

# The Anti-Poverty and Labor Supply Effects of Replacing a Child Tax Credit with a Child Allowance

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Society of Government Economists—ASSA Meetings

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Disclaimer: This paper, which has been subject to a limited Census Bureau review, is released to inform interested parties of research and to encourage discussion. Any opinions and conclusions expressed herein are those of the authors and do not represent the views of the U.S. Census Bureau. The Census Bureau has reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied to this release, authorization numbers CBDRB-FY2021-CES005-024 and CBDRB-FY2021-CES005-028.

# Preview of results

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- BBB Act would have replaced the current CTC that encourages work with a somewhat larger child allowance that discourages work by not requiring earnings or a tax liability
- We estimate that the change to a child allowance would lead approximately 1.5 million working parents to exit employment
  - Others have assumed no employment effect
- The reduction in employment would eliminate a third of the poverty reduction and all of the deep poverty reduction.

# Two major innovations of our paper

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- Unlike previous research, we recognize the decrease in the return to work from eliminating the CTC
  - Some previous authors recognized the change in marginal incentives, not the inframarginal one
  - Previous poverty simulations assumed no change in employment
- Use Comprehensive Income Dataset (CID)
  - Links CPS ASEC to large set of tax records and administrative government program data
  - First time CID has been used to simulate the effects of proposed policies

# Outline

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- A frequently cited CNSTAT/NAS report “A Roadmap to Reducing Child Poverty” blundered but hasn’t been corrected
- The report found negligible employment effect due to omission of the substitution effect in modelling the CTC
  - They incorporated the substitution effect when modeling changes to the EITC (which affects the same population in the same way; furthermore the changes to the EITC they considered were smaller than the CTC changes)
  - Their modeling approach consistently applied to all tax credits for low-income families leads to larger estimates than ours
- Our approach
- Our results on employment and poverty
- Other results, caveats, some big picture issues

# Consistently Applying CNSTAT/NAS Methods



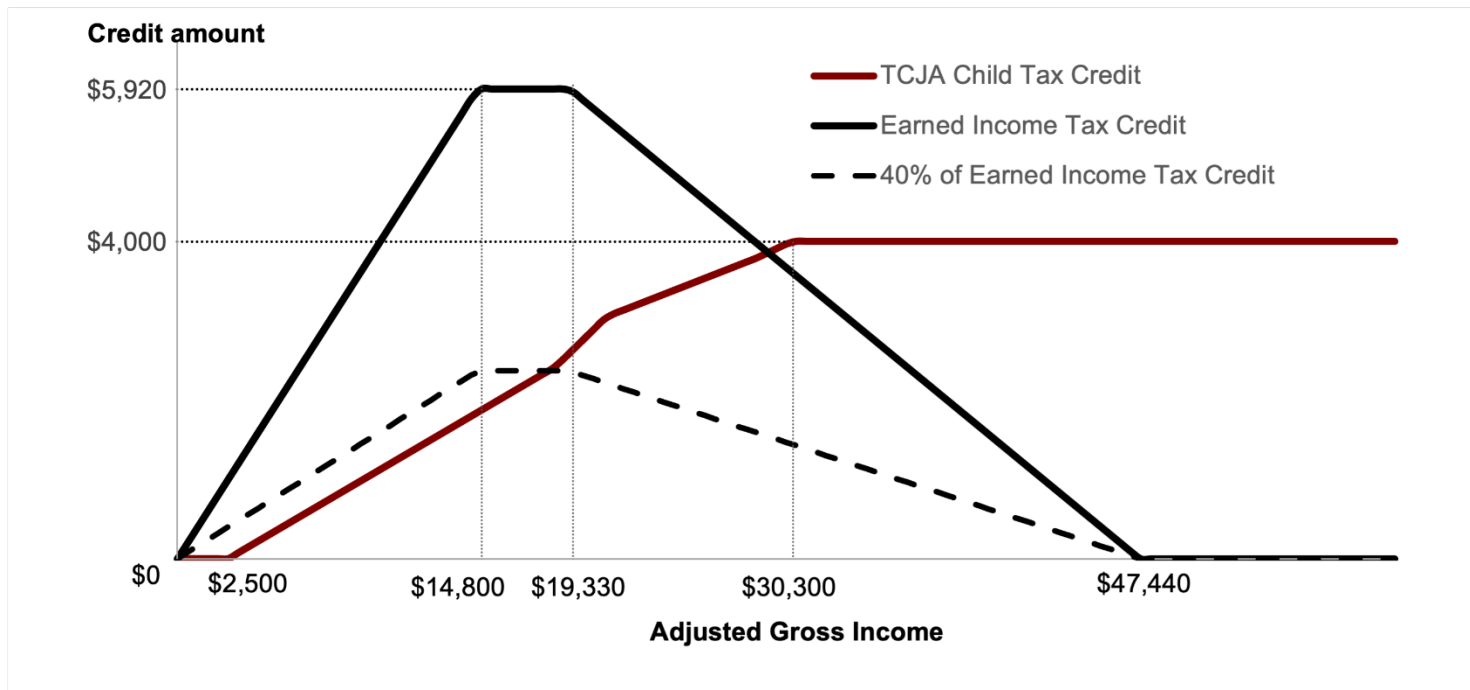
# NAS finding influenced policy debate on the change to a child allowance

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- NAS simulated the labor supply and anti-poverty effects of a policy similar to the BBB child allowance
  - Replaced pre-existing CTC with child allowance of \$3,000 per child
  - Did not recognize that eliminating the pre-existing CTC decreases the return to work
- NAS report has heavily influenced policy debate
  - Letter to Congressional leaders signed by 462 economists stated child allowance would have “minimal” or “negligible” employment effects citing the report
  - Other simulations cited by White House ignore employment effects relying on NAS report (Collyer et al. 2021)

# NAS found substantial employment effects from 40% increase in EITC

Credit Amounts and Work Incentives of CTC, EITC, and 40% of EITC, Single Parent with Two Children, 2020



NAS found that 40% increase in EITC would bring 771,000 new single mothers into employment

Source: Internal Revenue Service, Congressional Research Service, Authors' calculations

Notes: CTC and EITC parameters are based on 2020 tax law (all dollar values expressed in 2020 nominal terms). All adjusted gross income is assumed to come from earned income, and the family is assumed to take the standard deduction and claim no other non-refundable tax credits.

# NAS would have found large employment effects if it had modelled CTC consistently

<b>0.056</b>	Percentage point increase in employment per \$1,000 increase in return to work	NAS 2019 p. 413
<b>×</b>		
<b>\$2.048</b>	Mean decrease in return to work among single mothers due to child allowance, in thousands \$	Our estimate
<b>×</b>		
<b>10.14</b>	Millions of single mothers who are non-disabled, not enrolled in school and have child under 18	NAS 2019 p. 488
<b>+</b>		
<b>0.15</b>	Millions of parents exiting workforce due to income effect	NAS 2019 p. 550
<b>1.31*</b>	<b>Millions of parents exiting workforce</b>	

*\*Does not include substitution effect for single fathers and married couples*



# Our approach



# Using the CID to address income misreporting in survey data

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- Use 2017 CPS ASEC (2016 income year), updated to 2022
- Our measure of income is after taxes and transfers including non-medical in-kind transfers
- Link administrative data to correct for survey misreporting
  - **Market income:** 1040s, W-2s, DER; 1099-R
  - **Social insurance and means tested transfers:** OASDI (PHUS & MBR); HUD rental housing assistance (PIC/TRACS); SSI (SSR)
  - **Other:** Numident (to capture birthdates of children)
- All filers get the CTC, and assume 75 percent of non-filers in base results.
- Account for complex families
  - Individuals outside of family may claim survey children

# Simulate extensive margin labor supply response

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- Focus on work/nonwork decision; we don't account for hours changes so we understate the labor supply response
- Substitution effect is product of percent change in return to work and work participation elasticity for each worker
  - Change in return to work typically equal to pre-existing CTC benefit
  - Elasticity of 0.75 for single mother EITC recipients
    - See McClelland and Mok (2012); Gelber and Mitchell (2012); Nichols and Rothstein (2016); Goldin et al. (September 2021)
  - Elasticity of 0.25 for all other workers
    - See Chetty et al. (2012); CBO (2012); Penn Wharton Model
- Income effect is product of percent change in income and participation elasticity for each worker
  - We follow NAS, using elasticity of -0.085 for single mothers and -0.05 for all other workers; on low end, especially in long run

# Details of anti-poverty effect simulations

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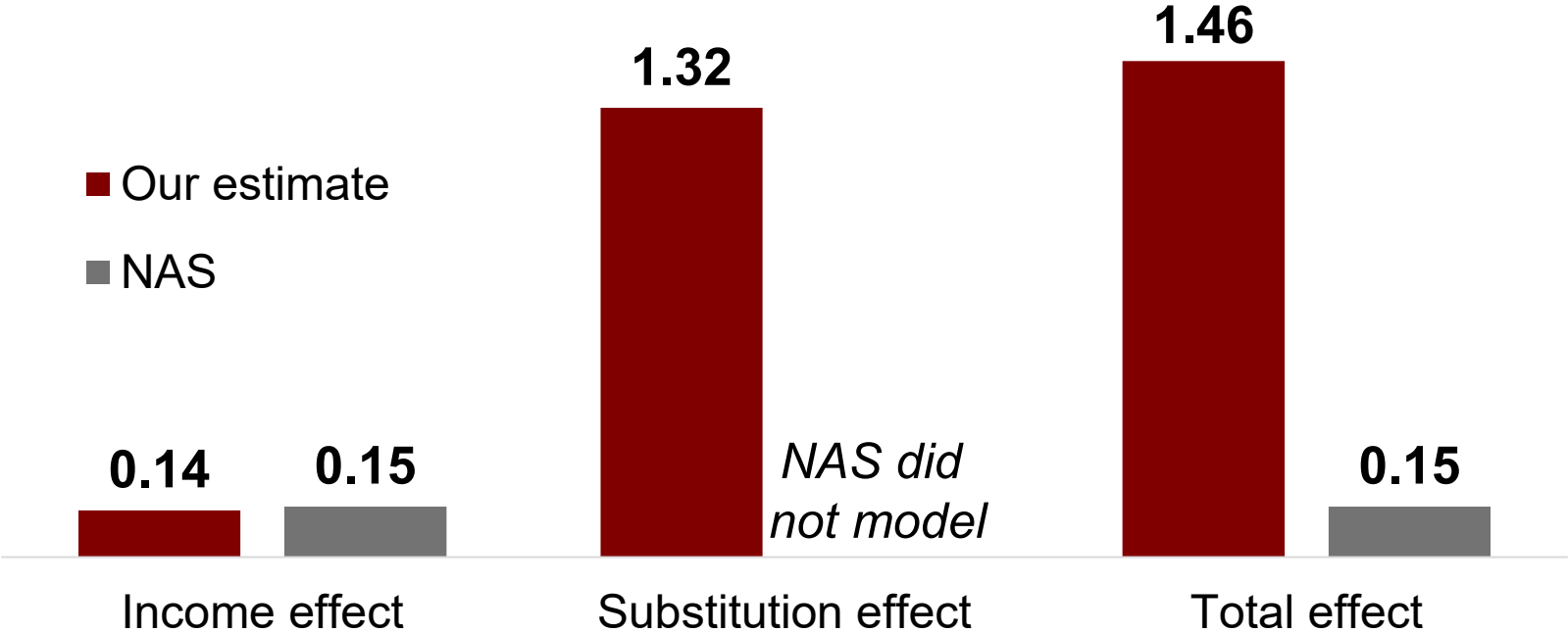
- We use an after-tax income plus non-cash benefit definition of income and account for survey error in income, transfers and taxes
- Since accounting for income underreporting as well as taxes and in-kind transfers means many incomes are much higher we raise the thresholds (by 40 percent) to set the initial poverty rate at the 2018 SPM rate
- Simulate income after replacing CTC with child allowance and recalculate poverty
  - Replace pre-existing CTC with child allowance
  - Reduce earnings to zero for parents exiting employment
  - Recalculate tax liability, child allowance benefits, and transfer benefits due to elimination of earnings

