

Rethinking the Green New Deal: Using Climate Policy to Address Inequality

Aparna Mathur, American Enterprise Institute

NTA Spring Symposium May 2019



What is the Green New Deal?

1. The Green New Deal is best understood as an ambitious mobilization of the economic and environmental resources of the country to achieve, within a period of ten years:
 - The twin targets of a cleaner economy with net-zero greenhouse gas emissions
 - More equal and fair society where workers can get decent paying jobs with benefits, healthcare, housing and economic security.
2. How do we achieve it?



Why a Green New Deal?

1. As per the Environmental Protection Agency, carbon dioxide emissions have increased 90 percent since 1970, with emissions from fossil fuel combustion and industrial processes contributing about 78 percent of the total greenhouse gas emissions increase from 1970 to 2011.
 - Leading to increasing concentration of GHGs and rise in global average surface temperatures.
2. Reduce inequality and expanding opportunity
 - Improve access to good, decent paying jobs, healthcare, schooling for children, and access to good social networks.



Rethinking the Green New Deal

1. Using a carbon tax to address inequality?
2. Using higher tax rates on high income individuals?
3. Using tax revenues to address inequality



Carbon Tax?

1. As per the Energy Information Administration, energy related emissions of CO₂ were 5,268 million metric tons in 2018. Given the \$25 per metric ton tax rate and ignoring short run reductions in emissions, the carbon tax would be expected to raise \$131.7 billion in 2018.
 - Other studies have suggested that a carbon tax would raise roughly \$125 billion annually, with variation occurring based upon the policies deign. Similarly, the Congressional Research Service estimated that a \$25/metric ton carbon tax would raise approximately \$100 billion in its initial year (Congressional Research Service, 2019).
2. Can also reduce emissions
 - Paul and Woerman (2012) estimate a \$10 carbon tax to have minimal emissions reduction effects, while a \$25/metric ton carbon tax would reduce emissions by over 25 percent.
 - Paltsev et al. (2007) estimate that an initial carbon price of \$18 per ton of CO₂, rising 4 percent per year, would achieve a CO₂ target of 550 ppm by 2100.
 - Metcalf (2009) uses MIT's Emissions Prediction and Policy Analysis (EPPA) model to show that, in the short-run, total greenhouse gas emissions would be reduced 14 percent in 2015 with a \$15 per ton CO₂ tax (equivalent to \$55 per ton of carbon).



Can be Regressive

**Table 1. Distribution of Carbon Tax Burden by Annual Household Income:
Full Burden on Consumption**

Decile	Direct (%)	Indirect (%)	Total (%)
Bottom	1.135	0.936	2.071
Second	0.849	0.625	1.475
Third	0.634	0.481	1.114
Fourth	0.502	0.388	0.890
Fifth	0.450	0.366	0.816
Sixth	0.342	0.289	0.631
Seventh	0.347	0.298	0.645
Eighth	0.276	0.283	0.559
Ninth	0.258	0.247	0.505
Top	0.155	0.211	0.366

Source: Authors' calculations. The table reports the within-decile average ratio of carbon tax burdens to income.



What about a 70% Tax Rate?

1. For instance, the recent proposal from Rep. Ocasio-Cortez to apply a 70 percent tax rate on those with incomes above \$10 million, would clearly only apply to the very top income taxpayers.
2. How much revenue could we get?
3. Unfortunately, when you account for the relatively high elasticity of taxable income, or the behavioral response, it's not all that much



AEI's Tax-Calculator

1. To study the impact of the 70 percent tax rate on revenue gain, I use the Tax-Calculator developed at AEI's Open Source Policy Center, which uses the 2011 IRS-SOI Public Use File (PUF) and a recent Census Current Population Survey (CPS) and computes the federal income taxes and Federal Insurance Contribution Act (FICA) taxes for a sample of filing units, beginning in 2013.
2. The model then creates a micro dataset that closely reproduces the multivariate distribution of income, deduction and credit items in 2009, and extrapolates to 2015-2027 levels in accordance with Congressional Budget Office (CBO) forecasts released in the spring of 2016.
3. Additional information on non-filers is taken from the March 2013 Current Population Survey. The following estimates in this section and the following sections model tax reforms using Tax-Calculator version 1.2.0.



