



the budget lab

Child Tax Credit: Options for Reform

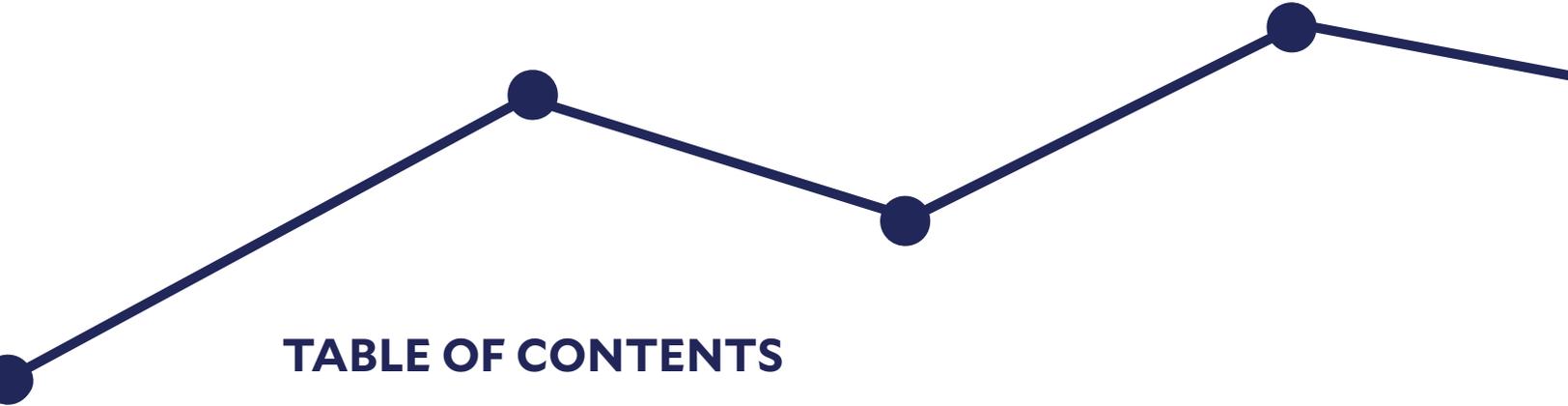
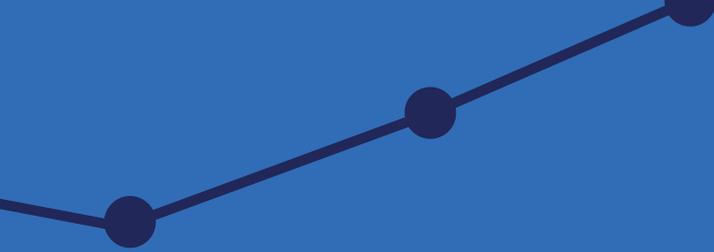


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Child Tax Credit: Options for Reform

The Child Tax Credit (CTC), which reduces tax liability for most parents and is designed to encourage work, is scheduled to be cut at the end of 2025. In this context, we analyze four CTC reform proposals with varying objectives for work incentives, poverty alleviation, and tax simplification.

The phase-in and phase-out ranges are key policy parameters: a quicker (or elimination of the) phase-in benefits the lowest earners, while a longer phase-out benefits the middle class.

We project that some proposals would increase employment, and others would reduce it, in the range of -0.1 percent to 0.3 percent change in the U.S. labor force.

Under strong assumptions, including that cash transfer receipt causes 20 percent of the gap in adult earnings outcomes between high-income children and low-income children, our modeling estimates that average wages for people in 2050 who were exposed to a full 18 years of the most generous reform option would be more than 0.6 percent higher compared to current law (about \$200 in additional earnings every year, adjusted to current price levels). For children growing up in bottom-quintile families, this effect is more than 1 percent (about \$300 per year).

All reform options would have small effects on macroeconomic aggregates such as real gross domestic product (GDP), inflation, and interest rates, although including a pay-for improves the long-run growth and budgetary outlook.

SUMMARY

Most of the Tax Cuts and Jobs Act's (TCJA's) individual tax provisions, including its CTC expansion, are scheduled to sunset at the end of 2025. Beginning in 2026, the maximum CTC value will fall from \$2,000 to \$1,000 and be limited to a narrower set of taxpayers. This expiration may renew discussion of reform options for the CTC.

This report informs that discussion by exploring four reform options.

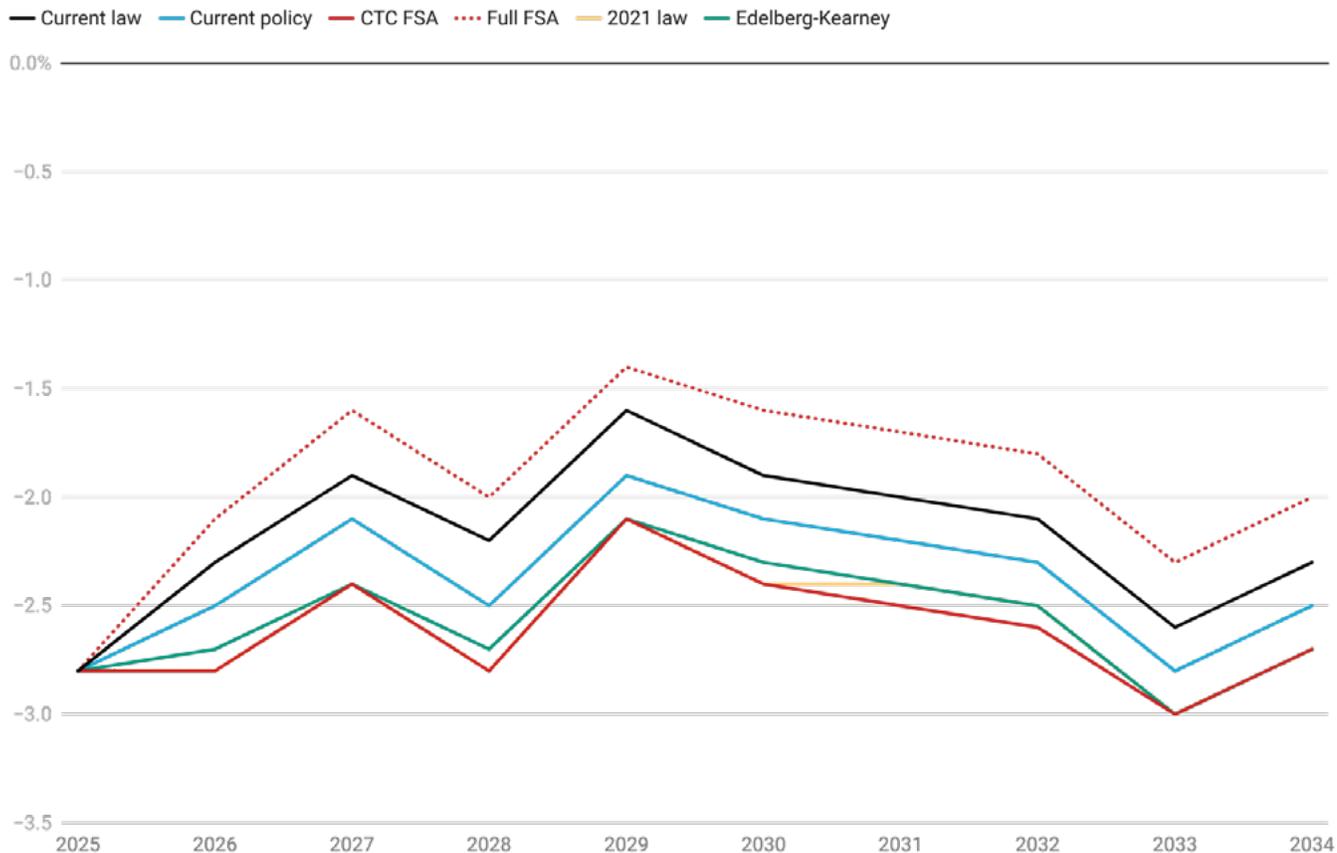
1. *Current Policy* is a straightforward extension of the current CTC design, which was first enacted under the TCJA and is scheduled to expire at the end of 2025.
2. *The Family Security Act 2.0* ("FSA") is a [proposal](#) by Senators Romney, Burr, and Daines. It would consolidate several child-related provisions in the tax code and expand the CTC, especially for parents of young children, in a way that strengthens the credit's incentive for parents to participate in the labor force.
3. *2021 Law* would revert CTC parameters to those of 2021, when the American Rescue Plan Act (ARPA) temporarily increased the maximum credit value and removed all earnings requirements.
4. *Edelberg-Kearney*, a [proposal](#) by Wendy Edelberg and Melissa Kearney, is designed to maintain current-policy work incentives while providing some amount of relief for those with no earnings.

The FSA is unique among the four reform options in that it is not deficit-financed: the FSA expands the CTC while curtailing the Child and Dependent Care Tax Credit, Earned Income Tax Credit, and state and local tax deduction (SALT). It can be challenging to compare the distributional impacts of paid-for versus unpaid-for reforms, since deficits are, by convention, not distributed. As a result, we present estimates of the FSA with its pay-fors ("Full FSA") and without ("CTC FSA").

We estimate that extending current policy would increase the primary deficit by approximately 0.5 percent of GDP in each of the next ten years relative to current law. The three reform proposals (excluding the Full FSA) have similar budgetary impacts: each would increase the primary deficit by approximately 1 percent of GDP in each subsequent year relative to current law. In contrast, the Full FSA would reduce the primary deficit in each subsequent year by approximately 0.5 percent of GDP.

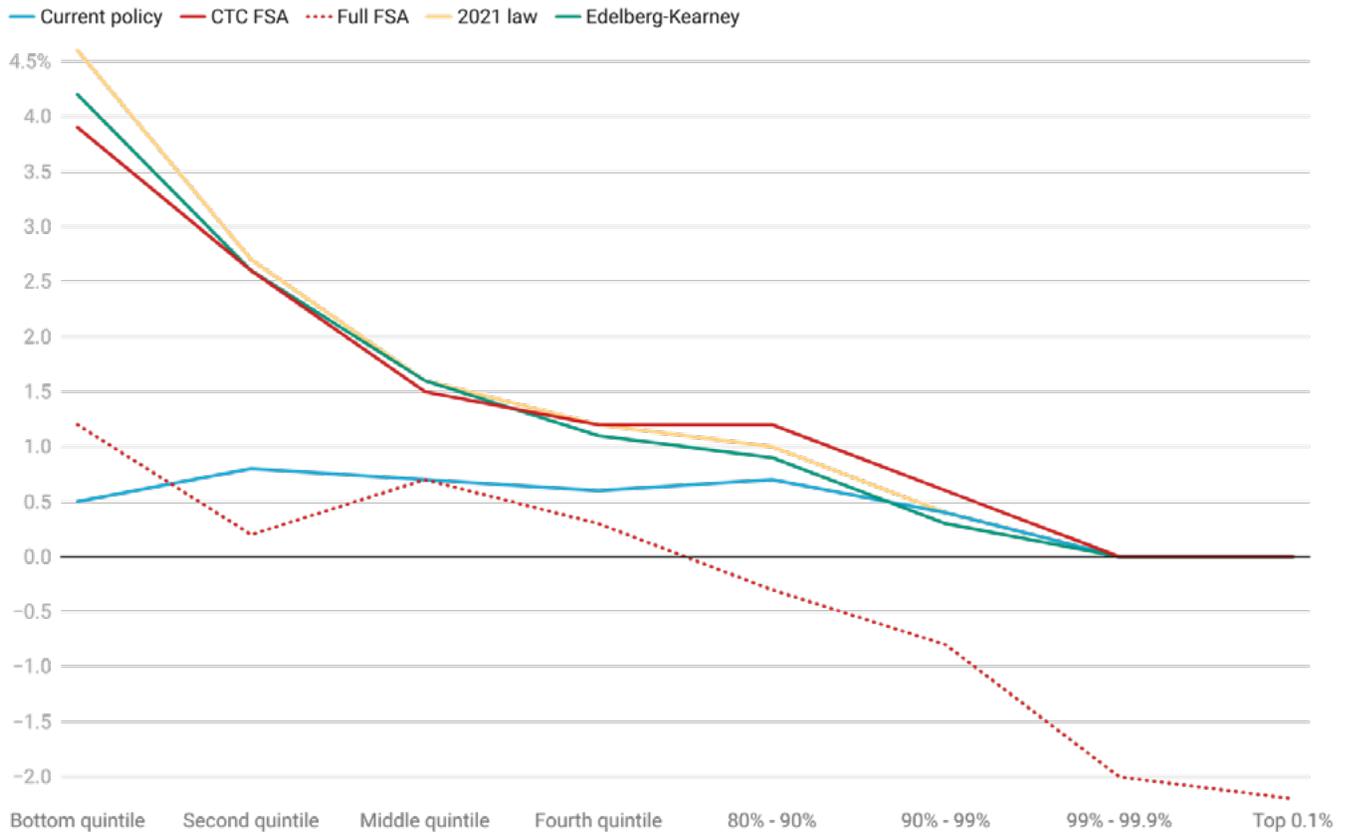
Projected Primary Budget Surplus of the United States, FY2025-2034

Percent of GDP



Apart from Current Policy and Full FSA, the CTC proposals have relatively similar distributional impacts. In particular, each of these remaining proposals would increase bottom quintile after-tax income by approximately four percent relative to current policy, with smaller percentage increases at middle incomes. We follow convention in not distributing those proposals' deficit increases. The Full FSA would increase after-tax incomes in the bottom four quintiles relative to current law, reduce them in the second quintile relative to current policy, and reduce them in the top two quintiles relative to current law and policy.