# Results



# Child allowance would lead approximately 1.46 million parents to exit employment

Millions of parents exiting employment due to change to child allowance, income effect and substitution effect, our estimate and NAS estimate, 2022

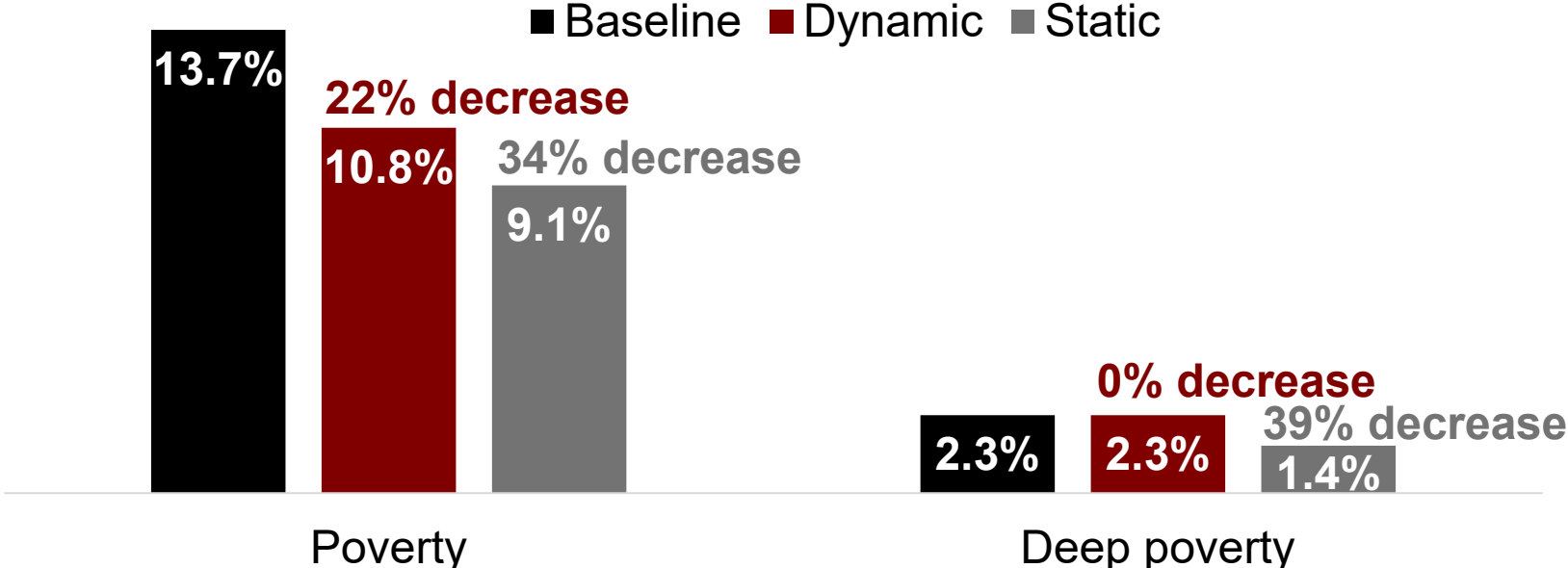


Source: 2017 CPS ASEC (adjusted to 2022 levels using changes in prices and benefits) linked to administrative IRS and program records, TAXSIM, NAS (2019)

Notes: Estimates are based on simulations of the American Families Plan CTC for 2022. Our sample consists of all individuals in PIKed and non-whole imputed families, with survey weights adjusted for non-PIKing and whole imputes using inverse probability weighting. The Census Bureau has reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied to this release, authorization number: CBDRB-FY2021-CES005-028.

# Decrease in employment mutes child allowance's child poverty effect

Child poverty rate and deep child poverty rate, baseline, static simulation of change to child allowance, and dynamic simulation of change to child allowance, 2022



Source: 2017 CPS ASEC (adjusted to 2022 levels using changes in prices and benefits) linked to administrative IRS and program records, TAXSIM

Notes: Dynamic and static estimates are based on simulations of the American Families Plan CTC for 2022. We adjust tax liabilities and SNAP benefits for workers exiting the labor force in dynamic simulation. Our sample consists of all individuals in PIKed and non-whole imputed families, with survey weights adjusted for non-PIKing and whole imputes using inverse probability weighting. The Census Bureau has reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied to this release, authorization number: CBDRB-FY2021-CES005-028.

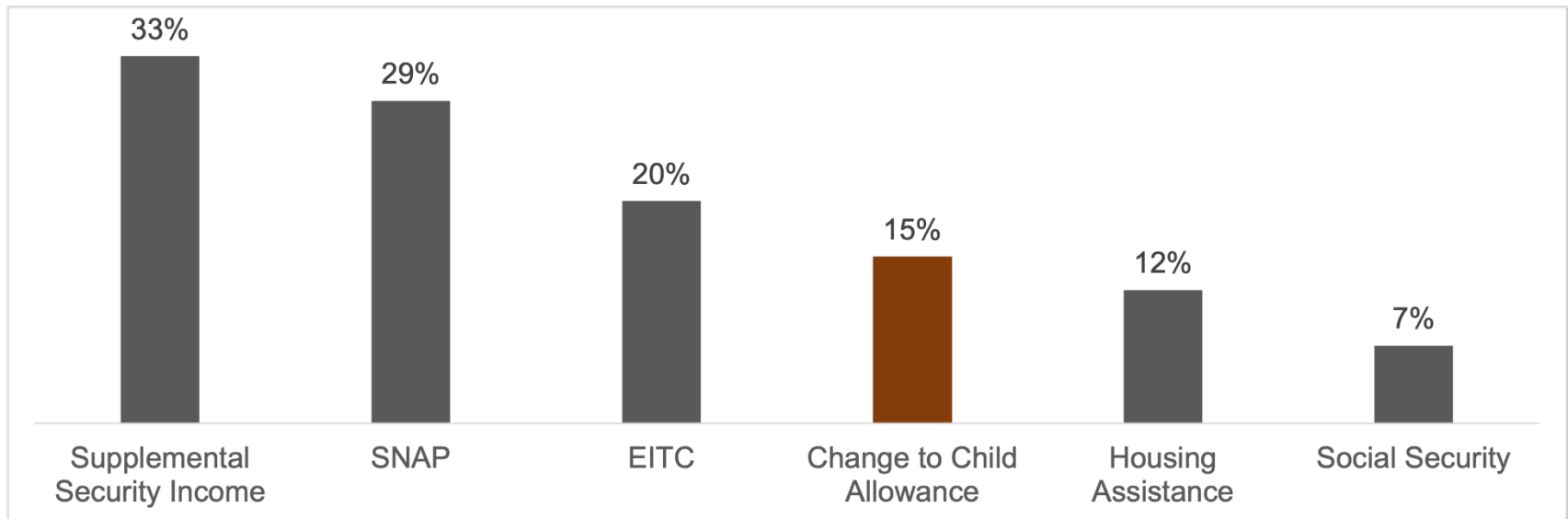
# Further Results





# Change to child allowance would be less targeted to bottom than most means tested programs

Share of program dollars received by families in bottom decile of annual income distribution, by program, 2022 (static simulation)

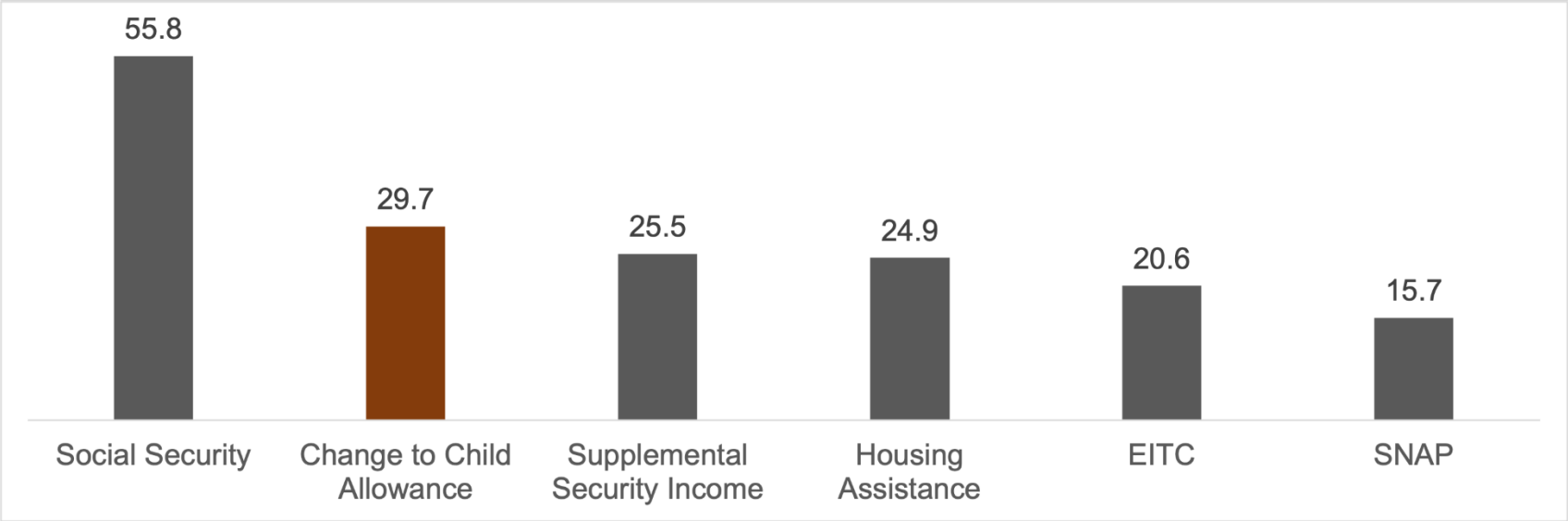


Source: 2017 CPS ASEC (adjusted to 2022 levels using changes in prices and benefits) linked to administrative IRS and program records, TAXSIM.