Revenue Generated from a 70% Tax Rate

Income Base	Elasticity	One Year Revenue, 2019 Estimate (\$ billions)	Cumulative Revenue Estimate, 2019-2027 (\$ billions)
Taxable	0	104.5	962
Ordinary	0	16.5	220.6
Taxable	0.25	75.5	700
Ordinary	0.25	11.9	160.9
Taxable	0.6	34.8	334
Ordinary	0.6	5.5	77.4

Source: Author's estimates using OSPC's Tax-Calculator release 1.2.0



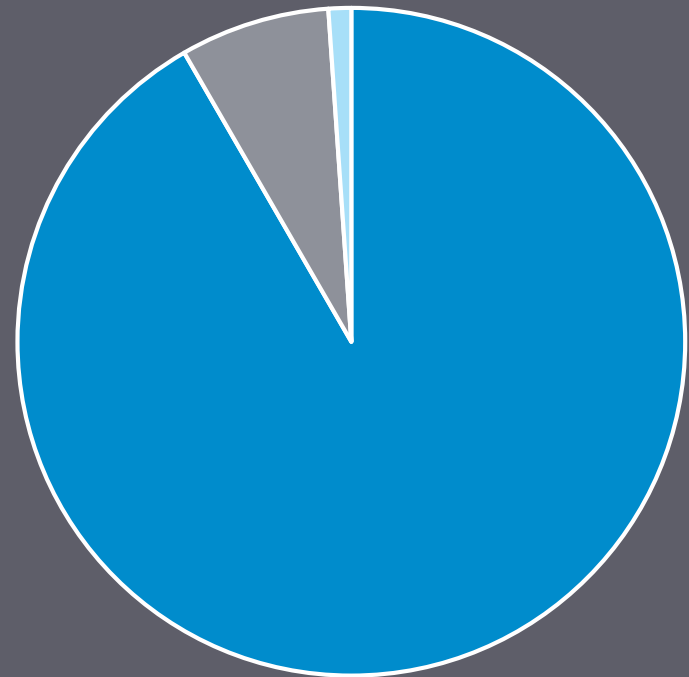
How much would this fund?

Medicare for All



- Ordinary Income Base (0.36%)
- Taxable Income Base (2.3%)

Student Loan Forgiveness



- Taxable Income (7.9%)
- Ordinary Income (1.2%)

Variation in Estimates Depends on Assumption Parameters

Annual Cost Estimate (\$ billions)	Tax Rate Revenue Assumptions	Dynamic Effect Assumption	Percent of Cost Covered by 70% Tax
Warren (640)	High End	Low End	18.8
Warren (640)	High End	High End	19.6
Warren (640)	Low End	Low End	0.99
Warren (640)	Low End	High End	1.03
Urban Institute (955)	High End	Low End	12.0
Urban Institute (955)	High End	High End	12.3
Urban Institute (955)	Low End	Low End	0.63
Urban Institute (955)	Low End	High End	0.65

