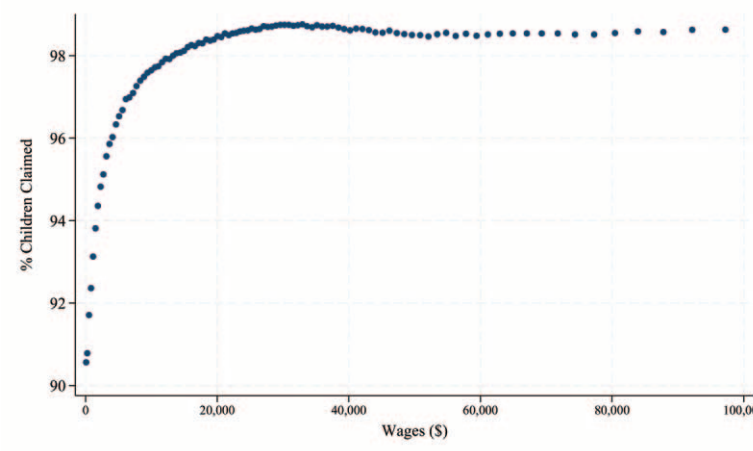


Figure 4. Child claim rate by mother's income. The fraction of children claimed on a 2018 tax return by the child's mother's income from wages in that year (defined as the sum of Form W-2s received for the year). The sample consists of children aged 0–16 who had one or more months of health insurance coverage reported on a Form 1095 for 2018. Children were matched to mothers using Social Security data derived from birth records. Approximately 3.6 percent of children in the sample were not matched to a mother; the average claim rate for this group was 78.5 percent. When Social Security records list multiple mothers for a single child, the child is linked to the mother with the most recent posting date. The figure is a binned scatterplot that includes mothers with positive incomes below $100,000. Approximately 28.8 percent of mothers had no wage income; the average claim rate for children in this group (not included in the figure) was 91.8 percent. Approximately 4.8 percent of mothers had wage income above $100,000; the average claim rate for children in this group (not included in the figure) was 98.9 percent.

We next study the relationship between child claiming and neighborhood-level income, using the zip code reported on the child's Form 1095 to match children to neighborhoods.[23] Variation in neighborhood income may be related to variation in child claiming due to differences in the incomes of the individuals living in those neighborhoods or through mechanisms that operate at the neighborhood level, such as the prevalence or quality of tax preparers. We find that the child claim rate is increasing in neighborhood income, with an estimated claim rate of approximately 93 percent for tracts in which 50 percent of households earn more than $30,000, compared with approximately 96 percent for tracts in which 90 percent of households do so (Figure 5A). We observe a similar relationship between the child claim rate and the share of a Census tract who attended college (Figure 5B).

Figure 6 investigates heterogeneity in child claiming by the race and ethnic makeup of children's neighborhoods. We measure neighborhood race and ethnicity by linking children's zip codes (reported on their Form 1095) with aggregated Census tract-level data. We find that the child claim rate increases in the share of a tract that is White (Panel A) and decreases in the share of a tract that is Black (Panel B) or Hispanic (Panel C).

V. DISCUSSION

In this paper, we have investigated the claiming of US children on tax returns. Among children with health insurance, we estimate that more than 95 percent are claimed. Of course, children without health insurance may be claimed at different — and, we would expect, lower — rates; for example, lower-income children are less likely to be enrolled in health insurance and less likely to qualify for child tax benefits. Along similar lines, children who are not legally authorized to be present in the United States are less likely to be listed on a Form 1095 and are probably also less likely to be claimed on a tax return.

Despite not being able to directly observe child claiming for children without health insurance, the fact that the vast majority of US children do have health insurance allows us to estimate informative worst-case bounds for the overall child claim rate. These bounds imply that the overall child claim rate is at least 88 percent. Our results, therefore, suggest that the significant majority of children in the United States have some degree of contact with the income tax system.

Although the overall child claim rate is quite high, we document lower child claim rates among children in lower-income families and among children residing

[23] We link zip code to Census tract and use the 2018 five-year American Community Survey to measure the average share of households in a tract with annual income of $30,000 or greater. We match tracts to zip codes using the crosswalk provided by the Department of Housing and Urban Development (US HUD, 2019). When multiple tracts match to a single zip code, we aggregate to the zip code level based on the ratio of addresses in the tract-zip match. We are unable to match approximately 2.4 percent of the children in our sample to a Census tract using a zip code reported on the child's Form 1095; we exclude these children from this analysis.