Notes: This figure shows shares of total program dollars received by each decile of annual family income (after taxes/non-medical in-kind transfers and including the American Families Plan (AFP) CTC). SNAP estimates are calculated using the subset of states for which administrative SNAP data are available. We drop non-PIKed and whole imputed families in the CPS, adjusting survey weights using inverse probability weighting. The Census Bureau has reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied to this release, authorization number: CBDRB-FY2021-CES005-028.

# Change to child allowance would cost more to lift children out of poverty

Thousands of dollars spent on families with children per child lifted out of poverty, by program, 2022 (static simulation)



Source: 2017 CPS ASEC (adjusted to 2022 levels using changes in prices and benefits) linked to administrative IRS and program records, TAXSIM

Notes: Our sample consists of all individuals in PIKed and non-whole imputed families, with survey weights adjusted for non-PIKing and whole imputes using inverse probability weighting. To estimate the cost per individual lifted out of poverty, we divide program spending on families with children by the number of children added to poverty if the program were removed. The Census Bureau has reviewed this data product for unauthorized disclosure of confidential information and has approved the disclosure avoidance practices applied to this release, authorization number: CBDRB-FY2021-CES005-024 and CBDRBFY2021-CES005-028.

# Comparison of CID-based Results to Results Using Survey Data Only (No Behavioral Responses)

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- Correction for underreporting of survey income and broadening of income measure leads to CID poverty thresholds being 40% higher than official thresholds
  - Despite doing so, baseline level of deep child poverty is 2.3% using CID
- In contrast to static survey-only results, static CID-based results find:
  - Smaller differences between the change to a child allowance and existing programs in preventing poverty
  - Greater targeting of existing tax credits to families at the bottom of the income distribution
- Results reflect the ability of the CID to more accurately measure all sources of income, including tax credits

# Caveats

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- Hours not accounted for; would be reduction in hours due to elimination of marginal phase-in incentives
- Simplified decisions of married couples; both not work or both work
  - Only a small share of the overall number of families that see their earnings fall are married couples
  - Would more plausibly have more families see a smaller fall as one worker dropped out and fewer see family earnings fall to zero

# Robustness

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- Different elasticities
  - Using substitution elasticity of 0.5 (rather than 0.75) for single mothers leads to labor supply reduction of 1.25 million parents, *ceteris paribus*
  - Using substitution elasticity of 0.05 (rather than 0.25) for all other workers leads to labor supply reduction of 0.92 million parents, *ceteris paribus*
- Ignoring any effects on higher income parents
  - 89% (1.30 million) of parents leaving labor force have taxable earnings below \$100k
  - 72% (1.05 million) of parents leaving labor force have taxable earnings below \$50k

# Discussion

# Big picture and related work

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- A child allowance would roughly reverse welfare reform
  - Cash assistance much more widely available than under AFDC
  - Eliminates work incentive comparable to 90s EITC increase
- Series of papers by Meyer and Sullivan (most recently Han, Meyer and Sullivan 2021) say that welfare reform increased resources of single mothers
  - Single mothers' consumption increased in absolute terms, especially at the very bottom
  - Single mothers' consumption increased relative to sensible comparison groups like single childless women and married mothers
  - Housing characteristics show a similar pattern of improvement
- Decline in poverty confirmed using linked survey and admin income data from 1995-2016 (Corinth et al. 2022)
- Decline in share of children with one parent

# Other Science Organizations Have Acknowledged Their Errors

10/25/22, 10:54 AM

Physics Body Concedes Mistakes in Study of Missile Defense - The New York Times

**The New York Times**

<https://www.nytimes.com/2022/09/19/science/missile-defense-north-korea.html>

## *Physics Body Concedes Mistakes in Study of Missile Defense*

Two scientists said the American Physical Society had erred in evaluating their plan to use drones to shoot down North Korean long-range missiles.

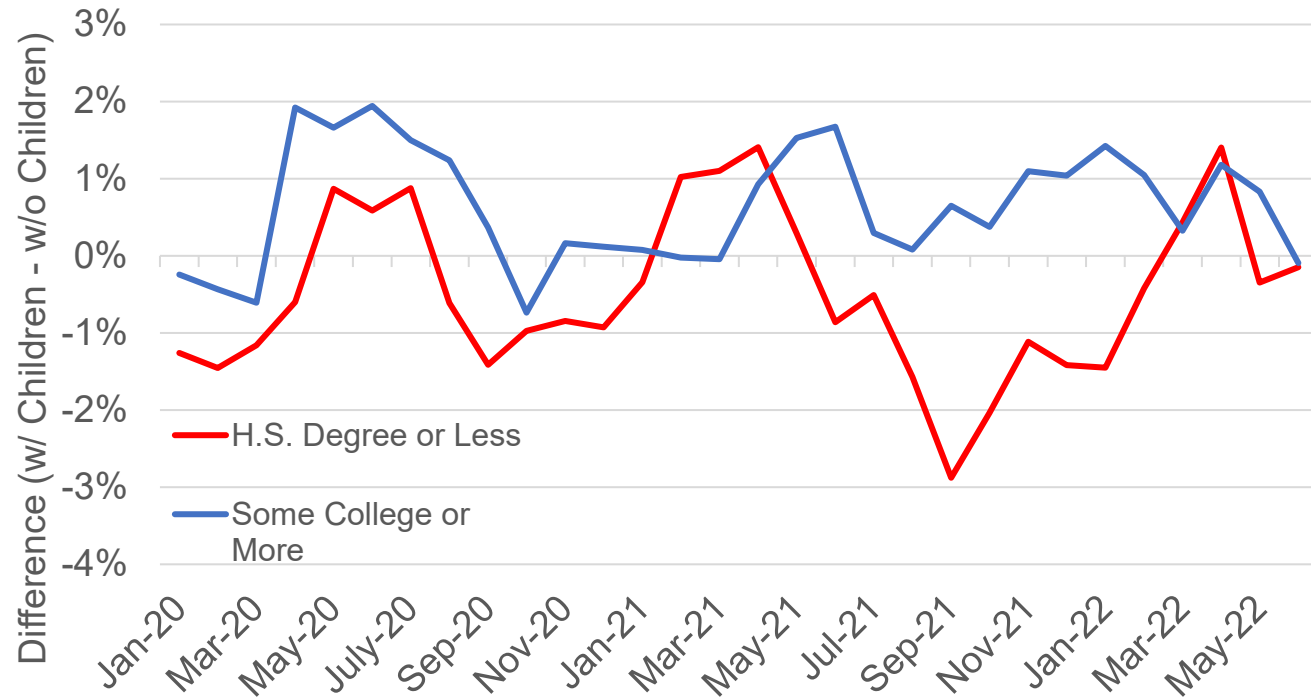
By William J. Broad

Sept. 19, 2022





Figure 5. Employment Rate Difference between Individuals aged 18-54 w/ Children and those w/o Children by Education Level