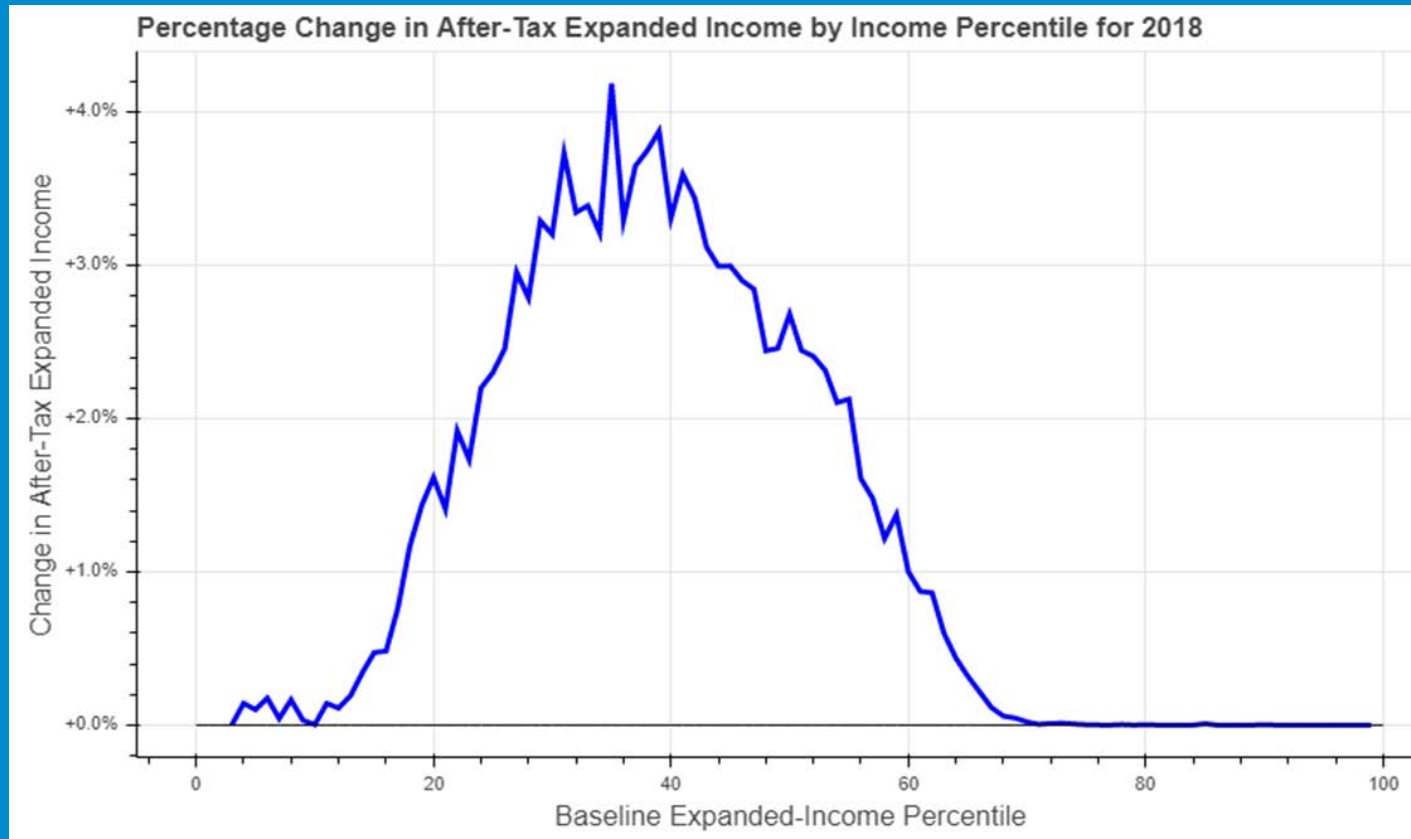


Using carbon tax revenues: Expanding the EITC

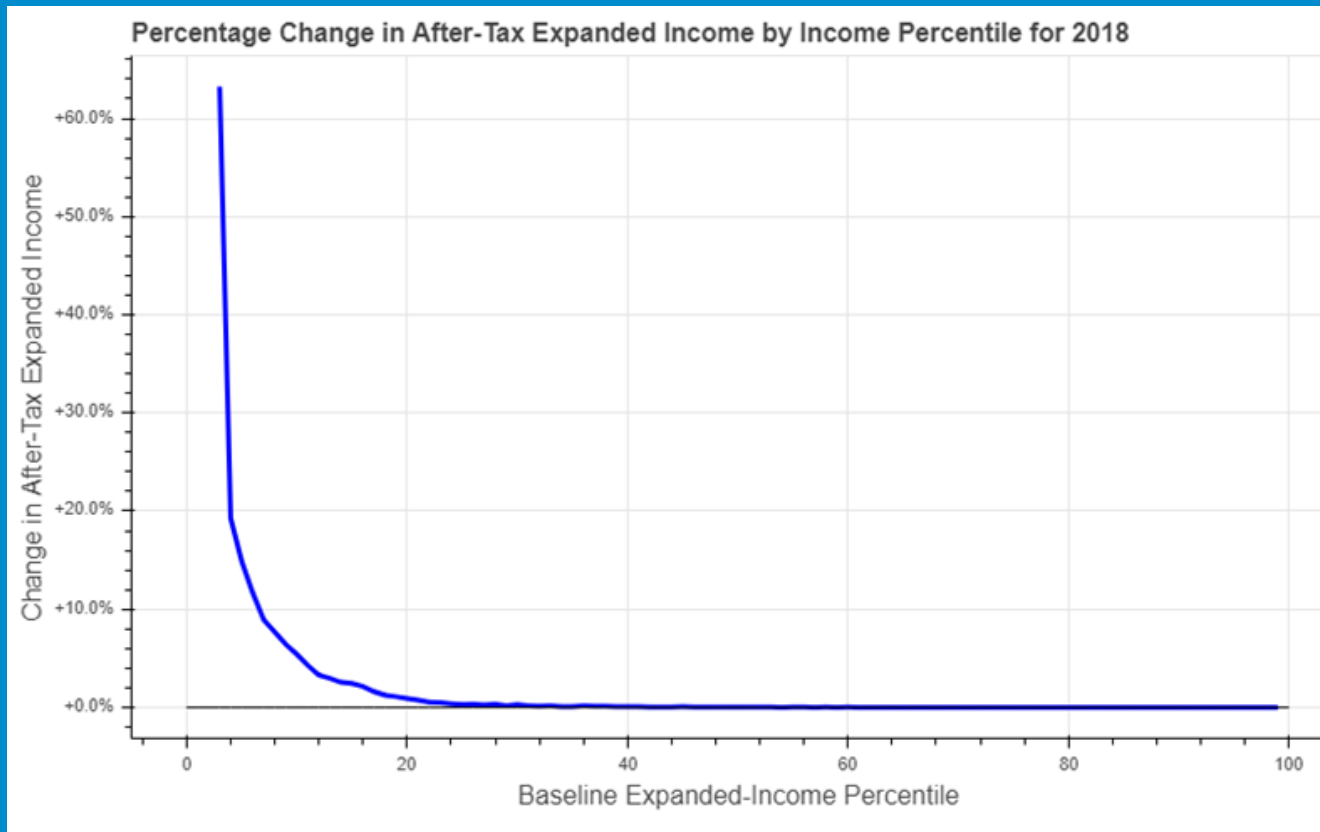
Tax Reform	Cost of Reform (\$)	Avg. Change in After-Tax Income per Filer (\$)
Double maximum credit amount	62,470,957,427	400.59
Triple maximum credit amount	103,659,104,076	664.82
Double phase-in rate	4,677,732,073	29.79
All receive maximum credit until phase-out	11,889,856,272	66.70
Cut phase-out rate in half	15,229,270,605	97.71
Equal credit and rates across number of children	84,813,446,152	542.41
1.5 x phase-out threshold	16,948,988,139	108.73