Percentage Point Increase in After-Tax Income by Income Group, 2026



Notes: Estimate universe is nondependent tax units, including nonfilers. "Income" is measured as AGI plus: above-the-line deductions, nontaxable interest, nontaxable pension income (including OASI benefits), and employer-side payroll taxes. Income percentile thresholds are calculated with respect to positive income only and are adult-weighted.

Despite having broadly similar distributional impacts, each proposal contains design differences that affect work incentives in different ways and lead to modest changes in overall employment. We find that under the FSA reforms, Current Policy, and Edelberg-Kearney, 100,000-150,000 fewer people would decide to work, while under the 2021 Law, 200,000 fewer people would decide to work.

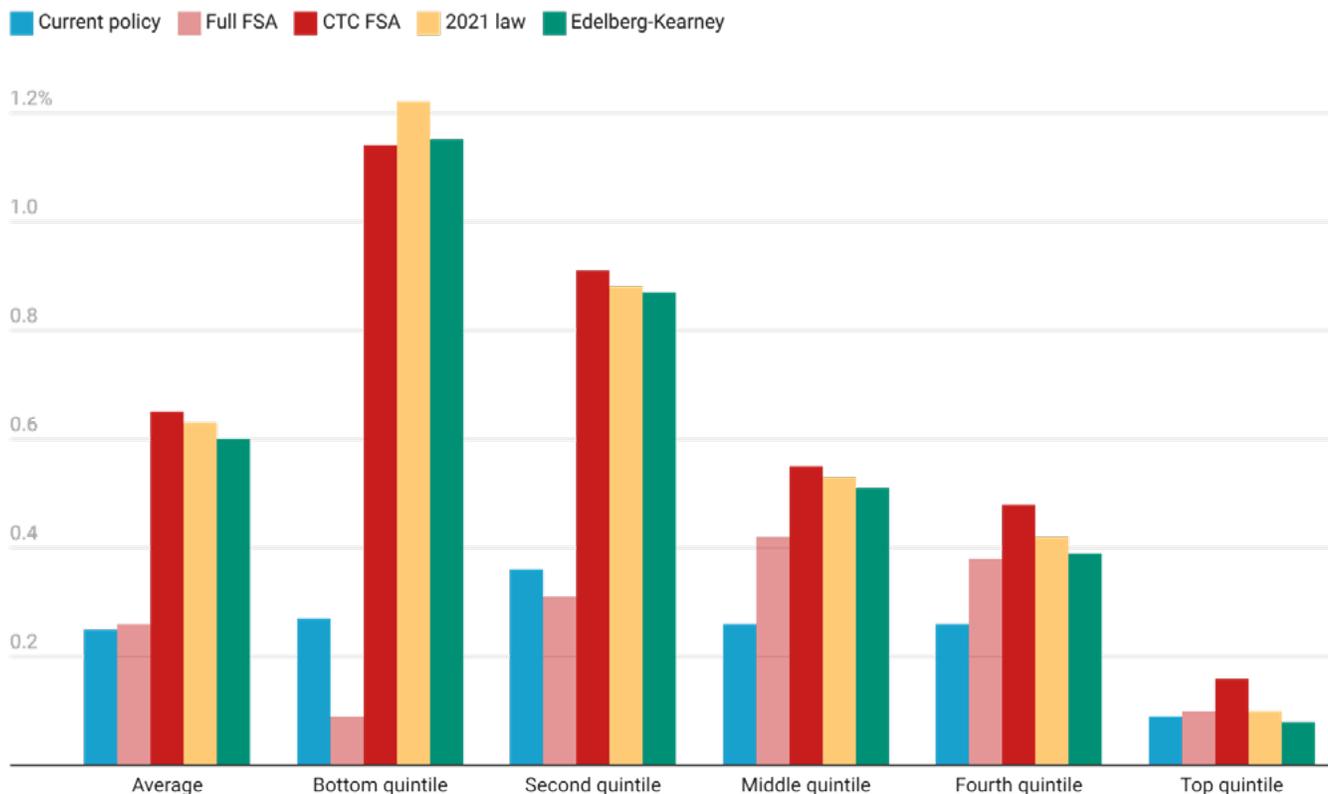
Long-run impacts of child-focused policies can affect long-run budgetary impacts. We make several strong assumptions to provide an initial modeling analysis of the long-run earnings impacts and associated tax revenue feedback of the CTC. Existing research provides a large band of estimates of the causal share of cross-sectional child-parent income relationship, ranging from 0 percent to above 100 percent. We assume that 20 percent of the existing relationship between parent income and child income is causal: if the CTC moves a child from parent income X to parent income Y, we assume that the child's earnings outcome on average will be 20 percent of the way towards the outcomes of children who currently have parents with income Y. In this preliminary analysis, we assume that this 20 percent figure is net of general equilibrium labor market adjustments, and we make no wage adjustments due to capital crowd-out from higher interest rates under a deficit-financed CTC, both of which tend to overestimate long-run impacts.

The figure below displays the estimated change in wages in 2050 among adults who would have been exposed to a full 18 years of each reform during childhood, overall and by parent income quintile.

On average, we project that Current Policy raises the next generation's wages by 0.2 percent. The percentage gains are roughly equal across parent income levels, with top-quintile children enjoying the smallest

Estimated Impact on Earnings by Parent Income Group, 2050

Change in Wages Relative to Baseline, Percentage Points



Universe is tax units with adults who were under age 18 during or after 2026. Parent income rank is determined with respect to parent tax units only.

percentage gains primarily because the CTC is a smaller percentage of top incomes. The CTC FSA, 2021 Law, and Edelberg-Kearney each yield 0.6 percent average wage increases, with percent wage gains concentrated at lower quintiles.

The Full FSA yields average wage increases similar to Current Policy, with wage increases concentrated at middle incomes that avoid both the EITC reductions and effective tax increases due to elimination of the SALT deduction. Note that children growing up in the top quintile benefit from all policies including the Full FSA despite its net tax increase on top quintile households, because the Full FSA redistributes within the top quintile from childless households to households with children.

Programs that yield long-run benefits may nevertheless fail a cost-benefit analysis. A full cost-benefit analysis of the CTC requires further modeling, including discounting next-generation benefits to the present and comparing them to up-front costs. Moreover, we emphasize that given that the Full FSA is paid for while the others are not, it is hard to compare the long-term impacts of children of different CTC proposals with different pay-for assumptions.

Our macroeconomic results (which do not include the employment and earnings impacts discussed above) show relatively small impacts from these proposals (though, given the modest effects of all the options we analyzed, the employment channel is unlikely to significantly change our macroeconomic simulations).

All macroeconomic forecasts and estimated effect sizes are subject to uncertainty, particularly in the long term and in future generations. Furthermore, since the magnitude of policy effects is in part conditional on

macroeconomic conditions, the uncertainties around each effect interact with one another. Budget scoring requires educated assumptions and guesses. In addition, estimates involving future earnings outcomes rely on past research informed by models of the historical labor market. However, the labor market may look considerably different in the decades to come than. We do not provide confidence intervals throughout this report, but we do attempt to communicate where we are more or less certain in our work.

BACKGROUND

The Child Tax Credit (CTC) provides a flat dollar amount of income tax relief for most parents. Introduced in 1997 as a modest nonrefundable credit, the CTC has evolved into a substantial part of the tax code through subsequent rounds of legislation expanding the credit.

Historically, the CTC has served several purposes:

- Horizontal equity is the idea that taxpayers with similar resources should pay similar amounts in tax. The CTC promotes horizontal equity by adjusting tax burdens to reflect the fact that families with children have fewer resources than those without children.
- Vertical equity is the principle that tax liability should rise with income. As a share of income, the CTC delivers larger benefits to middle-income families than it does for high-income families.
- Work incentives are a key part of the CTC's design. The credit phases in with earnings, reducing marginal tax rates for low-income workers and thus encouraging workers to join and stay in the labor force.

Crucially, the exact mix of these goals has varied with the credit's design and the broader context of the tax code. For example, the Tax Cuts and Jobs Act (TCJA) both expanded the CTC and eliminated the deduction for dependent exemptions with the goal of consolidating child-related benefits in the tax code – an instance of moving towards horizontal equity. More recently, the American Rescue Plan Act (ARPA) moved towards greater vertical equity by temporarily allowing nonworking parents to claim the CTC. These episodes underscore the importance of analyzing potential CTC reforms within the broader context of the tax code.

This report proceeds by viewing reform options through four analytical lenses.¹

- Budgetary: By how much would each reform affect government budgets over the next three decades?
- Distributional: How much do the benefits and costs of each reform vary with income and age?
- Microeconomic: To what extent does each reform induce parents to enter or exit the workforce? Can we expect these reforms to affect future economic outcomes for today's children?
- Macroeconomic: How would broader economic indicators like gross domestic product (GDP), inflation, and interest rates change under each option – and to what extent do these outcomes depend on the Federal Reserve's actions?

REFORM OPTIONS

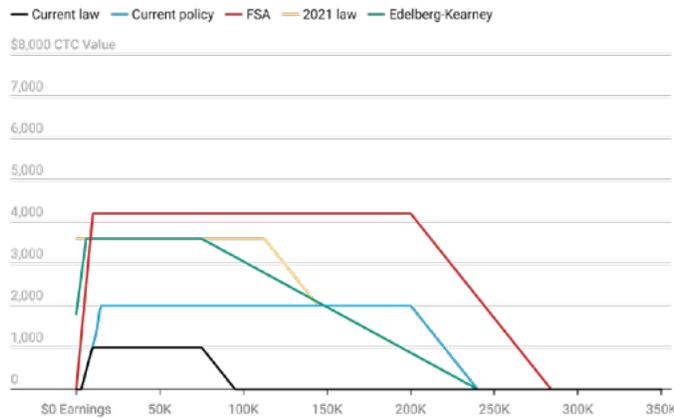
The table below summarizes major CTC design parameters across each proposed reform.

Key Design Parameters by Reform Option

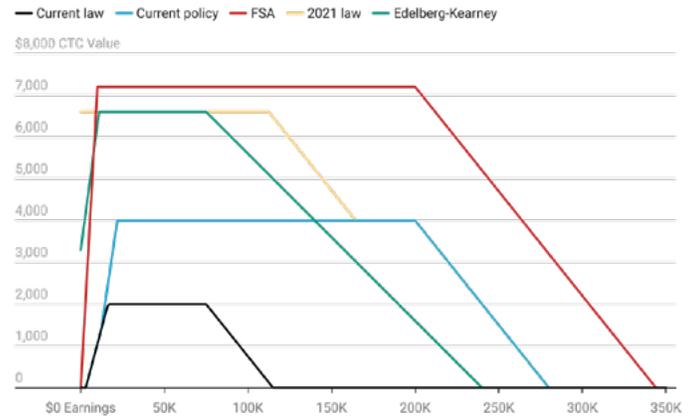
Design Parameter	Current Law	Current Policy	2021 Law	Edelberg-Kearney	Family Security Act 2.0
Maximum Value	\$1,000 per child.	\$2,000 per child.	\$3,000 per child plus \$600 under-6 bonus.	\$3,000 per child plus \$600 under-6 bonus.	\$3,000 per child plus \$1,200 under-6 bonus.
Phase-In	Phases in at a rate of 15 percent above \$3,000 in earnings.	Phases in at a rate of 15 percent above \$3,000 in earnings.	None.	Phases in at a rate of 30 percent above \$0 in earnings.	Phases in over the first \$10,000 of earnings.
Refund Limits	None.	Limited to \$1,700 per child.	None.	None.	None.
Phase-Out	Phases out at a rate of 5 percent above \$110,000 (\$75,000) for married filers in AGI.	Phases out at a rate of 5 percent above \$400,000 (\$200,000) for married (single) filers in AGI.	Phases down to \$2,000 at a rate of 5 percent above \$150,000 (\$75,000) for married (single) filers in AGI; the remainder phases out at a rate of 5 percent above \$400,000 (\$200,000) (\$75,000) for married (single) filers in AGI.	Phases out over a range of \$110,000-\$440,000 (\$75,000-\$240,000) for married (single) filers in AGI.	Phases out at a rate of 5 percent above \$400,000 (\$200,000) for married (single) filers in AGI.
Eligibility	Limited to ages 16 and under; SSN required.	Limited to ages 16 and under.	Limited to ages 17 and under.	Limited to ages 17 and under.	Limited to ages 17 and under; SSN required.