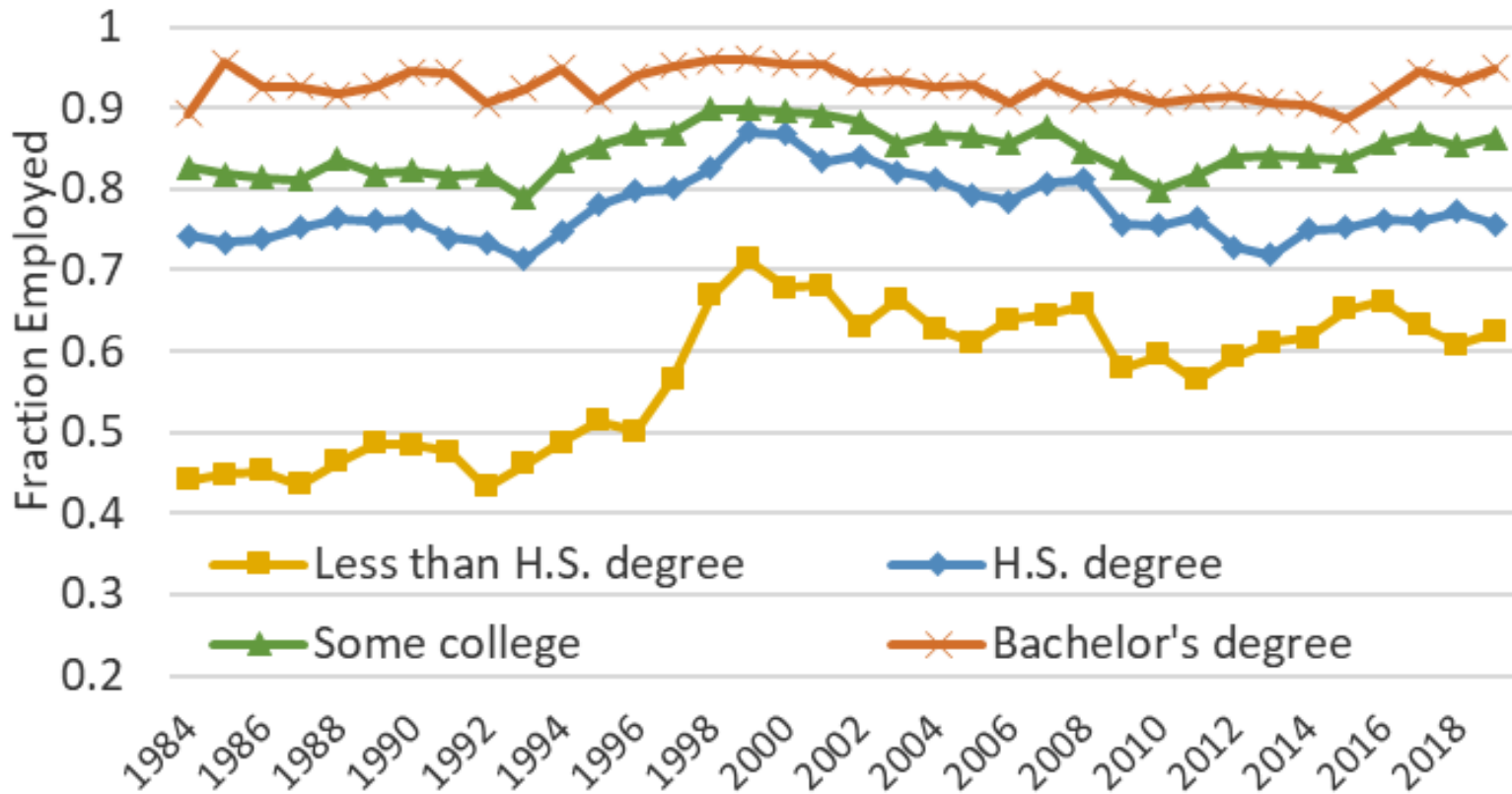


# Additional Slides

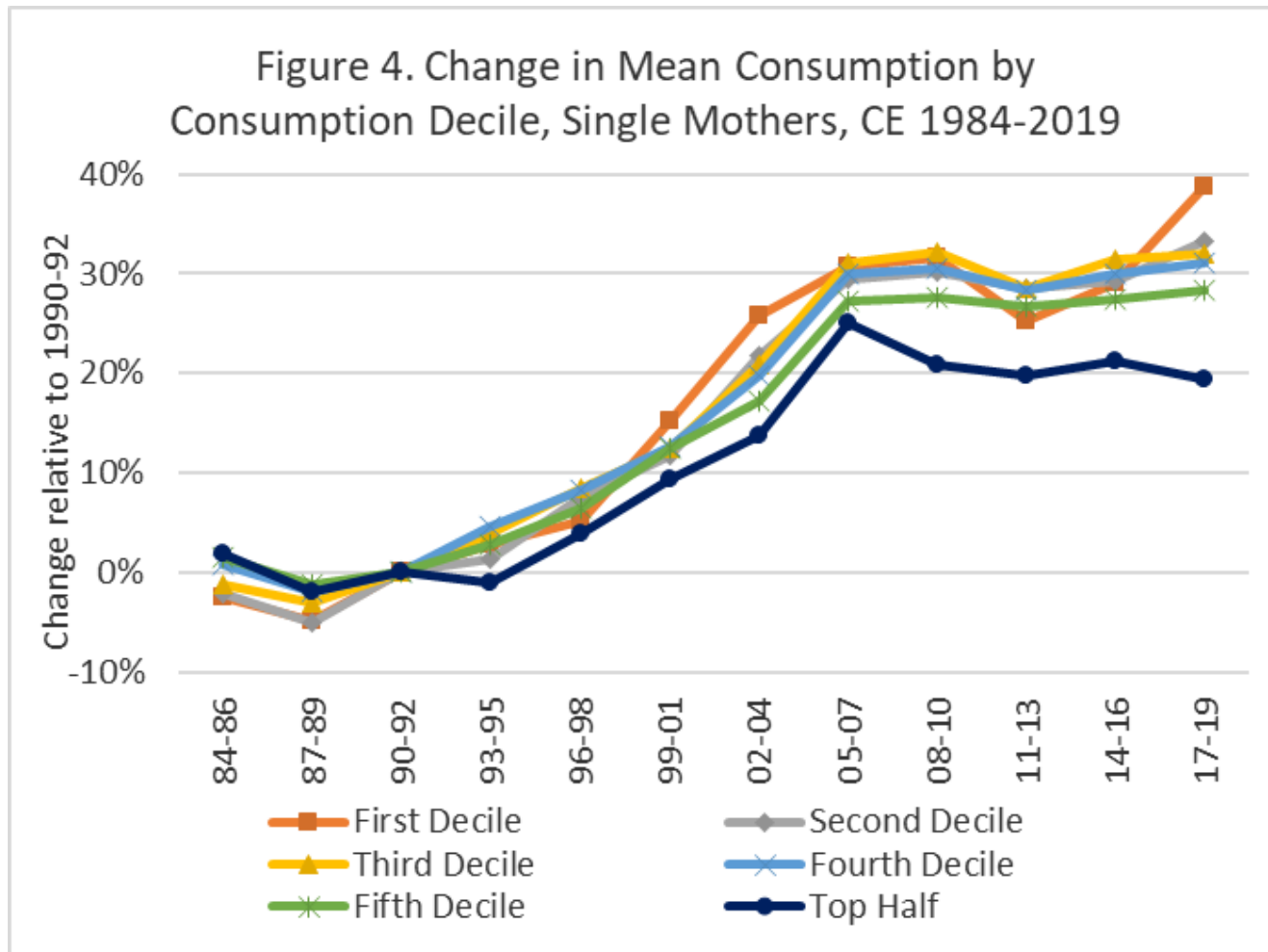


# Historical Changes in Employment

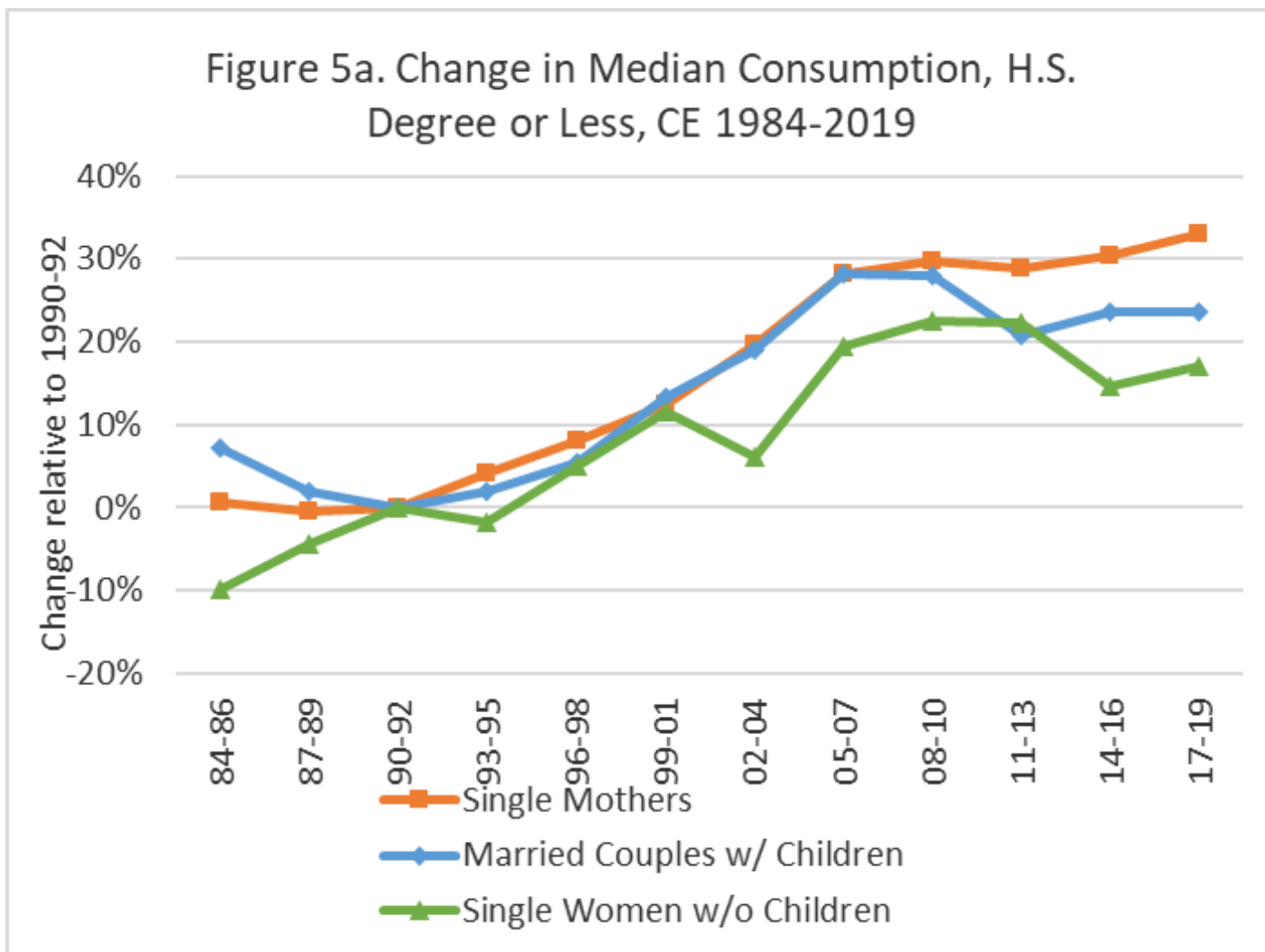
Figure 2. Employment Rate of Single Mothers by Education Group, CPS ASEC 1984-2019



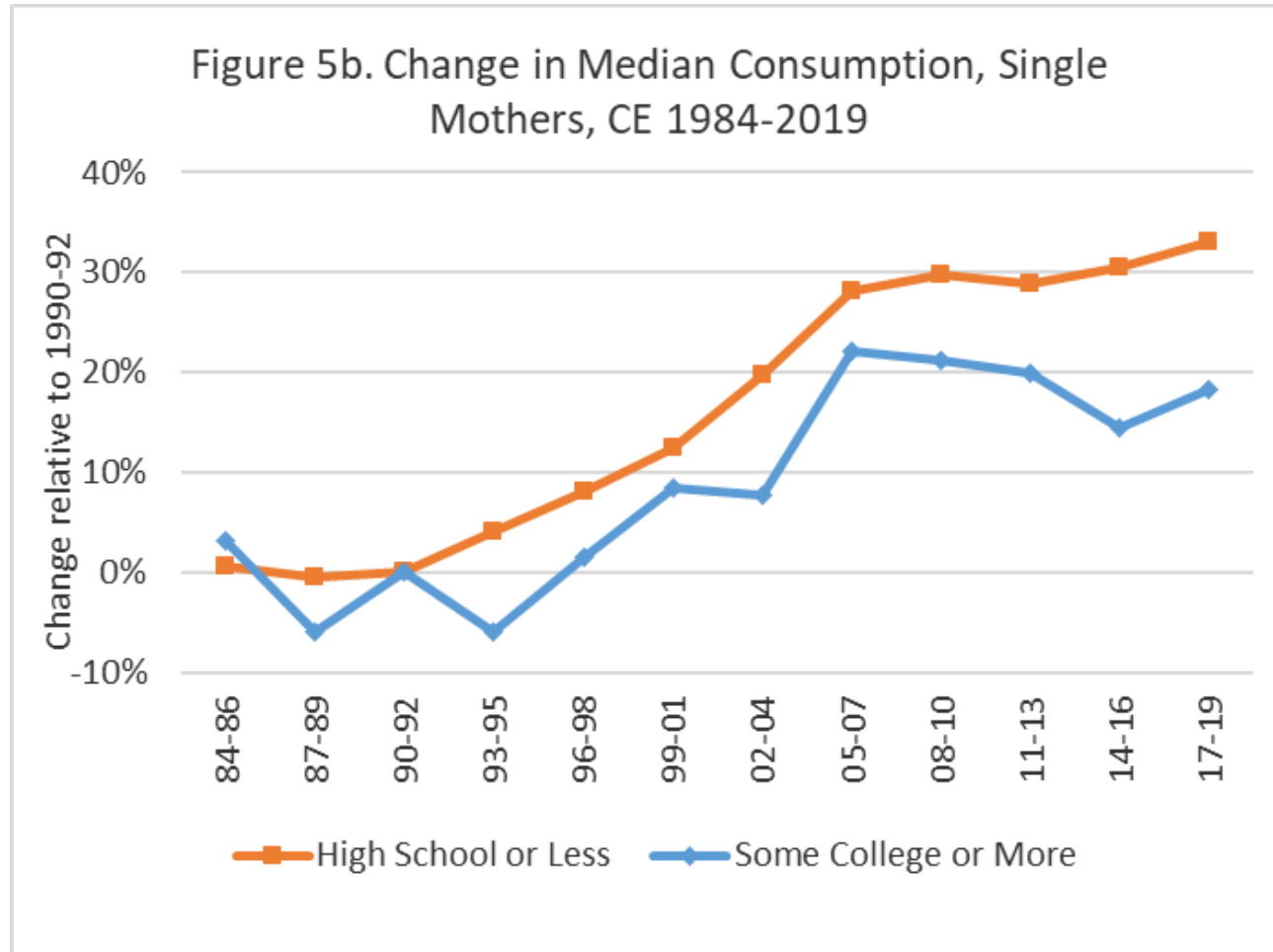
# Consumption of Single Mothers Increased, Especially for the Lowest Percentiles