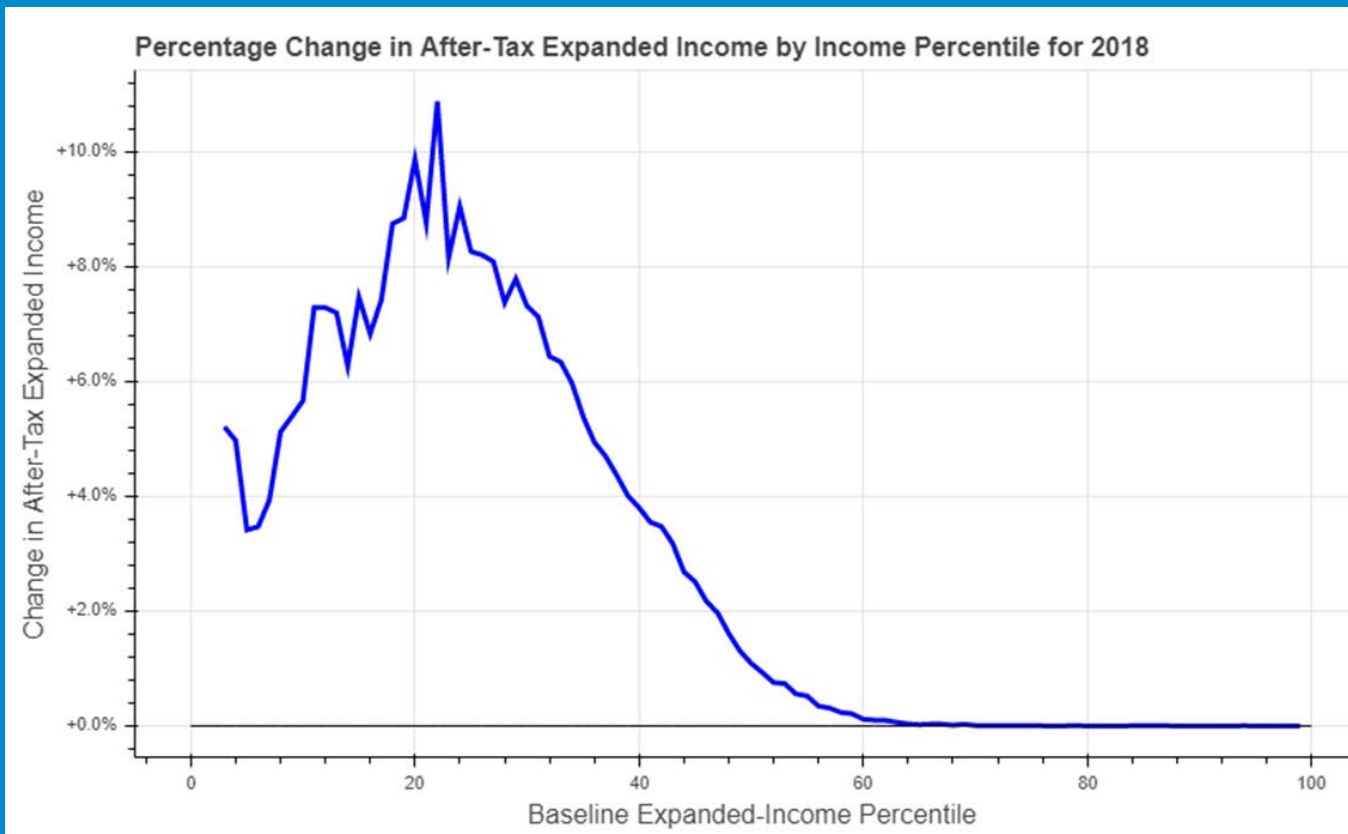
Double EITC Maximum Credit



Eliminating EITC Phase-In Rate



Equalizing EITC Credit Across Filers, Irrespective of Number of Children

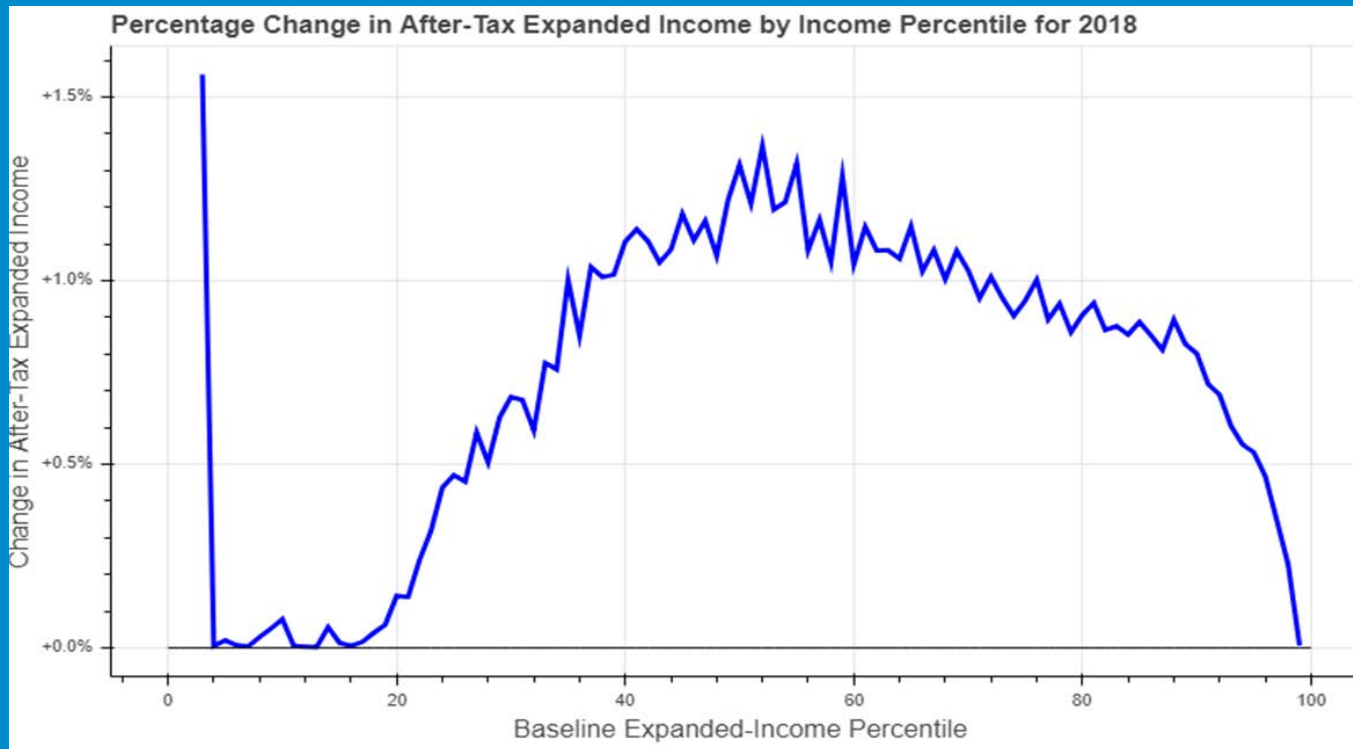


Aggregate Costs and Changes in After-Tax Income of Reforms to the Child Tax Credit (CTC)