The figure below illustrates how CTC structure would vary with each reform. Tax credits that phase in and out with earnings can be visualized as a trapezoidal figure: the maximum value is represented by the plateau, and the phase-in and phase-out are represented by the left and right edges, respectively. The steeper the slope of an edge, the faster the phase-in or phase-out.

On a per-young child basis, the FSA offers the most generous CTC for families with at least \$10K in earnings. For families with no income, the 2021 Law is most generous: it has no phase-in, as reflected by the y-axis intercept being equal to the maximum credit value. The Edelberg-Kearney option represents a middle ground – half of the credit is available at \$0 of earnings, with the remaining value phasing in over a range of earnings.

Figure 1. Proposed CTC Benefit Value by Earnings and Child Ages**One Child Under Age 6**

Assumes earnings is the only source of income.

One Child Under Age 6, One Child Aged 6 or Over

Below, we describe each illustrative reform in detail. Reforms are characterized along four major design dimensions: the per-child maximum credit value, rules related to refundability and phase-in among low-income earners, phase-out rules, and child eligibility. In all scenarios, the current-law \$500 credit for other dependents (adults and nonqualifying children) is made permanent. Each scenario assumes the proposed law would go into effect starting in tax year 2026.

FAMILY SECURITY ACT 2.0

This reform option aims to simplify the tax code's treatment of children. It expands the benefit to young children while also strengthening work incentives.

1. **Maximum value.** The maximum amount would be raised to \$3,000 per child with an additional \$1,200 for each child under age 6.
2. **Phase-in and refundability.** The current-law CTC phases in at a rate of 15 percent for each dollar of earnings. This structure means that a family with two children must make more money to claim the full value of the credit compared with a one-child family. Under this proposal, the entire credit to which a family is eligible would instead phase in over the first \$10,000 in earnings. This design means that the phase-in rate rises with the number of children.
3. **Phase-out.** The proposal would retain the current-policy phase-out parameters: 5 percent above \$400,000 (\$200,000 for non-joint filers) in adjusted gross income (AGI).
4. **Child eligibility.** Under this option, the TCJA-established requirement that a Social Security number (SSN) is required for qualification would be made permanent (rather than expire at the end of 2025 as under current law). The maximum age would be increased from 16 to 17.
5. **Benefit consolidation.** Under this option, the Head of Household (HOH) filing status, which provides preferential tax treatment to certain unmarried parents, would be eliminated. It would also eliminate the Child and Dependent Care Tax Credit (CDCTC), a tax credit which offsets certain childcare costs. The reform also proposes cuts to the Earned Income Tax Credit (EITC). Under current law, the maximum EITC benefit scales with the number of qualifying children, up to three; the proposal would reduce the maximum benefit from \$6,600 to \$2,000 for childless joint returns and from \$7,430 to \$3,000 for filers with children. Phase-in and phase-out rates would change, and the current-law EITC marriage penalty would be eliminated.

6. **SALT deduction.** The Family Security Act 2.0 proposes to eliminate the deduction for state and local taxes (“SALT”), which is capped at \$10,000 through 2025 and uncapped thereafter.

Note that throughout this report, we often consider the Family Security Act 2.0’s CTC provision separately and then also consider its full set of proposed changes, as other proposals do not contain pay-fors, and we wish to provide some apples-to-apples comparisons.

CURRENT POLICY

This reform option would permanently extend the CTC’s design under current policy (the design under the TCJA). This reform would cement the tax code’s current approach to the CTC and in doing so prevent the credit from reverting in 2026.

1. **Maximum value.** The maximum CTC value would be \$2,000 per child.
2. **Phase-in and refundability.** For filers without sufficient tax liability against which to claim the CTC, a partial credit would be available. This refundable portion would be limited to the lesser of (1) 15 percent of earnings in excess of \$2,500 or (2) \$1,700 per child (indexed to inflation but limited to \$2,000). In other words, the credit would phase in at a rate of 15 percent.
3. **Phase-out.** The current-policy AGI thresholds of \$400,000 for joint returns and \$200,000 for others (above which the credit value phases out at a rate of 5 percent) would be made permanent.
4. **Child eligibility.** This option would make permanent the current-policy SSN requirement while maintaining the age limit at 16.

2021 LAW

This reform option would make permanent most CTC design parameters temporarily enacted as part of the ARPA in 2021. In addition to making the CTC more generous by increasing the maximum credit value, this reform expands benefits to low- or no-income families for whom current law provides no benefits. It does so by removing the earnings phase-in entirely and allowing the full value of the credit to be claimed regardless of income tax liability.

1. **Maximum value.** The maximum amount would be increased to \$3,000 per child, with an additional \$600 for children under age 6.
2. **Phase-in and refundability.** The phase-in would be eliminated, and the credit would be made fully refundable: in other words, the credit’s full value would be made available to all low- and middle-income parents regardless of how much they earn or owe in taxes.
3. **Phase-out.** The CTC would phase out over two separate ranges. First, the credit would be reduced by 5 cents for every dollar over \$150,000 in AGI for joint returns (\$75,000 single, \$112,500 head of households) until it reaches \$2,000. It would remain at that level until AGI reaches \$400,000 (\$200,000 for non-joint returns) when it begins to phase down to zero, again at a rate of 5 percent.
4. **Child eligibility.** This option would allow the SSN requirement to expire as under current law. The age limit would be increased to 17.

Note that the ARPA also made changes to the administration of the CTC in 2021, allowing parents to receive the credit in ongoing monthly installments rather than as a lump sum refund during tax-filing season. As a related matter, it allowed some taxpayers to use AGI from prior years when determining eligibility. These administrative changes shift the timing of government outlays and receipts rather than materially affecting tax liabilities. Because the focus of this brief is on how CTC design affects liability rather than receipts, the 2021 Law scenario modeled in this report does not reflect these administrative changes.

EDELBERG-KEARNEY

This reform option is designed to expand the CTC in a way that provides relief to low-income families while retaining the CTC's work incentives. It would do so by allowing non-earners to claim up to half of the maximum CTC value while increasing the rate at which it phases in. The reform also includes a broader and slower phase-out structure.

1. **Maximum amount.** The maximum amount would be increased to \$3,000 per child with an additional \$600 for children under 6.
2. **Phase-in and refundability.** Half of the credit's full value would be available at \$0 of earnings. The remainder of the credit would phase in at a rate of 30 percent of earnings, double the current-law rate of 15 percent. No other restrictions would apply (e.g., additional refund limits as under current policy).
3. **Phase-out.** This reform option would retain the current-law AGI phase-out threshold of \$110,000 (\$75,000 for non-joint filers). Above this threshold, the credit value would phase down until it reaches \$0 at \$440,000 (\$240,000 single and head of household) of AGI. That is, the design utilizes a range-based phase-out structure, in which the effective phase-out rate depends on the number of children claimed.
4. **Child eligibility.** Under this option, there would be no SSN requirement, and the maximum age would be increased to 17.

BUDGETARY EFFECTS

Each CTC expansion would increase deficits relative to current law. The table below presents estimated budgetary effects over the budget window and in the longer run.

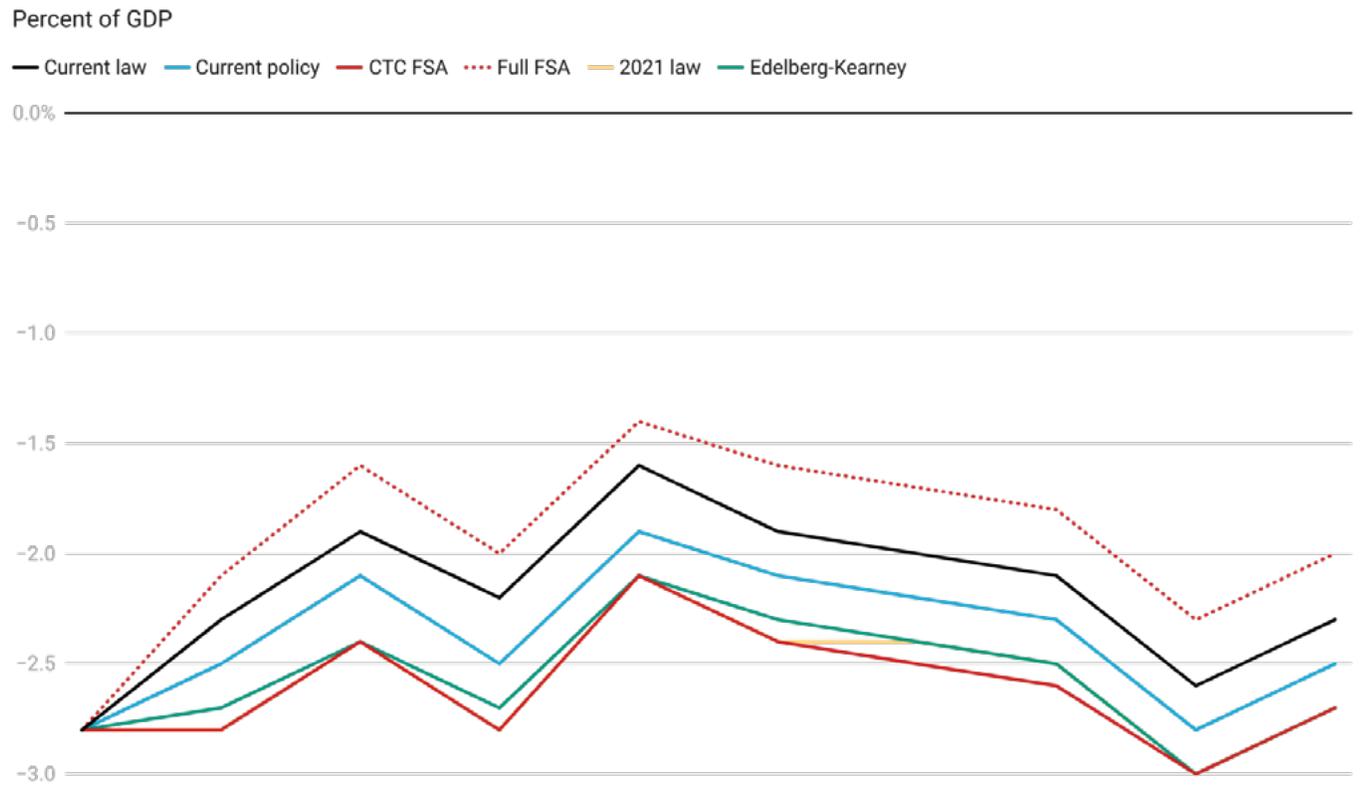
Table 1. Conventional Budget Estimates

Provision	Billions of dollars										Share of GDP			
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Budget window	Budget window	Second decade	Third decade
Current policy	0	-68	-85	-86	-87	-89	-90	-91	-92	-93	-780	-0.2%	-0.2%	-0.1%
CTC FSA	0	-158	-183	-183	-183	-184	-185	-185	-186	-186	-1,634	-0.5%	-0.4%	-0.3%
Full FSA	0	35	71	79	86	94	103	111	121	130	830	0.2%	0.4%	0.5%
2021 law	0	-152	-173	-172	-172	-172	-172	-171	-171	-170	-1,526	-0.4%	-0.3%	-0.2%
Edelberg-Kearney	0	-144	-163	-162	-161	-160	-159	-159	-158	-157	-1,421	-0.4%	-0.3%	-0.2%

- We estimate that the full Family Security Act 2.0 proposal, which includes several “pay-for” provisions, would reduce deficits. The proposal was designed to be approximately revenue neutral through 2025, years during which the TCJA is in effect. However, the reform option’s proposed elimination of the SALT deduction raises substantially more revenue after 2025 when the SALT deduction is uncapped than against a current-policy TCJA extension baseline, which retains the \$10,000 limit.
- Despite meaningful differences in design, the FSA CTC, 2021 Law, and Edelberg-Kearney are estimated to have similar budgetary costs, ranging from \$1.4 to \$1.6 trillion. This underscores the fact that policymakers can accomplish different goals per dollar spent on CTC expansion.
- The Current Policy option would cost an estimated \$780 billion over the budget window.
- In the longer run, CTC expansion costs would fall as compared to the size of the overall economy. This pattern reflects the lack of inflation indexation in each reform option. The fixed-dollar nominal credit value falls in inflation-adjusted terms over time, causing more families to earn incomes in excess of the phaseout threshold and fail to benefit from the credit.