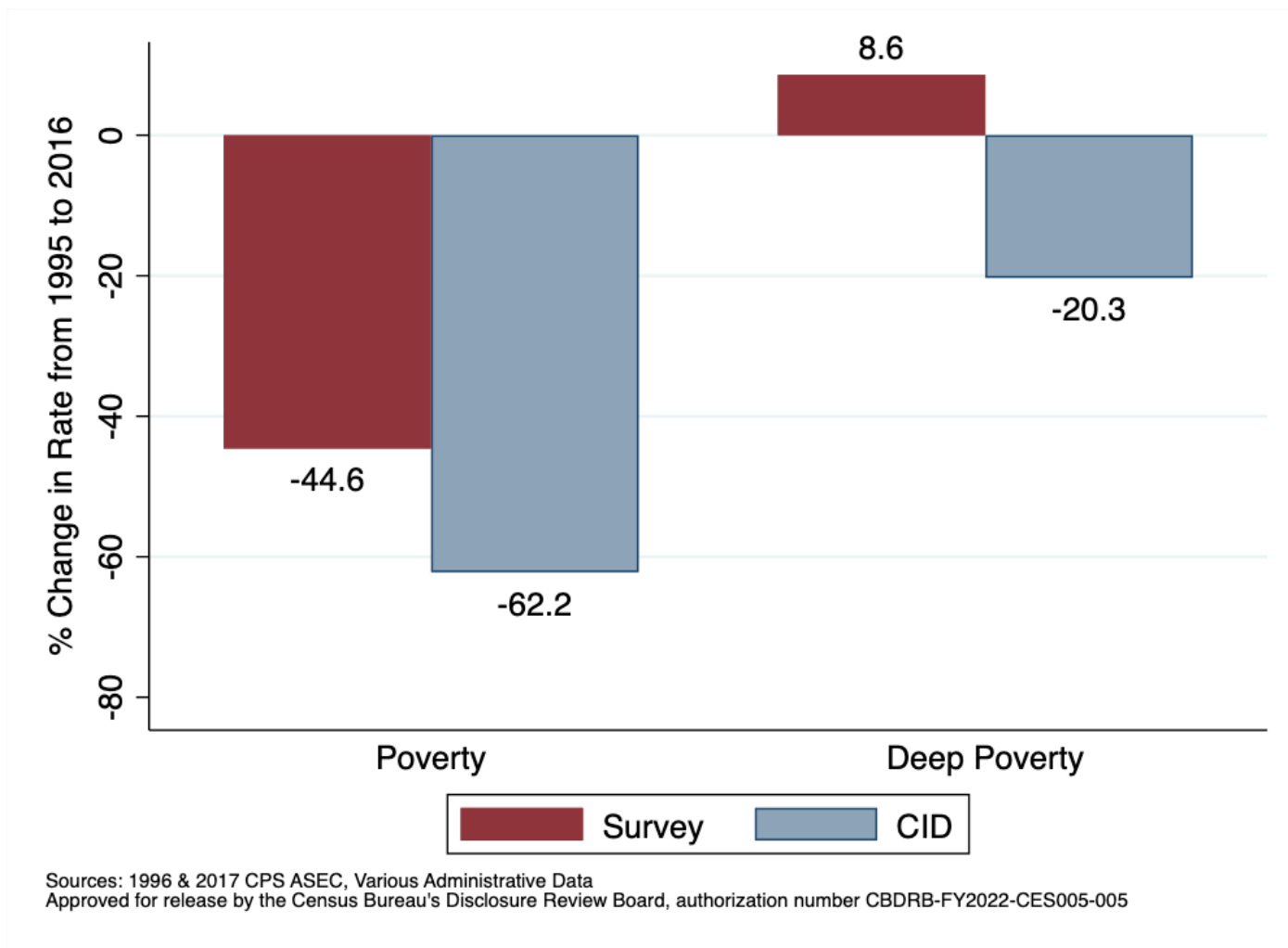
# Consumption Increased Relative to that of Other Groups of Low-Educated Women



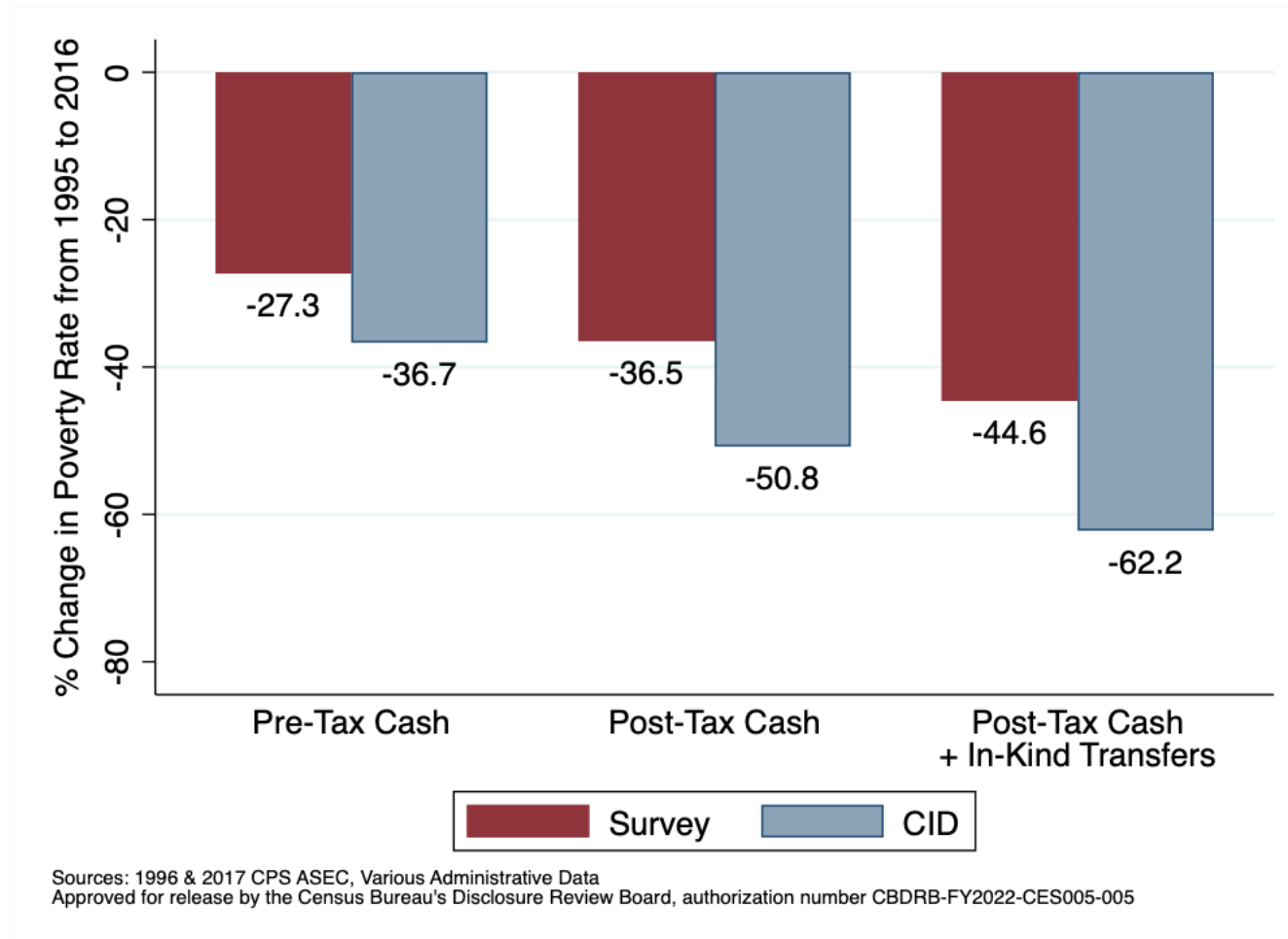
# Consumption Increased Relative to that of Higher Educated Single Mothers