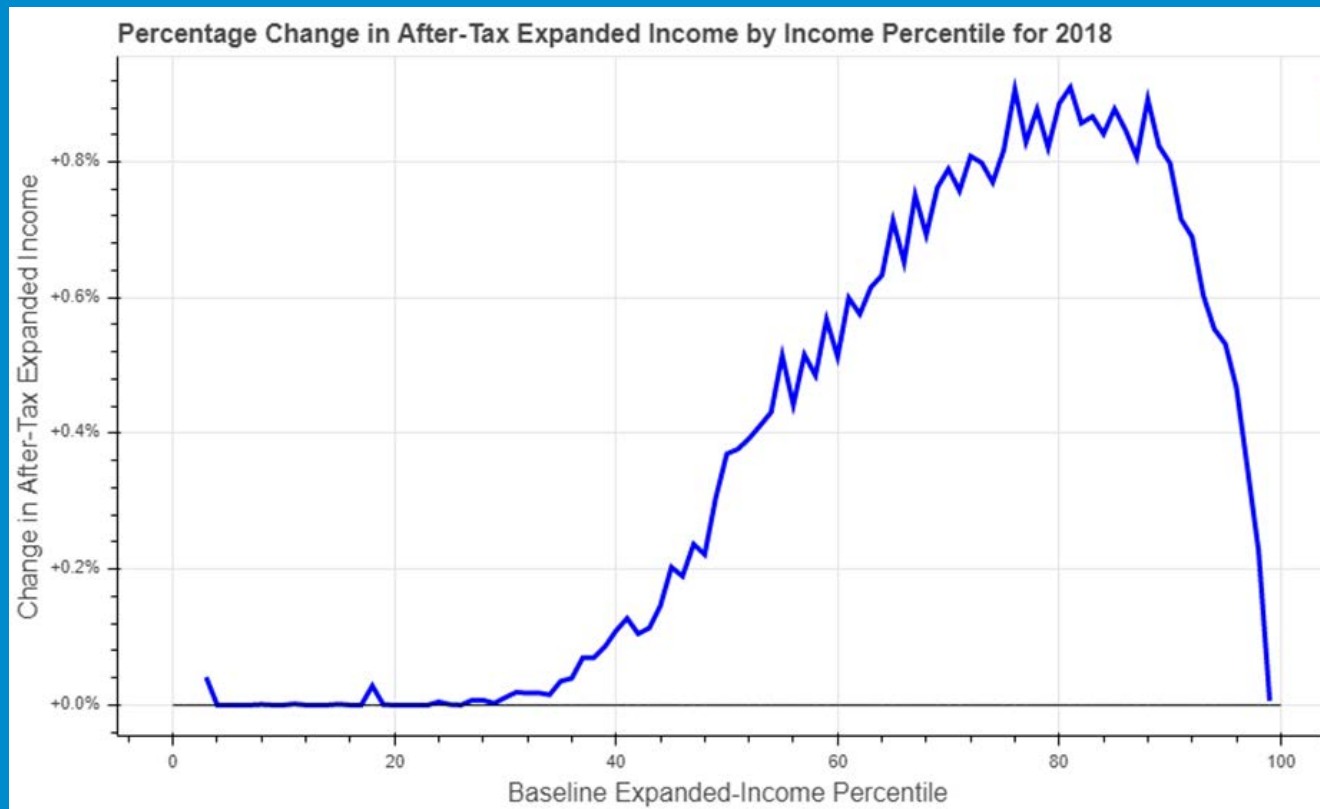
Tax Reform	Cost of Reform (\$)	Avg. Change in After-Tax Income per Filer (\$)
Double Non-Refundable value per child	63,763,173,553	405.17
\$1,000 bonus credit for qualifying children under five	10,030,717,907	63.43
All \$2,000 of credit is refundable	3,517,294,128	22.18
Increase refundable portion to \$3,000 and double nonrefundable portion to \$4,000	86,048,957,801	546.85
Double credit to \$4,000, entirely refundable	87,485,521,185	555.64
Double maximum other dependent non-refundable credit	7,883,513,009	50.19