The figure below puts these cost estimates into the broader fiscal context. It plots the projected primary surplus over the budget window under current law (as projected by the Congressional Budget Office) and under each counterfactual scenario.

Figure 2. Primary Budget Surplus of the United States, FY2025-2035
Percent of GDP

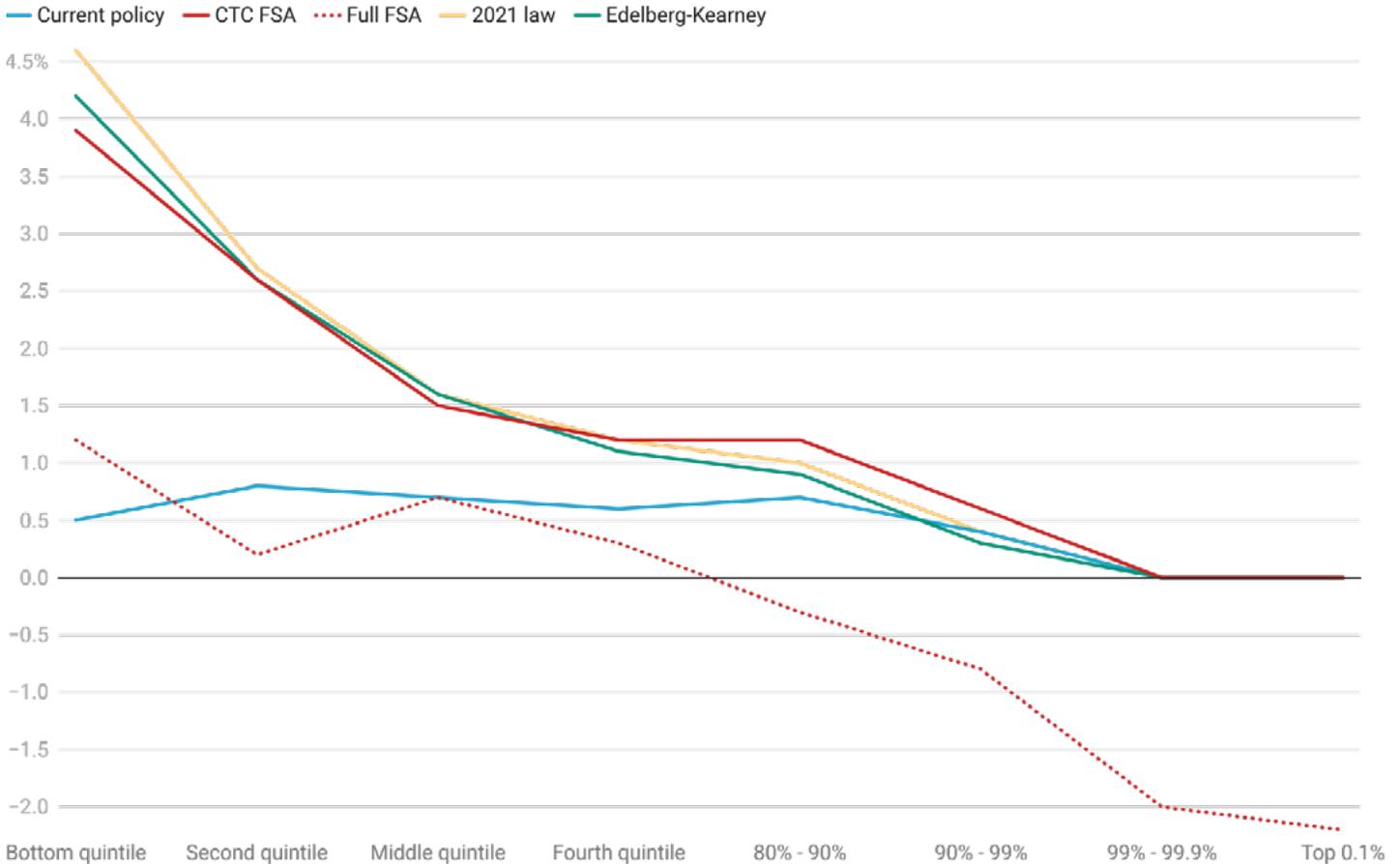


DISTRIBUTIONAL EFFECTS

This section highlights several notable findings about distributional impact by income. Please see this [companion piece](#) for more information on how we calculate distributional metrics.

The figure below illustrates how each scenario affects after-tax income by income group.

Figure 3. Percent Change in After-Tax Income by Income Group, 2026



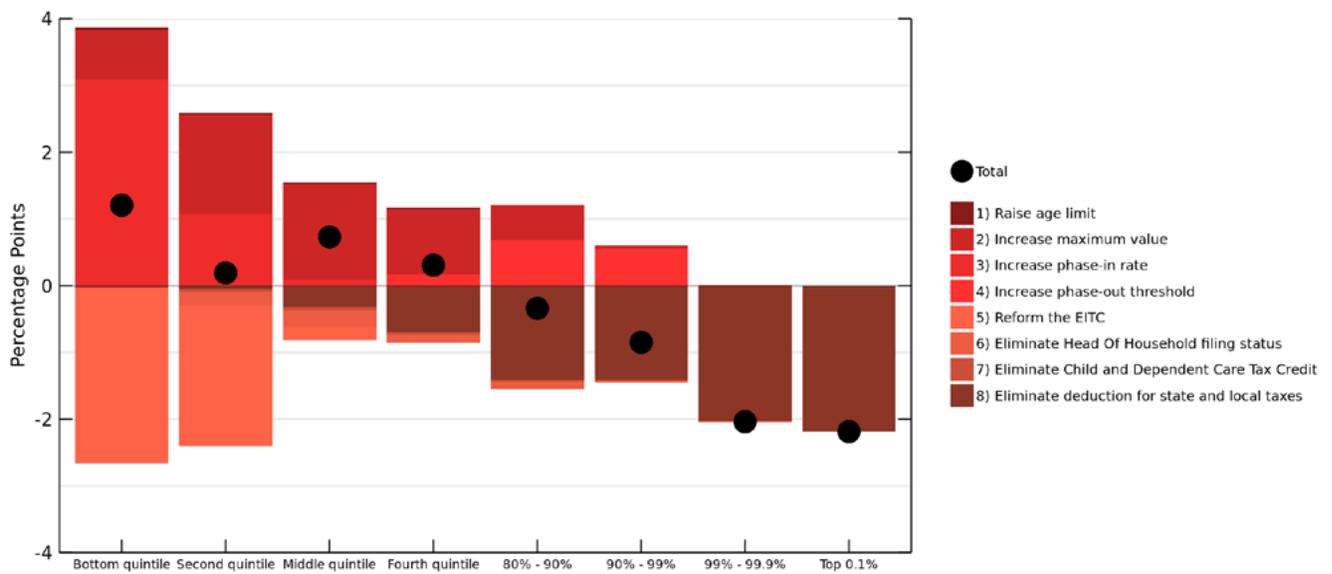
Notes: Estimate universe is nondependent tax units, including nonfilers. "Income" is measured as AGI plus: above-the-line deductions, nontaxable interest, nontaxable pension income (including OASI benefits), and employer-side payroll taxes. Income percentile thresholds are calculated with respect to positive income only and are adult-weighted.

- The above figure highlights the general structure of the CTC: given a flat credit value and a phase-out, benefits are generally largest as a share of income for lower-income groups.
- The FSA, 2021 Law, and Edelberg-Kearney CTC provisions are broadly similar in their distributional effects. Because the 2021 Law allows the full credit value at \$0 of earnings, its bottom-quintile benefits are slightly larger, on average.
- Unlike the 2021 Law or Edelberg-Kearney options, the FSA's CTC provision offers no benefit to non-working parents. For the lowest income quintile, this restriction slightly outweighs the larger benefit for children aged under 6.

- The FSA's pay-for provisions would have different impacts at different income levels. The elimination of the SALT deduction would raise taxes on the top 20 percent of families by income, outweighing any benefits from the larger CTC for this group. The EITC cuts and elimination of head-of-household status offset about three-quarters of the CTC benefit for the bottom quintile, and almost all of the benefit for the second quintile, which would be worse off on average than under Current Policy.
- Because the Current Policy option has the lowest maximum credit value, its effect on after-tax income is smaller at all income levels. Its phase-in structure – wherein the credit phases in at a rate of 15 percent, begins at \$2,500 of earnings rather than \$0, and is restricted based on income tax liability – limits benefits for the lowest income group. The bottom quintile would only see a 0.5 percent increase in after-tax income, whereas for the next two quintiles, that figure is closer to 1 percent.

Each reform differs in how exactly it delivers tax cuts – or tax increases – to families at each income level. The reforms differ in their treatment of child eligibility, maximum credit values, refundability rules, and phase-out structure. The following four figures break down how each provision contributes to the overall effect on after-tax income in 2026.

Figure 4. Family Security Act 2.0: Contribution to Percent Change in After-Tax Income by Income Group, 2026
Percentage Points

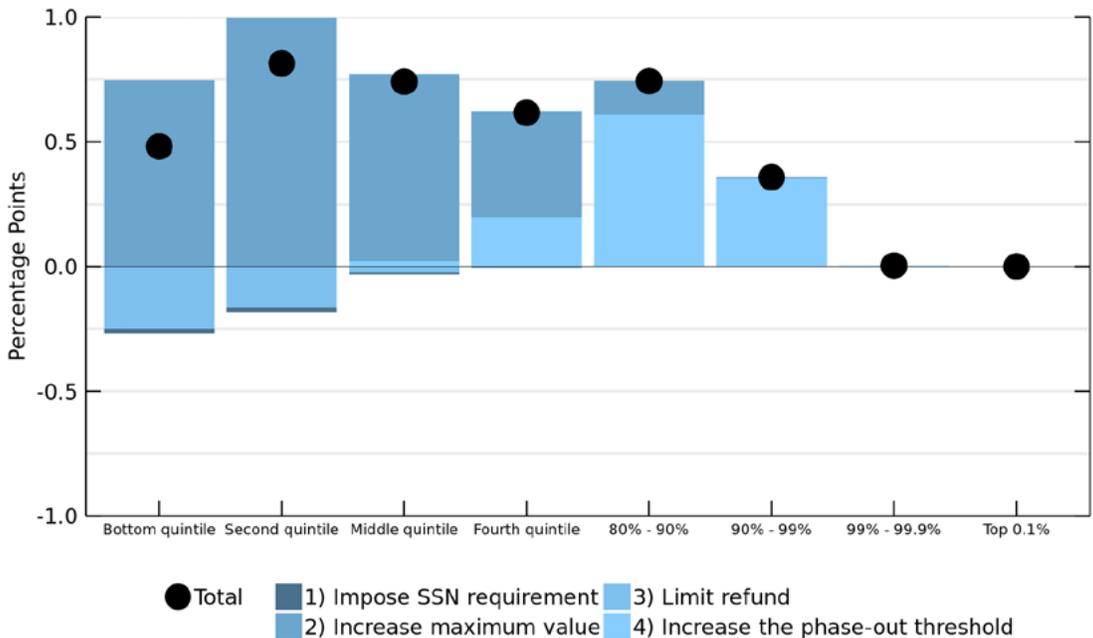


The FSA would substantially reduce the earnings threshold for full benefits by increasing phase-in rates. For example, if the FSA retained the current-law phase-in rate of 15 percent, a family with two young children would have to earn more than \$56,000 to claim the full credit value; instead, it would reduce this threshold to just \$10,000. This provision drives tax cuts for the low end of the income distribution.

These benefits, however, would be partially offset through the FSA's goal of consolidating child benefits across the tax code. Its EITC cuts would weigh most heavily on the bottom two quintiles, and the elimination of head-of-household status would slightly raise taxes for those ranked 20th to 90th in income percentile. The CDCTC is a relatively small credit under current law, so its elimination does not meaningfully contribute to overall changes. Finally, the SALT deduction elimination drives tax increases for the top quintile – especially those at the very top, for whom the inability to deduct state and local taxes represents a large federal tax increase.