# Poverty and Deep Poverty Fell by 62% and 20% for Single Parents from 1995-2016



# Decrease Over Time in Single Parent Poverty Larger using CID for Every Income Concept



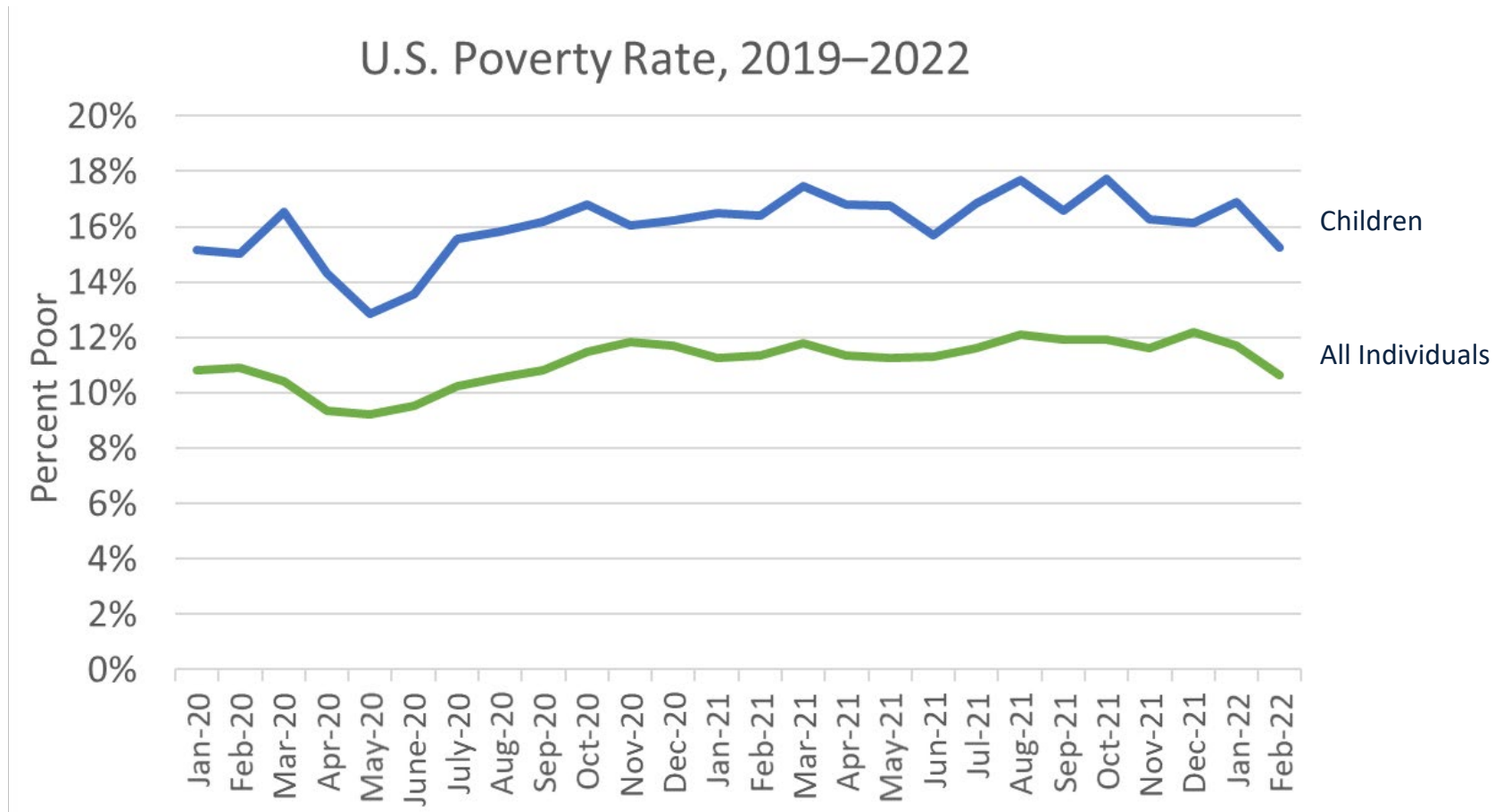


# What happened to Poverty During Temporary Switch to Child Allowance?

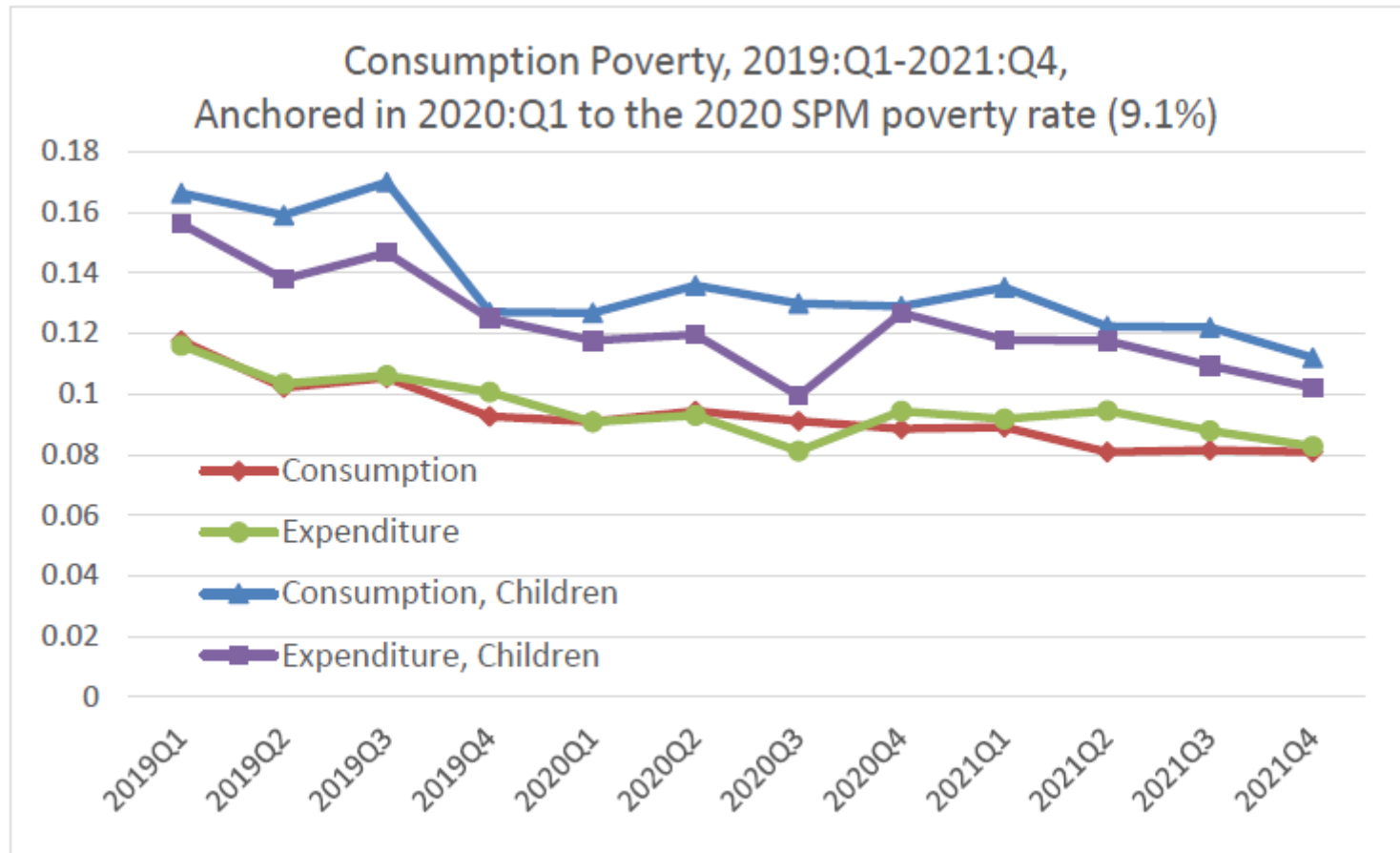
- Columbia group that is often in the news says poverty fell forty percent then rose forty percent (often not made clear it is monthly poverty)
- Near Real-Time Poverty Work (see [povertymeasurement.org](http://povertymeasurement.org))
- We rely on a global income question

“total combined income during the past 12 months...of all members [of the family]. This includes money from jobs, net income from business, farm or rent, pensions, dividends, interest, social security payments and any other money income received...by members of [the family] who are 15 years of age or older.”
- The 12-month reference period accords with official poverty measure, though not a calendar year
- Data strongly indicate that families include EIPs in their responses to this question

# Change in Annual Income Poverty Rate at Monthly Frequency, Monthly CPS

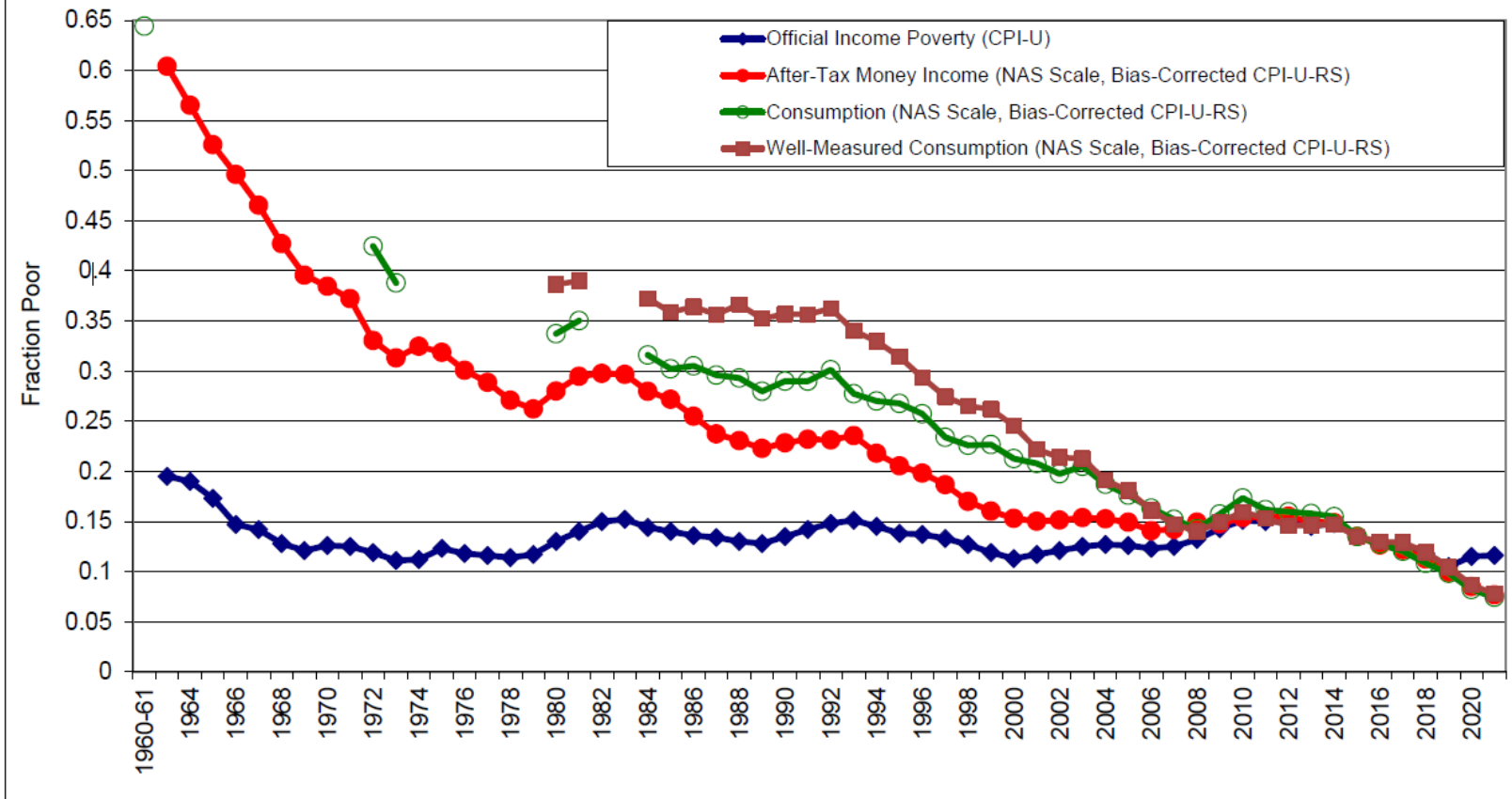


# Change in Quarterly Expenditure and Consumption Poverty, CE Survey



# Change in Annual Expenditure and Consumption Poverty, CE Survey

Figure 2: Consumption and Income Poverty Rates, 1960-2021, Thresholds Anchored in 2015



Notes: Official Income Poverty follows the U.S. Census definition of income poverty using official thresholds. For measures other than the official one, the threshold in 2015 is equal to the value that yields a poverty rate equal to the official poverty rate in 2015 (13.5 percent). The thresholds in 2015 are then adjusted over time using the Bias-Corrected CPI-U-RS. See Figure 1 for more details.