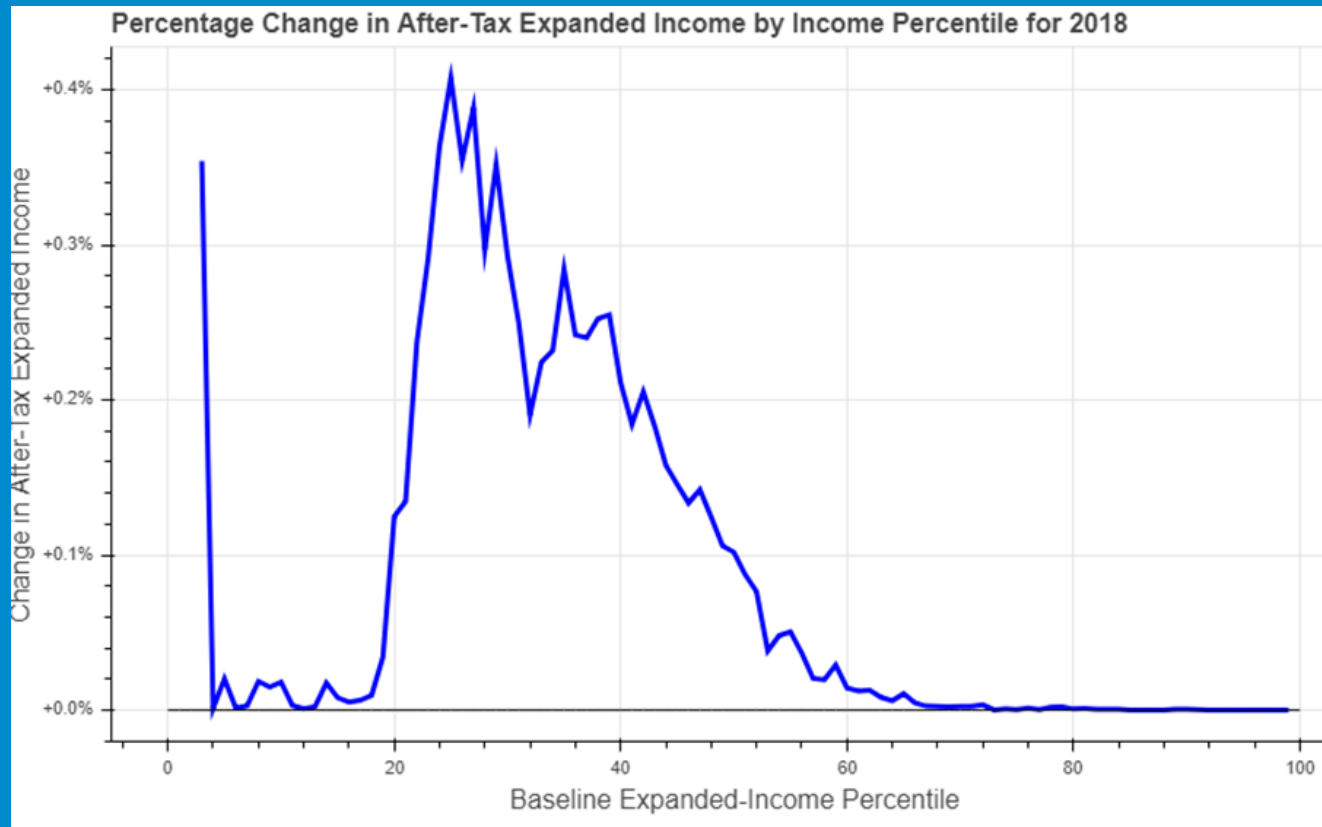
Distributional Impact of Doubling the CTC and Making Entirely Refundable



Distributional Impact of Doubling the Non-Refundable Portion of the CTC



Distributional Impact of Making the Entire CTC Refundable



Cost of Providing Paid Leave

Type of Leave	Max Leave Duration (weeks)	WR Rate (%)	Max Weekly Benefit	Waiting Period (weeks)	Work Requirement	Take-Up	Total Cost (\$ billions)	Payroll Tax (%)	Plan Parameters Modeled After:
Parental	8	70	600	1	FMLA	High-end	10.5	0.12	AEI-Brookings Working Group Compromise Plan
Parental	8	70	600	1	FMLA	Low-end	8.3	0.10	
All three	12	66	1,000	1	None	Low-end	28.6	0.33	FAMILY Act
All three	12	66	1,000	1	None	High-end	62.8	0.73	
Parental	10	55	1,357	None	1/2 FMLA	Low-end	12.1	0.14	New York State Plan (Decomposed)
Parental	10	55	1,357	None	1/2 FMLA	High-end	16.3	0.19	
Care-giving	10	55	1,357	None	1/2 FMLA	Low-end	1.3	0.01	
Care-giving	10	55	1,357	None	1/2 FMLA	High-end	9.0	0.10	
Medical	26	50	170	1	200 hours	Low-end	5.0	0.07	
Medical	26	50	170	1	200 hours	High-end	14.8	0.17	

Source: Authors' estimates based on the Paid Family and Medical Leave Cost Model (PFL-CM) developed by Ben Gitis, <https://github.com/PSLmodels/PFL-CM>.