Figure 5. Current Policy: Contribution to Percent Change in After-Tax Income by Income Group, 2026

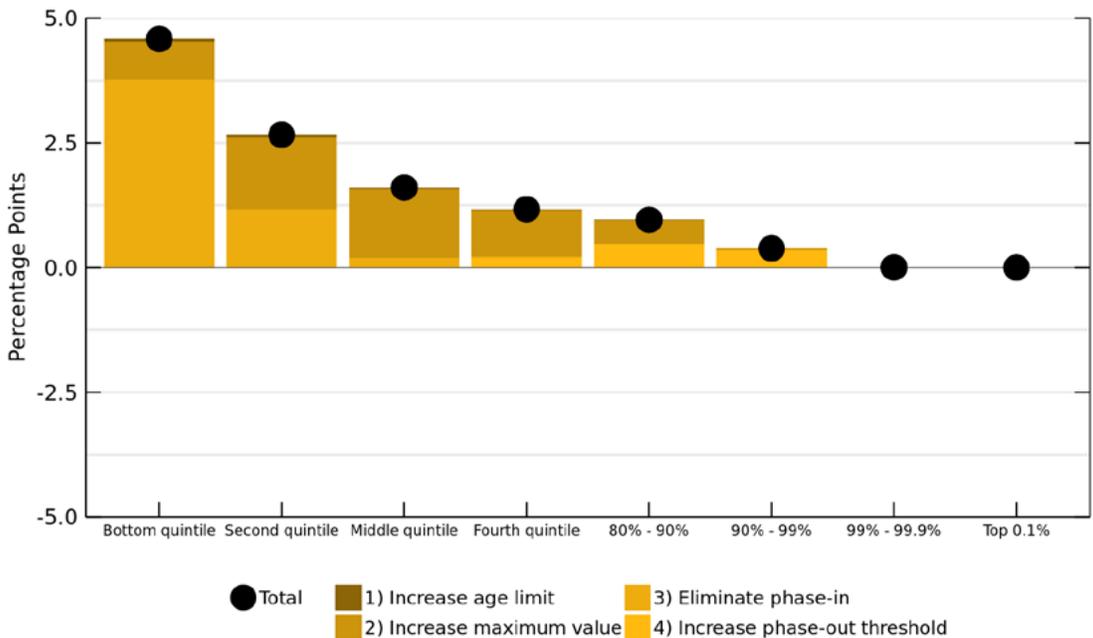
Percentage Points



For Current Policy, the largest driver of tax cuts is the increase in the CTC credit value from \$1,000 to \$2,000. This option's limitation on refunds for those without sufficient tax liability is a drag on overall benefit to the bottom two quintiles – groups that, under current law, generally have little or no income tax liability. The increase in the phase-out threshold generates benefits for upper-middle class families who are phased out under current law.

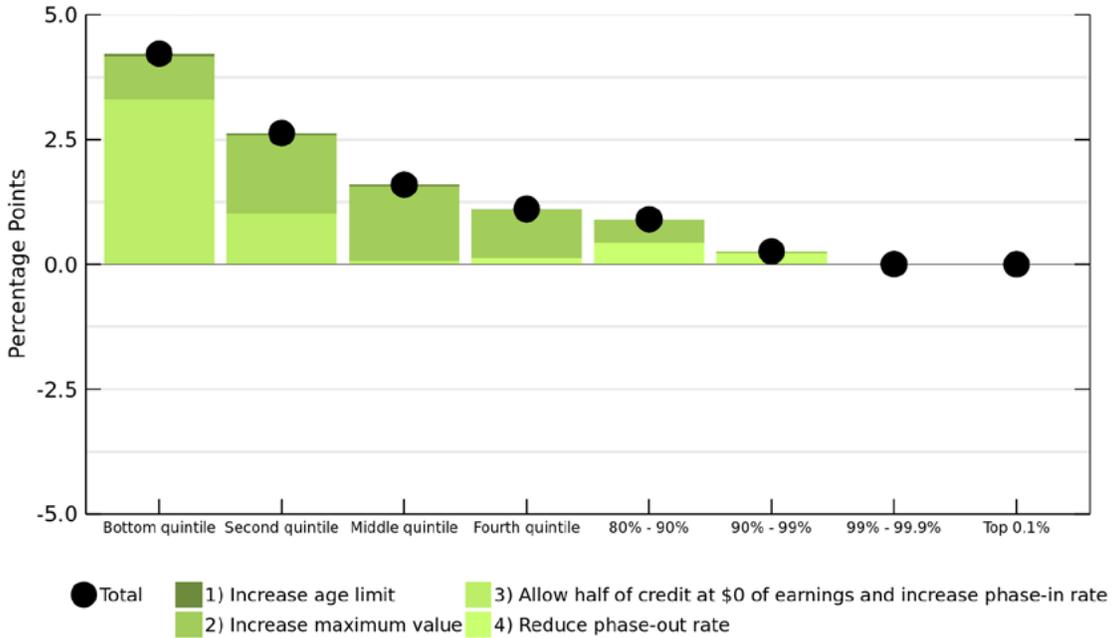
Figure 6. 2021 Law: Contribution to Percent Change in After-Tax Income by Income Group, 2026

Percentage Points



A decomposition of distributional impact of 2021 Law reveals that full refundability is the key to delivering benefits to low-income families, a group that is largely shut out from the Current Law CTC because of its phase-in structure. As is the case under Current Policy, those in the top quintile benefit only because the AGI phase-out threshold rises to \$400,000 (\$200,000 for non-joint returns) from \$110,000 (\$75,000).

Figure 7. Edelberg-Kearney: Contribution to Percent Change in After-Tax Income by Income Group, 2026
Percentage Points



Estimate universe is nondependent tax units, including nonfilers. "Income" is measured as AGI plus: above-the-line deductions, nontaxable interest, nontaxable pension income (including OASI benefits), and employer-side payroll taxes. Income percentile thresholds are calculated with respect to positive income only and are adult-weighted.

The Edelberg-Kearney proposal highlights that partial refundability and a faster phase-in rate would retain most of 2021 Law’s benefits for low-income families, most of whom have some amount of earnings, while incentivizing work. (For example, the two designs are identical for a low-income, one-child family once earnings reach \$6,000). Edelberg-Kearney’s phase-out structure, which begins at the same current-law threshold but reduces the credit value more slowly, extends some fraction of the full CTC value to upper-middle class families, who under current law are entirely phased out.

We emphasize again that it is difficult to compare the full FSA plan, which includes pay-fors, to the other three options, which do not. A full accounting would incorporate all possible impacts of deficit financing and how that could impact taxpayers across the income spectrum. The Budget Lab does not attempt this exercise at this time.

MICROECONOMIC EFFECTS

In this section, we expand our scope to allow for two different kinds of microeconomic feedback: (1) labor force participation changes in response to changes in work incentives, and (2) later-life productivity gains in response to cash assistance in childhood. These changes would not be included in a conventional score, which assumes that overall economic income is unchanged by policy reforms.

EFFECTS ON LABOR FORCE PARTICIPATION²

Changes in tax policy can impact work incentives through two channels. One is the income effect, wherein people may decide to work less in response to tax cuts because they can maintain the same standard of living despite working fewer hours. Economists generally believe income effects are small for the range of policy reforms considered in this analysis.³

The other is the *substitution effect*: people may work less or quit working entirely if the return to additional work falls due to an increase in *marginal tax rates*. In other words, taxes affect the cost-benefit calculation of working versus not working. The precise degree to which workers respond to changes in the return to work – the “participation elasticity” – is a matter of academic contention, but there is consensus that certain subgroups of workers are meaningfully sensitive. Parents and lower-income earners are generally thought to be more responsive than workers who are childless and/or earn higher incomes. Recent academic disagreements over the extent to which the 2021 CTC would affect employment if made permanent were mostly a [debate about appropriate participation elasticities](#).

The reforms analyzed in this report vary in their impact on the return to work – and therefore, their projected impact on the decision to work. Consider an unmarried parent of two young children who is deciding whether to work a part-time job at \$15 per hour. If they work 20 hours per week, they will earn about \$15,000 annually before taxes. How would each reform option affect the decision whether to take this job?

The answer lies in phase-in rates, which create a “matching grant” effect: for every additional dollar of earnings over some range, the government will kick in an extra X cents, where X is the phase-in rate. For example, if the phase-in rate is 30 percent, take-home pay rises by \$130 for every additional \$100 earned at work. This matching grant effect increases the return to work in the same way that payroll taxes reduce the return to work. Programs that phase in with earnings are often called “wage subsidies” for this reason.

The following table reports the matching grant effect for our hypothetical parent of two under each CTC reform option.

Table 2. Work Incentives for a Hypothetical Unmarried Parent of Two Children Under Age 6

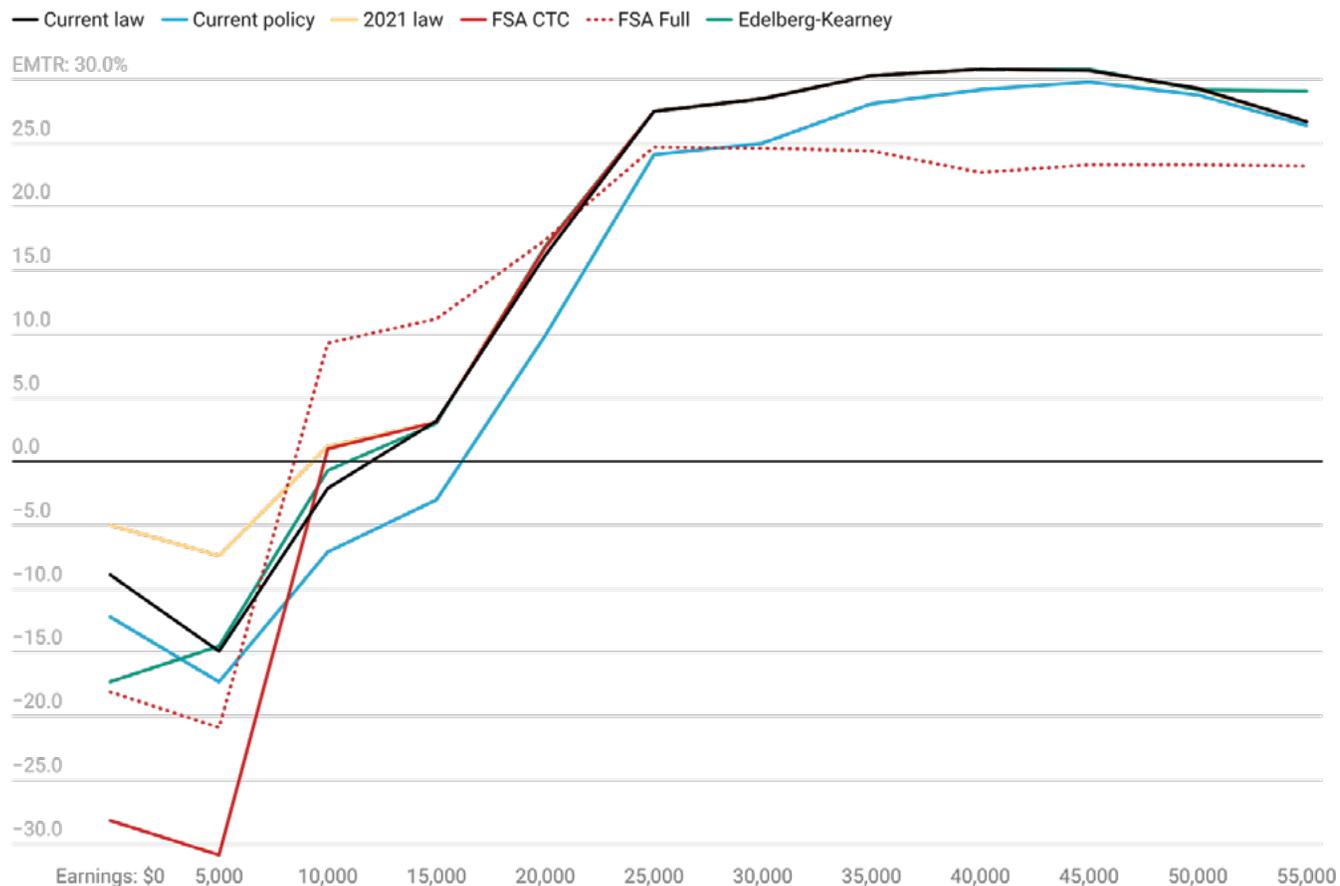
CTC design	Sum of earnings and CTC		CTC's matching grant effect	
	Decides not to work	Decides to work	Dollars	Percent
Current Law	\$0	\$16,800	\$1,800	12.0%
Current Policy	\$0	\$16,875	\$1,875	12.5%
CTC FSA	\$0	\$23,400	\$8,400	56.0%
2021 Law	\$7,200	\$22,200	\$0	0.0%
Edelberg-Kearney	\$3,600	\$22,200	\$3,600	24.0%

Assumes no other income includible in AGI.