# Why did poverty not change?

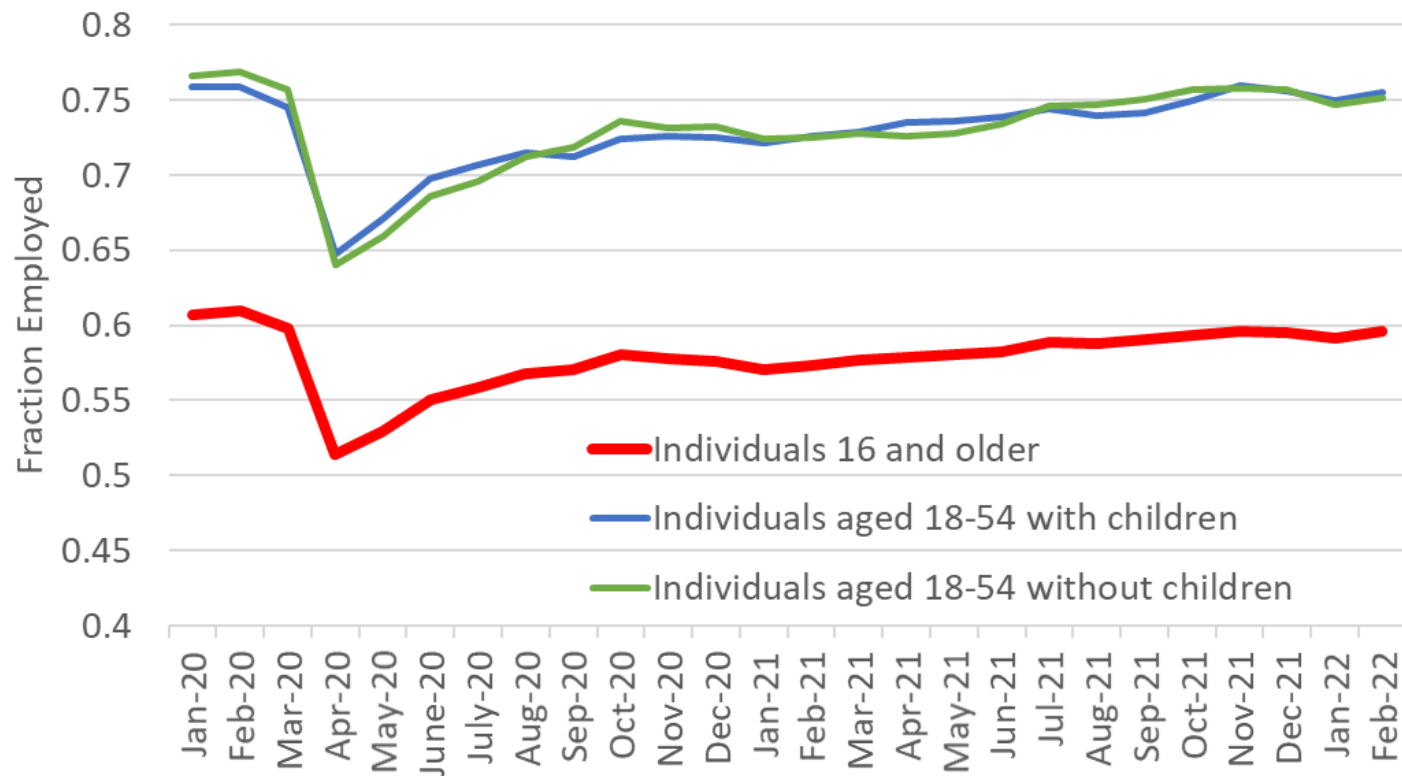
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- Measurement issues
- Labor supply
- Changes in living arrangements
- Changes in private transfers



# Change in Monthly Employment Status

Monthly Employment Status, Monthly CPS, 2020–2022



# Conclusions

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- NAS negligible employment estimate due to omission of substitution effect
  - NAS would have found a 1.31 million reduction in employment just by including substitution effect for single mothers
- Change to child allowance would reverse most of the employment gains achieved during welfare reforms of the 1990s
- Child allowance would reduce child poverty much less than advertised, and not reduce deep child poverty at all
- Policymakers should also consider long-run effects
  - Transfers have positive long-run effect on children, but much of the evidence based on EITC which encourages work, or before existing robust safety net
  - Effects of unconditional aid on single parenthood could reverse positive effects

# Responses: The Elasticities are High

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- Vox Future Perfect Newsletter, Dylan Matthews, October 8, 2021
  - “The estimates from the [Meyer] paper are wild,” Moffitt wrote in an email “These estimates are really ‘out there.’”
- Washington Post, Glenn Kessler, November 8, 2021
  - Hoynes and Moffitt: “we cannot imagine ever being persuaded of employment effects in the Corinth-Meyer range, whose analysis we think is fundamentally off base.”
- CEA Chair, AEI/Brookings Event, February 8, 2022
  - “There have been three or four simulations...The most notable ... is that by Bruce Meyer and his colleagues at the University of Chicago.” “His is an outlier . . . they use a very high elasticity of labor supply”



# Extensive margin elasticity assumptions are supported by the literature

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- **0.75 for single mother EITC recipients.**
  - Similar to conclusions of summaries and reviews:
    - McClelland and Mok (2012): **0.3 to 1.2 (midpoint is 0.75)**
    - Gelber and Mitchell (2012): **0.35 to 1.7, central tendency of 0.7**
    - Nichols and Rothstein (2016): **0.7 to 1.0**
    - Goldin et al. (September 2021): **0.7 to 1.0**
  - Similar to or lower than prominent studies
    - Keane and Moffitt (1998): **1.68**
    - Meyer and Rosenbaum (2001): **0.67**
    - Hoynes and Patel (2018): **1.25 (implied)**
    - Schanzenbach and Strain (2021): **0.85**
- **0.25 for all other working parents**
  - Chetty et al. (2012); CBO (2012); Penn Wharton Budget Model

# NAS assumed strong employment response to EITC based on Hoynes & Patel (2018)

Appendix Table 7: Difference-in-Difference Estimates of OBRA93 on Any Work During the Year

Model:	0 vs. 1+ Children		1 vs. 2+ Children	
(Year > 1993) * (1+ children)	0.061*** (0.01)	0.047*** (0.01)		
(Year > 1993) * (2+ children)			0.062*** (0.01)	0.024 (0.02)
Per \$1000 of federal EITC	0.073	0.074	0.078	0.056
% impact	8.6%	8.8%	9.9%	7.0%
Extensive margin elasticity	0.36	0.37	0.45	0.32
Observations	50,508	50,508	25,101	25,101
Mean of the dependent variable	0.844	0.844	0.796	0.796
Controls				
Demographics	X	X	X	X
# of children indicators	X	X	X	X
State * year indicators	X	X	X	X
Simulated tax & transfer benefits		X		X
Any AFDC waiver * 1+ children		X		
Any AFDC waiver * 2+ children				X
Unemp rate * 1+ children		X		
Unemp rate * 2+ children				X

Notes: The sample includes single women, ages 24 through 48 with some college education or less from the 1992 through 1999 Current Population Survey (March). See text and data appendix for details. Standard errors clustered on state.

Significance levels: \*10%, \*\*5%, \*\*\*1%.

$$\text{Elasticity} = \frac{\% \Delta \text{work}}{\% \Delta \text{return to work}} = \frac{\frac{\Delta \text{probability of work}}{\text{probability of work}}}{\frac{\Delta \text{return to work}}{\text{return to work}}} = \frac{\frac{0.056}{0.796}}{\frac{\$1,000}{\$17,895}} = 1.25$$

# Responses: Implausible Responses by those with High Incomes

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- CEA Chair, AEI/Brookings Event, February 8, 2022
  - “They suggest that very high income people would reduce their labor supply in response to this tax credit, in a way that really is not plausible”
  - “Even just by taking out the assumption of a response among high income families that would take would reduce his estimated impact on labor supply by quite a bit”
- Our Response:
  - As noted above, if ignore effects on higher income parents, we still have a large impact
    - 89% (1.30 million) of parents leaving labor force have taxable earnings below \$100k
    - 72% (1.05 million) of parents leaving labor force have taxable earnings below \$50k
  - At a more basic level, this is why you use an elasticity!

# Responses: Elasticities Have Fallen

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- NAS Report Author, Niskanen Center Event, February 16, 2022
  - “I think there are three things we know. Number one is: it is shown that the responsiveness to work disincentives differs across types of people. ... Second thing I look for a study is to recognize that elasticities have changed . . .they’ve dropped really dramatically, and any study that doesn’t recognize that also I think doesn’t have very much credibility.”
- Our Response:
  - The two studies that critics have pointed to, Heim (2007) and Lin and Tong (2017), study married mothers
  - Note the studies from 2018, 2021 in earlier list
  - Lippold (2019) finds 1.04 for the participation elasticity using 2001-2016 data when examining the CTC

# Responses: No Error in the NAS Report

Drs. Corinth and Meyer

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The National Academies of  
SCIENCES • ENGINEERING • MEDICINE

DIVISION OF BEHAVIORAL AND SOCIAL SCIENCES AND EDUCATION

November 1, 2021

Kevin Corinth  
Bruce Meyer  
Harris School of Public Policy  
University of Chicago  
1307 E. 60<sup>th</sup> Street  
Chicago, IL 60637

Dear Drs. Corinth and Meyer:

I am responding to the letter dated October 27, 2021 that you sent to Drs. McNutt, Harris-Kojetin, Groves, and myself concerning the 2019 National Academies of Sciences, Engineering, and Medicine (National Academies) report, *A Roadmap to Reducing Child Poverty*. As the chair of the division that oversaw this report, I thank you for your interest in the report.