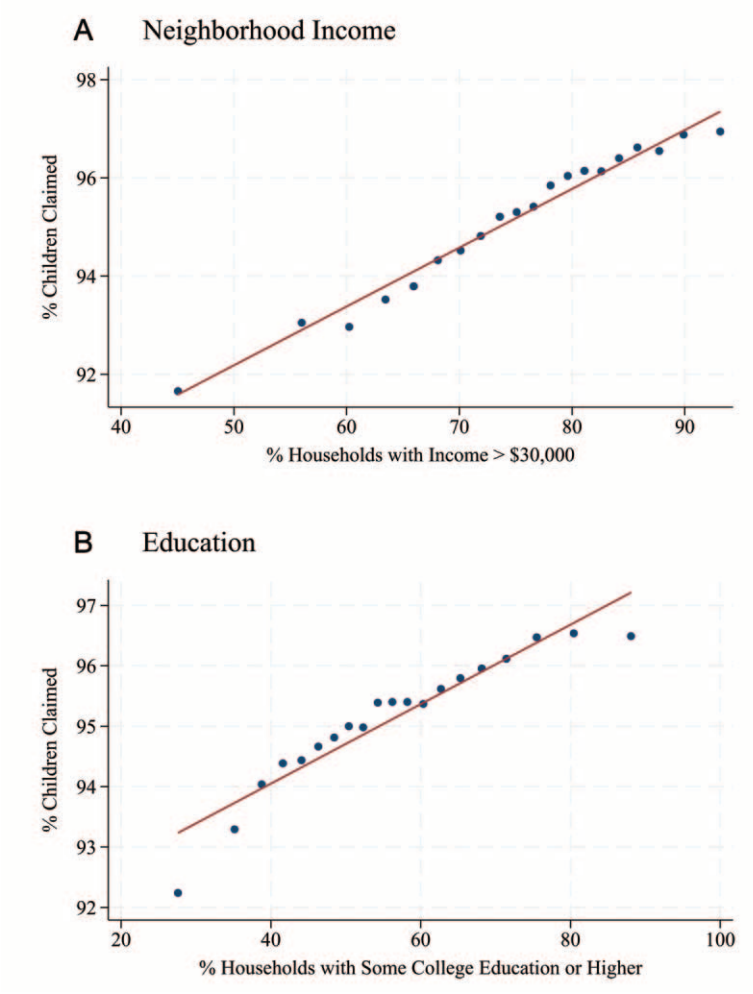


Figure 5. Child claim rate by neighborhood characteristics. Binned scatterplot of the fraction of US children claimed on a 2018 tax return, by income (Panel A) and educational attainment (Panel B) of the child's neighborhood. Neighborhood income is measured as the fraction of households in a US Census tract with annual income more than $30,000; educational attainment is measured as the fraction of household heads who attended at least some college. Both measures are derived from the 2018 American Community Survey five-year estimates. Children are linked to Census tracts using the zip code reported on their Form 1095. The binned scatterplot was constructed using weights equal to the number of children reported in a particular zip code. The solid line represents the best linear fit. The sample consists of all children aged 0–16 who received a Form 1095 reporting health insurance coverage for one or more months in 2018.

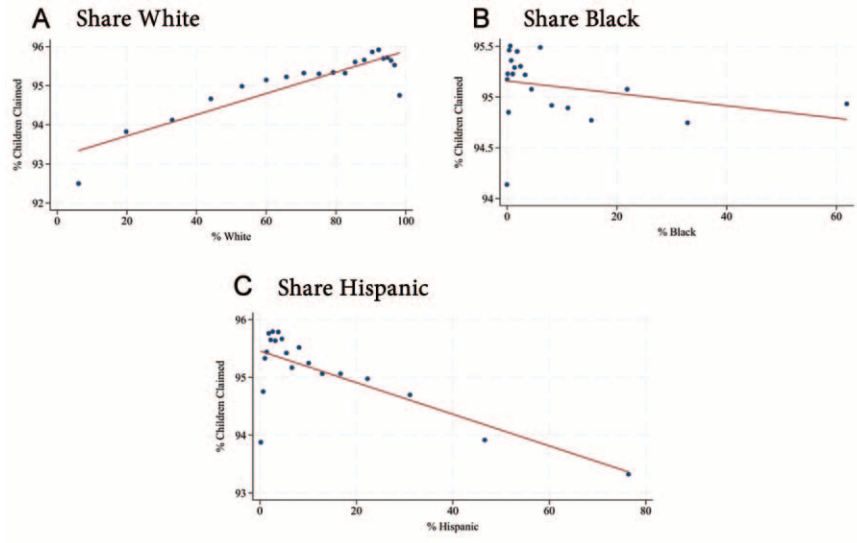


Figure 6. Child claim rate by neighborhood racial composition. Binned scatterplot of the fraction of US children claimed on a 2018 tax return, by the racial or ethnic makeup of the child's neighborhood. Neighborhood race or ethnicity is measured as the share of households in a US Census tract with the specified race or ethnicity. Children are linked to Census tracts using the zip code reported on their Form 1095. Average race or ethnicity for a Census tract is measured from the 2018 American Community Survey five-year estimates. The binned scatterplot was constructed using weights equal to the number of children reported in a particular zip code. The solid line represents the best linear fit. The sample consists of all children ages 0–16 who received a Form 1095 reporting health insurance coverage for one or more months in 2018.

in neighborhoods with more Black or Hispanic residents. Even among these groups, however, our estimated child claim rates remain high, generally above 90 percent. On the other hand, the heterogeneity in child claiming that we observe among the insured may be attenuated relative to the heterogeneity that exists among the overall population — for example, Lurie and Pearce (2021) report that insurance coverage is positively associated with income.

Our findings have important implications for the design of safety-net programs. In particular, because so many children are already claimed on tax returns, and because children claimed for one benefit are typically claimed for other benefits for which they qualify, administering a new benefit through the tax system is likely to reach most children without necessitating substantial additional costs on children or their parents. A notable exception concerns the lowest-income children, for whom we document lower child claim rates. Extending eligibility to children who have traditionally been excluded from tax-administered safety-net benefits may increase the child claim rate by increasing the incentives for taxpayers to file returns claiming these children.

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The views expressed in this paper are those of the authors and do not necessarily reflect the views of the US Treasury Department. Any taxpayer data used in this research were kept in a secured IRS data repository, and all results have been reviewed to ensure that no confidential information is disclosed.

DISCLOSURES

The authors have no financial arrangements that might give rise to conflicts of interest with respect to the research reported in this paper.

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