- The FSA CTC provision would provide no benefits at \$0 of earnings but make available the full credit value by \$10,000 of earnings. This change creates a substantial matching grant effect, especially for parents of multiple children. In the case of the hypothetical parent of two, the FSA CTC would offer a sign-on bonus of \$8,400.
- The FSA CTC expansion is proposed in the context of cuts to other programs that also strengthen the return to work for low-income parents. The hypothetical parent of two would see their EITC benefit fall from about \$6,000 to just \$2,000, meaning the matching grant effect under the full FSA would be smaller than suggested by considering the CTC provision alone.⁴
- Current Law and Current Policy have similar phase-in rules, and thus take-home pay would be similar under both scenarios for this parent. The fact that Current Policy offers a larger maximum credit value does not factor into this parent's labor force participation decision at this income level.
- 2021 Law, on the other hand, does not phase in with earnings and therefore creates no matching grant effect. This means that, considered in isolation, the CTC would be neutral with respect to work: the parent would receive the full credit value independent of the decision to work. But by removing the existing work subsidy, moving from current law to 2021 Law would disincentivize work. In other words, effective marginal tax rates would rise under 2021 Law.
- Because the phase-in rate would rise to 30 percent – and despite the proposal offering some amount of income even if the parent chooses not to work – the matching grant effect under Edelberg-Kearney would be larger than under current law. This design structure reflects the proposal's goal of alleviating deep poverty without disincentivizing work.

Differences in matching grant effects show up in effective marginal tax rates (EMTRs) on wages – that is, the additional tax paid on an additional dollar of earnings. The figure below plots average EMTRs, including payroll taxes, for parents by amount of earnings.

**Figure 8. Estimated Average Effective Marginal Tax Rates on Wages Among Parents, 2026
Percentage Points**



EMTRs include individual income taxes and employee-side payroll taxes and are calculated by adding \$1 to W-2 wages. Calculations are with respect to individual earners, not tax units.

- Low-income parents generally face negative EMTRs under current law due to phase-ins for the CTC and EITC. As earnings rise and those credits plateau and/or begin to phase-out, average EMTRs quickly rise to levels associated with higher-income earnings.
- The FSA's CTC provision and its phase-in structure deeply cut average EMTRs for parents making below \$10,000 – after which point the credit no longer subsidizes wages at the margin. However, the FSA's EITC reforms increase EMTRs for most parents. The net effect is to increase work incentives at the very lowest end of the distribution but reduce them for those earning \$10,000-\$20,000.
- One interpretation of these findings is that the FSA strengthens the incentive to participate in the labor force, but among those already working part-time, it reduces the incentive to increase hours worked or move to a higher-paying job.
- Despite maintaining the current-law phase-in rate of 15 percent, Current Policy would slightly reduce average EMTRs among parents. By doubling the maximum value to \$2000, fewer parents would have reached the end of the phase-in range among the earnings groups shown in the chart.
- By eliminating the phase-in entirely, 2021 Law would increase average EMTRs for low-income parents.

- The Edelberg-Kearney reform option would reduce average EMTRs on the first \$5,000 of earnings by about 8 percentage points. This change is caused by its doubling of the phase-in rate.

Next, we estimate how these changes in incentives would generate employment gains or losses. This analysis depends critically on assumed labor supply elasticities. Though recent work found no statistically significant impacts of temporary changes to the CTC on labor market incomes, a broader literature on participation elasticities suggests the response would not be zero in the case of permanent reforms. We adapt and extend an approach similar to that of Bastian (2023) in our tax microsimulation model; please refer to [this page](#) for a complete description of our methodology to estimate employment changes.

The following table presents our estimates of the change in overall employment, rounded to the nearest 50,000 workers. We find that the FSA reforms, Current Policy, and Edelberg-Kearney reforms would have similarly modest, positive impacts on employment, while 2021 Law would slightly reduce overall employment.⁵ The CTC provision of the FSA generates the largest employment gains, though its stronger work incentives are mostly outweighed by the proposal's EITC cuts. To put these numbers in context, the average monthly increase in the labor force from December 2011 to December 2019 was around 110,000 people.

Table 3. Estimated Change in Employment, 2026

Reform option	Change in employment	Share of projected labor force
Current Policy	100,000	0.1%
CTC FSA	500,000	0.3%
Full FSA	100,000	0.1%
2021 Law	-200,000	-0.1%
Edelberg-Kearney	150,000	0.1%

Employment change estimates are rounded to the nearest 50,000.

EFFECTS ON CHILD OUTCOMES

To what extent does cash assistance for families with children – particularly low-income families with children – improve economic outcomes for those children when they grow up? The answer has important budgetary implications. If policy interventions today can increase the productivity and wages of the next generation, some fraction of the up-front costs will be offset by higher income and payroll tax revenues in the future.

Additional income in childhood might impact later-life outcomes through various channels including improved nutrition and health, better education, the ability to move to higher-opportunity geographic areas, and more. [Recent policy research](#) has attempted to quantify the benefits of a 2021 Law-style CTC expansion by using empirical evidence on the relationship between cash or near-cash assistance to lower-income families.

To account for these potential effects in our budget scores, we take a somewhat different approach. The basis for our simulations is descriptive evidence on intergenerational mobility – the observed relationship between parent's income and child's eventual income. Specifically, we measure the impact of a reform in

terms of parent income rank, then adjust future labor market outcomes of affected children to partially reflect those of children in the counterfactual parent rank. A complete technical description of our methodology can be found [here](#).

To summarize our approach, consider children in the 2026 birth cohort who, under a sample CTC expansion proposal, will receive an extra \$5,000 per year until they turn eighteen. We estimate the effect of the CTC on 2050 earnings for the 2026 birth cohort as follows for each simulated earner in 2050 under current law:

1. We use the 100-by-100 rank-rank mobility matrix from [Chetty et. al \(2014\)](#) to impute a parent income percentile. For example, for bottom quintile child earners, the median imputed parent income percentile is the 35th percentile, with half of imputed parent income percentiles lying below the 35th percentile and half lying above.
2. We use the parental income distribution to convert the \$5,000 payment to parent income percentiles p . For example, at the 15th parent income percentile during the 2026-2042 years receiving the CTC, $\Delta p = 5$: the child's parents would have earned at the 20th income percentile if their parents would have earned \$5,000 more while all other parents' incomes were held fixed.
3. We increase the child's earnings by $0.34 * 0.2 * \Delta p$ child earnings ranks, as measured in the status quo child earnings distribution. The parameter 0.34 equals the cross-sectional relationship between child income rank and parent income rank. The parameter 0.2 equals our chosen estimate of the causal share of the child-parent rank-rank cross-sectional relationship. For example, for a child at the 20th percentile in the 2050 current law wage earnings distribution with an imputed parent at the 15th percentile, we increase the child earnings by \$100, which is equal to the dollars in the 2050 current policy income distribution represented by $0.2 * 0.34 * 5$ child ranks.

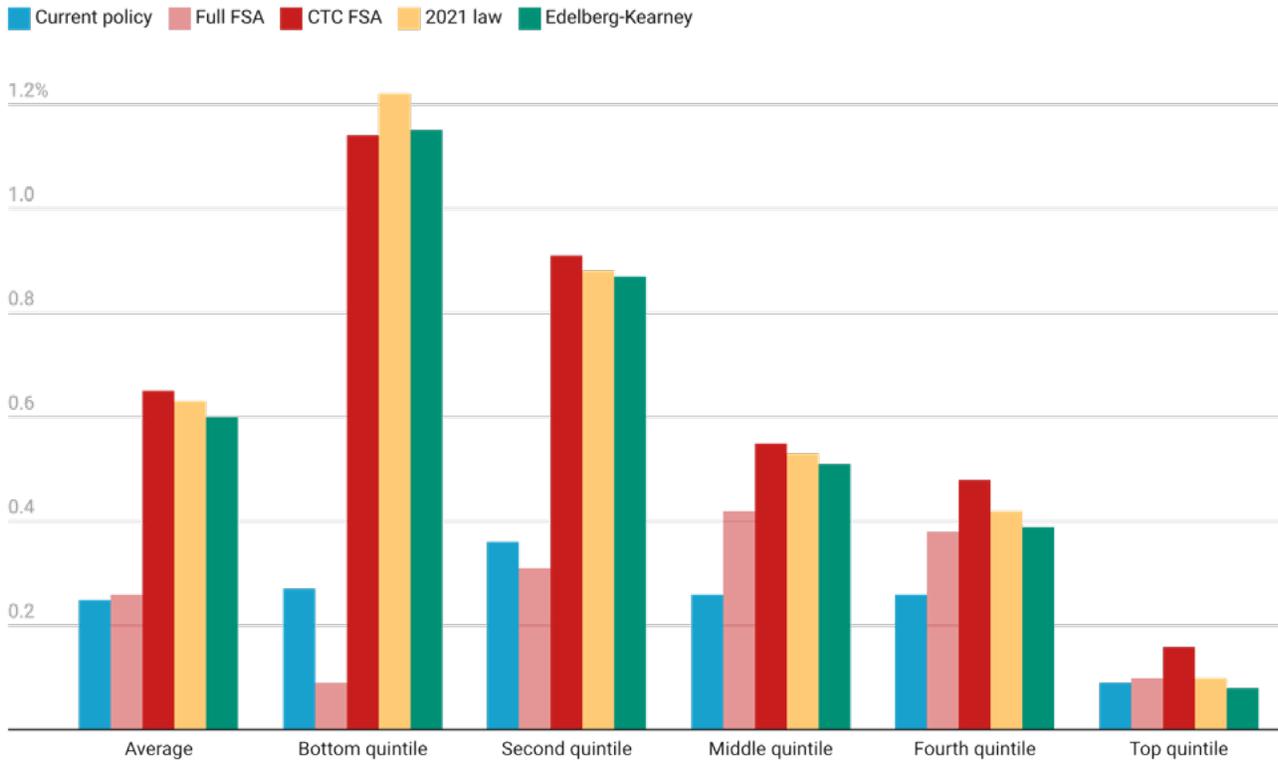
The 20 percent assumption is informed by our conversations with researchers who work on intergenerational mobility and poverty issues, and our assessment of the academic literature, in which some papers find no impact of cash or cash-like resources during childhood on later life outcomes, while other papers find large impacts. This assumption implies that incremental cash during childhood has substantial impacts on children's later-life outcomes, but that 80 percent of the correlation between parent and child income is not attributable to income alone.

Compared with our other estimates, the results in this subsection are considerably more uncertain. This exercise involves strong assumptions and depends on multiple data imputation steps. Still, we believe it functions as a useful starting point for a discussion about plausible magnitudes.

Our estimation procedure involves several strong assumptions, including those that can lead to overestimating the positive revenue feedback of the CTC. First, we do not estimate capital crowd-out and resulting impacts on wages due to a deficit-financed CTC. Second, our 20 percent causal estimate is a general equilibrium parameter that includes wage adjustments due to skill increases, but we do not vary the 20 percent causal estimate across years as new birth cohorts age into the policy and enter the workforce. Third, the 20 percent assumed causal share is highly uncertain and implies a larger (29 percent) causal share of after-tax income, under the approximation that most U.S. households face an approximately 30% (i.e., $0.29 = 0.2 / (1 - 0.3)$) all-in effective marginal income tax rate as suggested by [Piketty, Saez, and Zucman \(2016\)](#). We intend to revisit and refine our assumptions over time and emphasize that these estimates are a work in progress.

The following figure displays estimated changes in wages in 2050 among children exposed to a full 18 years of each reform. It breaks out effects by parent income rank.

Figure 9. Estimated Impact on Earnings by Parent Income Group, 2050
 Change in Wages Relative to Baseline, Percentage Points



Universe is tax units with adults who were under age 18 during or after 2026. Parent income rank is determined with respect to parent tax units only.