First, allow me to emphasize that *A Roadmap to Reducing Child Poverty* was a consensus report. That means the Committee that authored the report was comprised of academic and policy experts with diverse perspectives who reached consensus on all of their findings and recommendations. Similarly, a diverse group of 13 experts were recruited to review a draft of the report before it was approved for release; reviewers included prominent policy analysts, economists, and sociologists. In addition, two eminent economists with expertise relevant to the report oversaw the report review process and ensured that the committee appropriately responded to all comments from the reviewers. As such, the report met the nonpartisan National Academies' rigorous development and review process prior to release.

There is a large body of published research on the effects of income support programs on recipient work effort. The committee analyzed this body of research and found that an expansion of a program similar in structure to the American Rescue Plan's child tax credit would have little effect on employment. The decisions around the income and substitution effects underlying the Child Tax Credit expansion, and all of the other policy changes in the report, represents the well-considered judgment based on the consensus of the 15 experts comprising the committee.

Thank you for sharing the unpublished working paper by Corinth et al. I respectfully submit that this paper, which has not undergone peer review, does not indicate that there is an "error" in the report. As you know, it is normal for science to evolve. However, a single working paper does not change the conclusions drawn from a large body of published literature, nor suggest that the estimates in *A Roadmap to Reducing Child Poverty* are in error.

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Phone 202.334.2300 Fax 202.334.2201 E-mail moconnell@nas.edu www.nationalacademies.org/dbasse

In sum, the National Academies stands behind the integrity of this report and the specific findings and recommendations in it. The National Academies values robust dialogue and debate about the interpretation of research evidence. Thank you for sharing your opinions about this National Academies report.

Sincerely,



Michael Hout  
Chair, Division of Behavioral and Social Sciences and  
Education (DBASSE), National Academies of Sciences,  
Engineering, and Medicine  
Professor of Sociology, New York University

cc: Marcia McNutt, President, National Academy of Sciences  
Greg Symmes, Chief Program Officer, National Academies of Sciences, Engineering, and Medicine  
Mary Ellen O'Connell, DBASSE Executive Director  
Brian Harris-Kojetin, CNSTAT Director  
Robert M. Groves, CNSTAT Chair  
Natacha Blain, BCYF Director  
Greg Duncan, Distinguished Professor, University of California, Irvine

Thank you for sharing the unpublished working paper by Corinth et al. I respectfully submit that this paper, which has not undergone peer review, does not indicate that there is an "error" in the report.

# Responses: There Was No Error in the NAS Report

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- NAS Report Co-Author Robert Moffitt, Niskanen Center Event, February 16, 2022
  - “all three of these studies [Corinth et al. and two others] are better than what the National Academy did, we were doing some very back-of-the-envelope things”
  - “The National Academy Study was not as good as the studies we talked about. It was basically simulating the effect on labor supply of the child tax credit relative to nothing.”

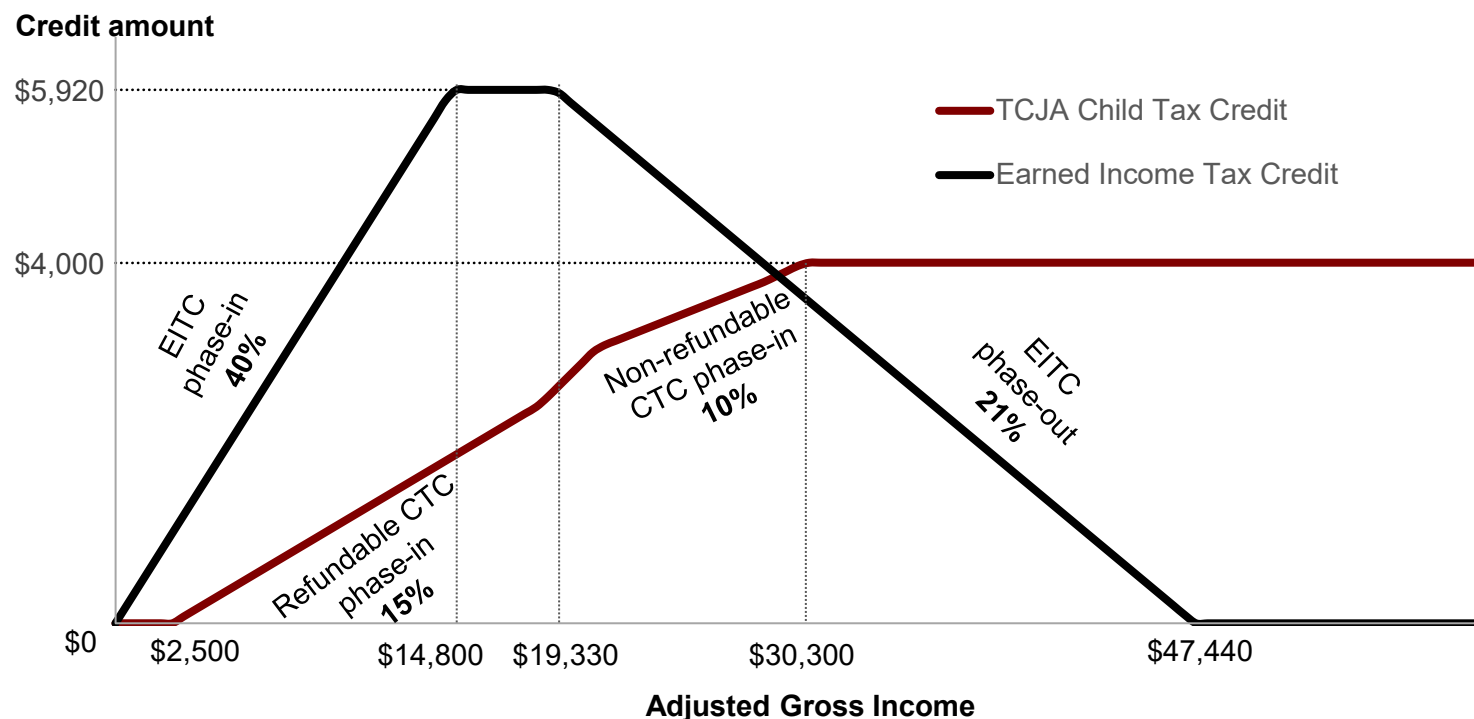
# Implications for Evidence-Based Policymaking

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- What types of projects should the NAS take on? Could some projects have too much of a political character for advice to be purely scientific?
- How well was the public served by the NAS response to the claimed error in the report?
- To what extent is the public served when academic economists become advocates?

# Prior Law CTC had work incentives that were large compared to those of the EITC

## Child Tax Credit and Earned Income Tax Credit under Tax Cuts and Jobs Act, Single Parent with Two Children, 2020



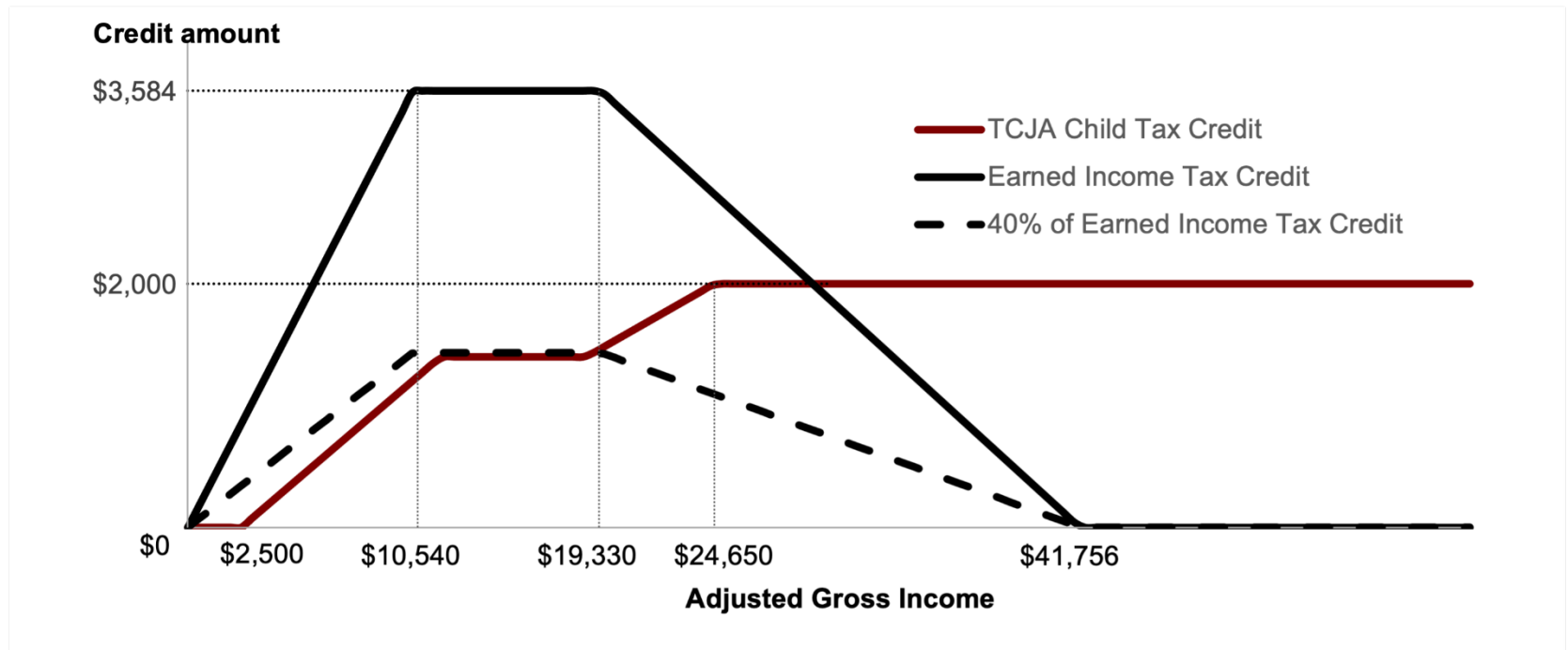
Source: Internal Revenue Service, Congressional Research Service, Authors' calculations

Notes: CTC and EITC parameters are based on 2020 tax law (all dollar values expressed in 2020 nominal terms). All adjusted gross income is assumed to come from earned income, and the family is assumed to take the standard deduction and claim no other non-refundable tax credits.



# CTC versus 40% increase in EITC, single parent with one child

## Child Tax Credit, Earned Income Tax Credit, and 40% of Earned Income Tax Credit under Tax Cuts and Jobs Act, Single Parent with One Child, 2020



Source: Internal Revenue Service, Congressional Research Service, Authors' calculations

Notes: CTC and EITC parameters are based on 2020 tax law (all dollar values expressed in 2020 nominal terms). All adjusted gross income is assumed to come from earned income, and the family is assumed to take the standard deduction and claim no other non-refundable tax credits.