- Considered alone, the FSA’s CTC provision would provide later-life benefits comparable to those of 2021 Law and Edelberg-Kearney. But the package as a whole, which offsets CTC expansion with other tax increases, especially for unmarried parents with multiple children, is expected to provide limited benefits, on average, for children who grow up in this group.⁶
- We project that kids who grow up in a bottom-quintile family would fare best under the 2021 Law and Edelberg-Kearney reform options, with wages for these children being one percent higher compared to current law (about \$300 in additional earnings every year, adjusted to current price levels). Current Policy, which excludes low-income families from receiving full benefits, would generate much smaller effects for children in this group.
- Each CTC expansion would provide smaller benefits as a share of income to higher income families. Children whose parents rank in the top quintile are expected to see the smallest relative benefit in adulthood, fundamentally driven by the CTC representing a smaller share of income at higher income levels.

PARTIALLY DYNAMIC BUDGET EFFECTS

The cost estimates presented in the Budgetary Effects section do not reflect second-order revenue impacts of changes in parental employment or improvements in later-life outcomes. The table below presents the revenue change attributable to these types of behavioral feedback by scenario.

Table 4. Indirect Budget Effects due to Microeconomic Feedback, FY2025-2054
Billions of Dollars

Scenario	Budget window	Second decade	Third decade
Current Policy	3	9	42
CTC FSA	7	23	100
Full FSA	4	11	43
2021 Law	-2	11	85
Edelberg-Kearney	3	17	86

- The effects of a policy reform on children’s labor market outcomes take decades to fully manifest. As such, revenue feedback during the budget window mostly reflects changes in parental employment. During this period, only 2021 Law is expected to reduce employment and thus generates slightly negative revenue feedback, although for all plans the magnitudes of these impacts are relatively small.
- By the third decade, full cohorts of children who were fully exposed to a policy reform would now be adult workers. Here, long-run effects on children’s earnings outweigh short-run parental employment responses. Comparing 2021 Law to Current Policy in the third decade helps illustrate this point: despite creating second-order revenue losses through its employment effects, positive revenue feedback is expected to exceed that of Current Policy due to larger impacts on children’s earnings.
- While these results suggest that revenue inflows offset more than 10 percent of new outlays by the 2050s under certain reform scenarios, it is difficult to meaningfully compare concurrent outlays (which are spent on the current generation of children) with new revenues (which accrue due to policy interventions in prior generations). This is especially true of the reforms considered in this report, all of which are not indexed to inflation and thus fall in nominal cost over time due to real bracket creep, meaning that a crude contemporaneous comparison overstates the degree to which a policy “pays for itself.”⁷

MACROECONOMIC EFFECTS

In this section, we present estimates of how the reform options would each affect macroeconomic aggregates such as GDP, inflation, and interest rates, as well as the feedback effects that any changes in economic growth would have on revenues. To produce these estimates, we use the [FRB/US macroeconomic model](#), an open-source general-equilibrium model of the U.S. economy used by staff at the Federal Reserve since 1996. (For a detailed explanation of our use of FRB/US for dynamic revenue estimation, [see here](#).)

In principle, expansions of the Child Tax Credit affect both aggregate supply and aggregate demand:

- On the supply side, reforms to the CTC affect work incentives through changes in marginal tax rates.
- On the demand side, reforms to the CTC affect households' after-tax income, leading to changes in their demand for goods and services.

Importantly, in our use of the FRB/US model, we limit ourselves to the demand-side effects of the policy changes we study and do not currently account for the effects on labor supply and earnings discussed in the previous section. Additionally, because the FRB/US model reflects only limited heterogeneity among households, the model may understate effects on the demand side if lower-income households have a higher marginal propensity to consume out of income than the average U.S. household. We should note that the Budget Lab's macroeconomic modeling efforts are a work in progress, and we plan to refine our approach in the future.

It is also important to emphasize that the magnitudes of all macroeconomic effects, as well as their timing, are highly dependent on our assumptions about the monetary policy response to fiscal shocks (both temporary and permanent). We assume that the Federal Reserve follows an inertial Taylor rule in setting interest rates, and that the equilibrium real Federal funds rate (r^*) adjusts dynamically.⁸

EFFECTS ON MACROECONOMIC AGGREGATES

As shown in Figure 10, all reforms except for the full FSA would lead to small, short-run increases in real GDP growth due to increases in aggregate demand. The FSA, on the other hand, would lead to a temporary but small decrease in aggregate demand, slowing real GDP growth in the short run. After approximately five years, however, these direct demand effects would fade and the policies would look largely similar with respect to GDP growth, although the FSA would boost GDP growth very slightly in the longer run.

The changes in GDP growth mean that in the short run the level of GDP is slightly higher under the non-FSA reforms, while in the long run it is slightly higher under the FSA. While this difference in real GDP does not reflect the increases in employment or earnings in the microeconomic feedback section discussed above, it does emphasize the importance of considering pay-fors when thinking about long-run investments in support for families.

Figure 12, meanwhile, shows that the different scenarios would have very small effects on aggregate inflation in both the short and long run.

All reforms would have small but persistent effects on interest rates. As shown in Figure 13, reductions in federal borrowing under the FSA would lead to lower interest rates relative to baseline, while increases in borrowing would lead to higher interest rates under the remaining scenarios.

Figure 10. Four-Quarter Real GDP Growth, 2025-2054
Percent

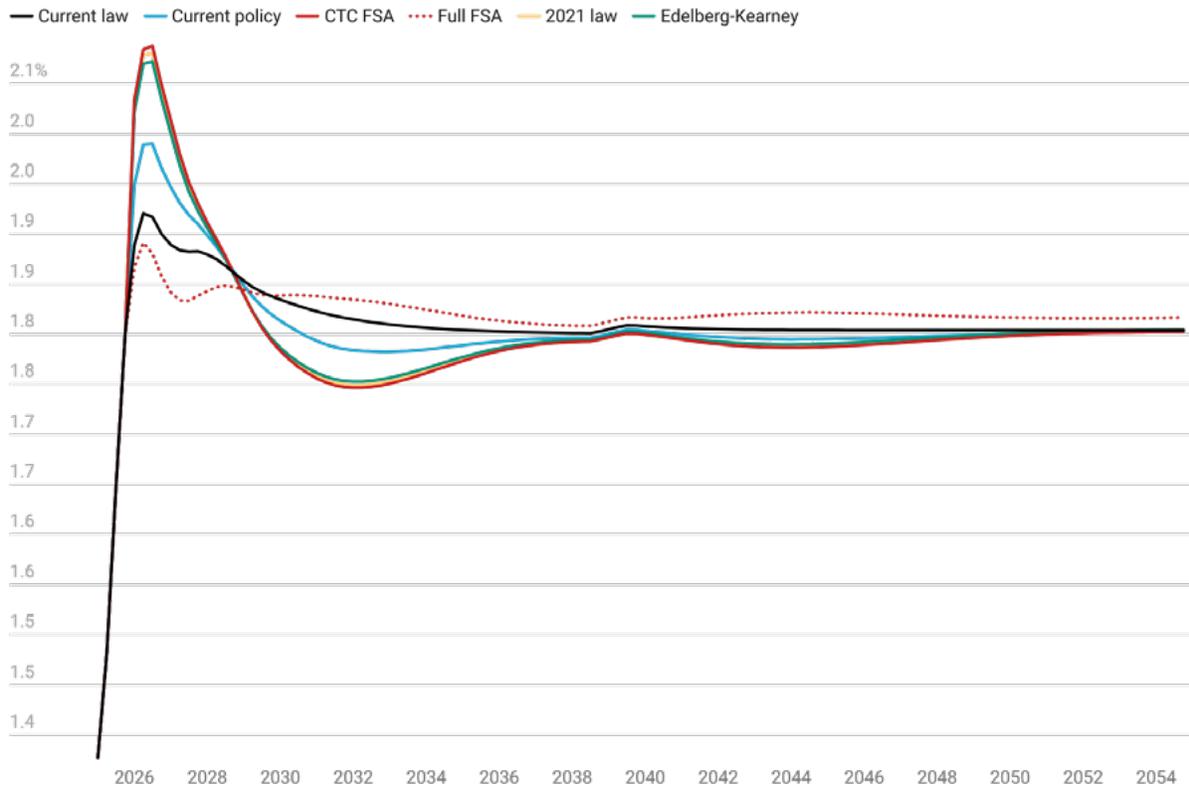


Figure 11. Change in Real GDP Level from Current Law, 2025-2054
Percent of Current-Law Real GDP

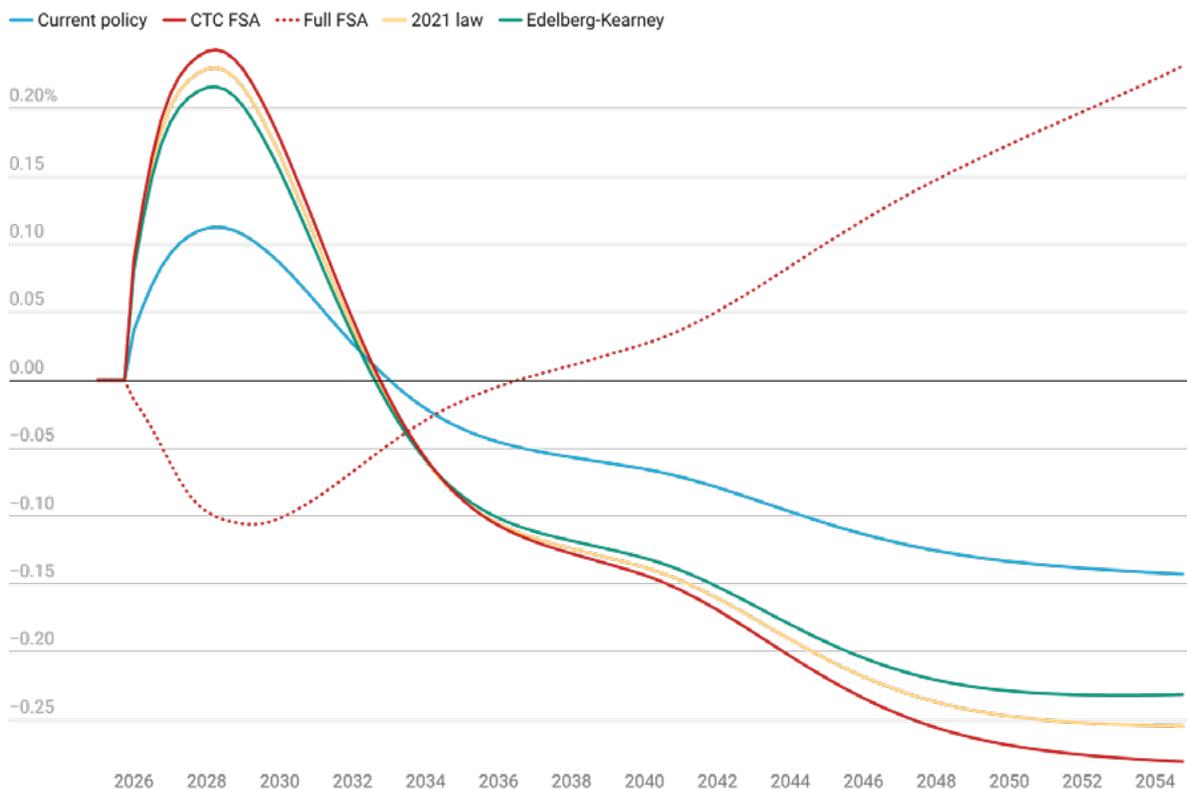


Figure 12. Core PCE Price Inflation, 2025-2054
Percent Change, Annual Rate

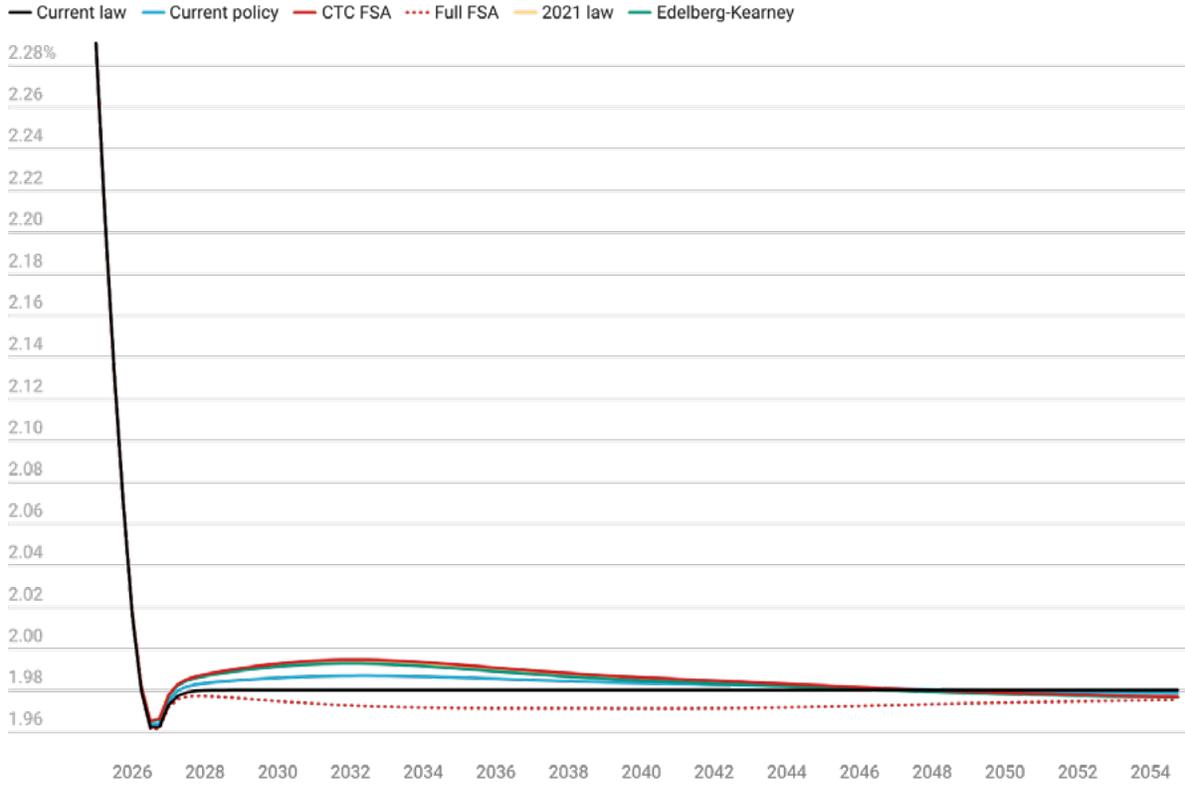
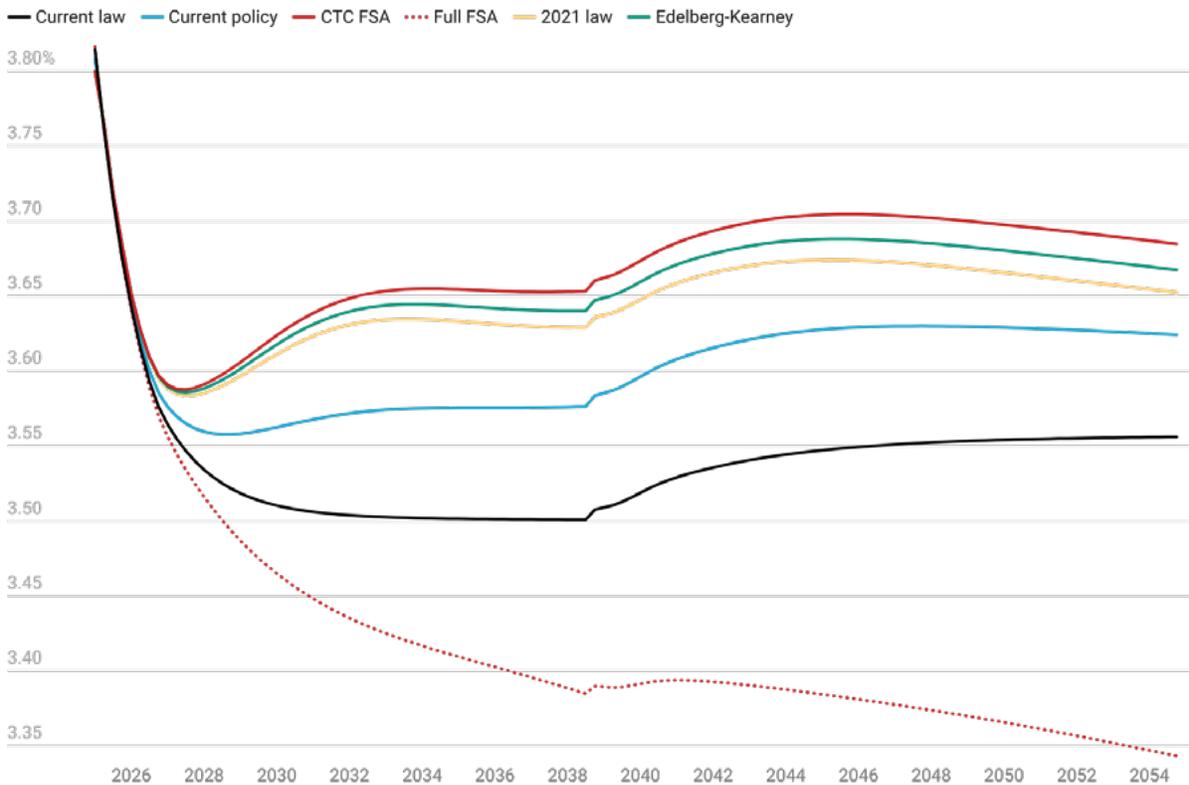


Figure 13. Ten-Year Treasury Bond Interest Rate, Nominal, 2025-2054
Percent



DYNAMIC (MACROECONOMIC) BUDGET EFFECTS

Macroeconomic changes feed back into revenues through their effect on taxable income. Policy reforms that increase real economic growth will be less expensive (or raise more revenue) than a conventional score would suggest; the opposite is true for reforms which reduce growth. The table below presents the revenue change attributable to our estimated changes in the macroeconomy.

Table 4. Indirect Budget Effects due to Macroeconomic Feedback, FY2025-2054^B
Billions of Dollars

Scenario	Budget window	Second decade	Third decade
Current Policy	3	9	42
CTC FSA	7	23	100
Full FSA	4	11	43
2021 Law	-2	11	85
Edelberg-Kearney	3	17	86

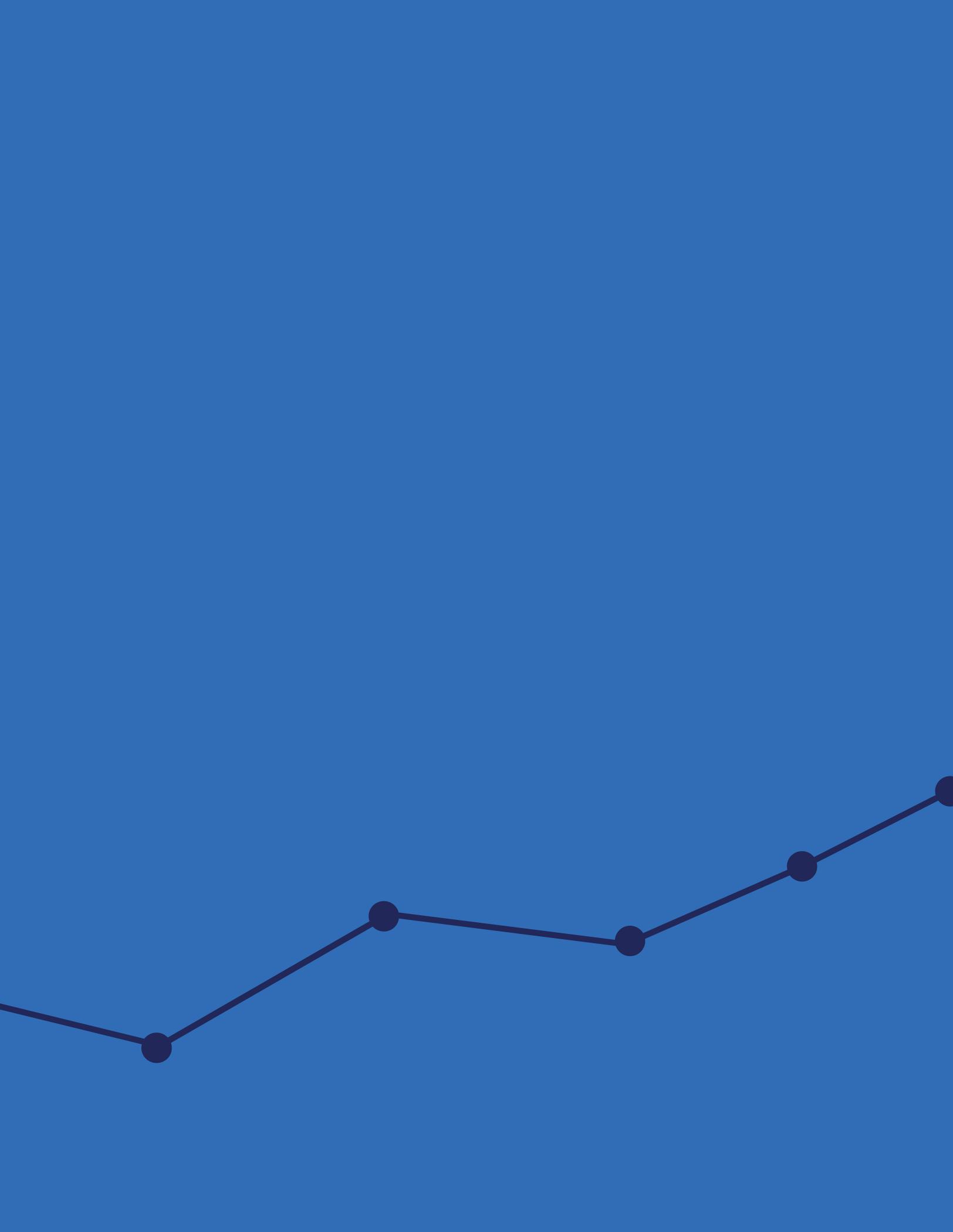
- All reform options besides the full FSA permanently increase deficits. We project that this fiscal change would provide a temporary boost in real economic growth, which generates small but positive revenue feedback during the first decade. However, in the longer run, we expected the Federal Reserve would respond to increased inflationary pressures by increasing interest rates and thus dampening real economic growth relative to baseline, which would reduce revenues. In other words, accounting for lower long-run economic output raises our cost estimates by around 20 percent.
- For the full FSA, incorporating macroeconomic feedback effects increases the estimated amount of revenue raised by about 6 percent in the third decade after enactment.

CONCLUSION

The expiration of the CTC provisions in the TCJA gives policymakers an opportunity to think about how best to structure this tax credit moving forward. As we have shown, similar distributional and budgetary outcomes can be achieved through different CTC structures. However, it is also important to think about how the CTC structure will impact children's earnings down the line, both because we care about children's outcomes and because they have budgetary consequences. Whether or not proposals include pay-fors will also impact the long-run economic benefits of proposals for our economy and our society.

ENDNOTES

- ¹ We do not calculate differences in the time burden associated with tax filing across the reforms. We feel the differences would be negligible. For how the Budget Lab constructs taxpayer time burden [see here](#).
- ² The elasticity values we use generate a probability of employment with respect to taxes. What we model is the existence or non-existence of wages. Therefore, what we see is earnings on the extensive margin, which is functionally a participation decision. We have tried to be consistent in our use of “employment” or “participation” accordingly.
- ³ Please see this [CBO report](#) for a discussion of the relevant evidence.
- ⁴ A [Center on Budget and Policy Priorities](#) analysis finds that some low-income parents – namely, those with multiple children above age five – would be made worse off when accounting for the loss of EITC benefits.
- ⁵ Our results for 2021 Law are not directly comparable to those [of other researchers](#), who estimate employment changes against a different policy baseline.
- ⁶ Note that parent income ranks are assigned to children based on the distribution of income among tax units with children only. This population universe contrasts with that of our standard income distribution metrics, in which all tax units, including those without children, are considered. For this reason, impact as measured by the latter definition does not necessarily map to impact by parent rank.
- ⁷ For example, if 2021 Law were indexed to inflation, the offset share of 2054’s direct cost would fall from 10 percent to 5 percent.
- ⁸ Empirically, monetary policy rules with inertia tend to fit historical policy rates more closely than rules without inertia. See e.g., Figure 1 of Carlstrom and Fuerst (2008). This characteristic of inertial rules has strengthened since the Great Recession and the increasing importance of the binding zero lower bound. Carlstrom, Charles T. and Timothy S. Fuerst. “Inertial Taylor Rules: The Benefit of Signaling Future Policy.” Federal Reserve Bank of St. Louis Review, May/June 2008, 90(3, Part 2):193-203. <https://files.stlouisfed.org/files/htdocs/publications/review/08/05/part2/Carlstrom.pdf>





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