Universal Basic Income

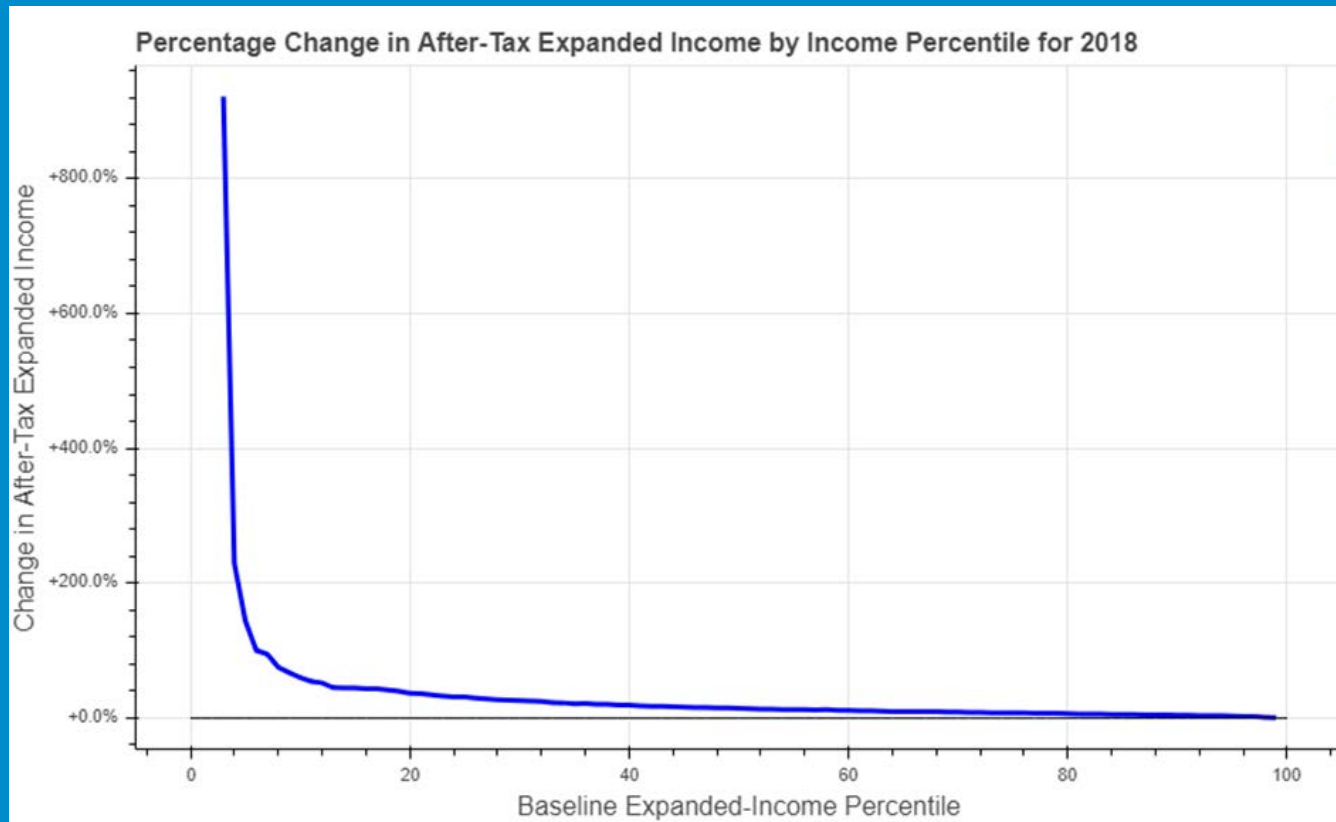
1. For each UBI program, there is a certain amount of tax revenue generated on the additional income, unless of course the UBI is designed to not be added to AGI and goes untaxed, as a few of the policies highlight.
2. The increased tax revenue is then subtracted from the total UBI transfers to determine the total dynamic cost of the program.
3. There are policy proposals that suggest repealing certain benefit programs and instead implementing a UBI system. In the following table, I provide cost estimates under two scenarios 1) UBI systems added on top of all existing benefit and entitlement programs 2) UBI systems when repealing SNAP, TANF and UI benefits.



Costs of Universal Basic Income Policies

Reform Policy	Additional Tax Rev Generated from UBI (\$)	Total UBI (\$)	Total Program Cost (\$)	Total Program Cost, Repealing Benefits (\$)
\$10,000 fully taxable, 18-20 years old	17,807,431,840	148,614,255,300	130,806,823,460	6,854,803,460
\$5,000, fully taxable, 21 years and older	162,101,544,982	1,173,227,257,350	1,011,125,712,368	887,173,692,368
\$10,000 fully taxable, 21 years and older	179,537,978,451	2,346,454,514,700	2,166,916,536,249	2,042,964,516,249
\$5,000 75% taxable, 21 years and older	119,690,070,081	1,173,227,257,350	1,053,537,187,269	929,585,167,269
\$5,000 50% taxable, 21 years and older-	78,453,776,703	1,173,227,257,350	1,094,773,480,647	970,821,460,647
\$5,000 25% taxable, 21 years and older	38,493,001,621	1,173,227,257,350	1,134,734,255,729	1,010,782,235,729
\$5,000 non-taxable, 21 years and older	0	1,173,227,257,350	1,173,227,257,350	1,049,275,237,350
\$10,000 non-taxable, 18-20 years old	0	148,614,255,300	148,614,255,300	24,662,235,300
\$5,000 fully taxable, EITC population 21 years and above	24,253,044,064	187,326,507,800	163,073,463,736	39,121,443,736

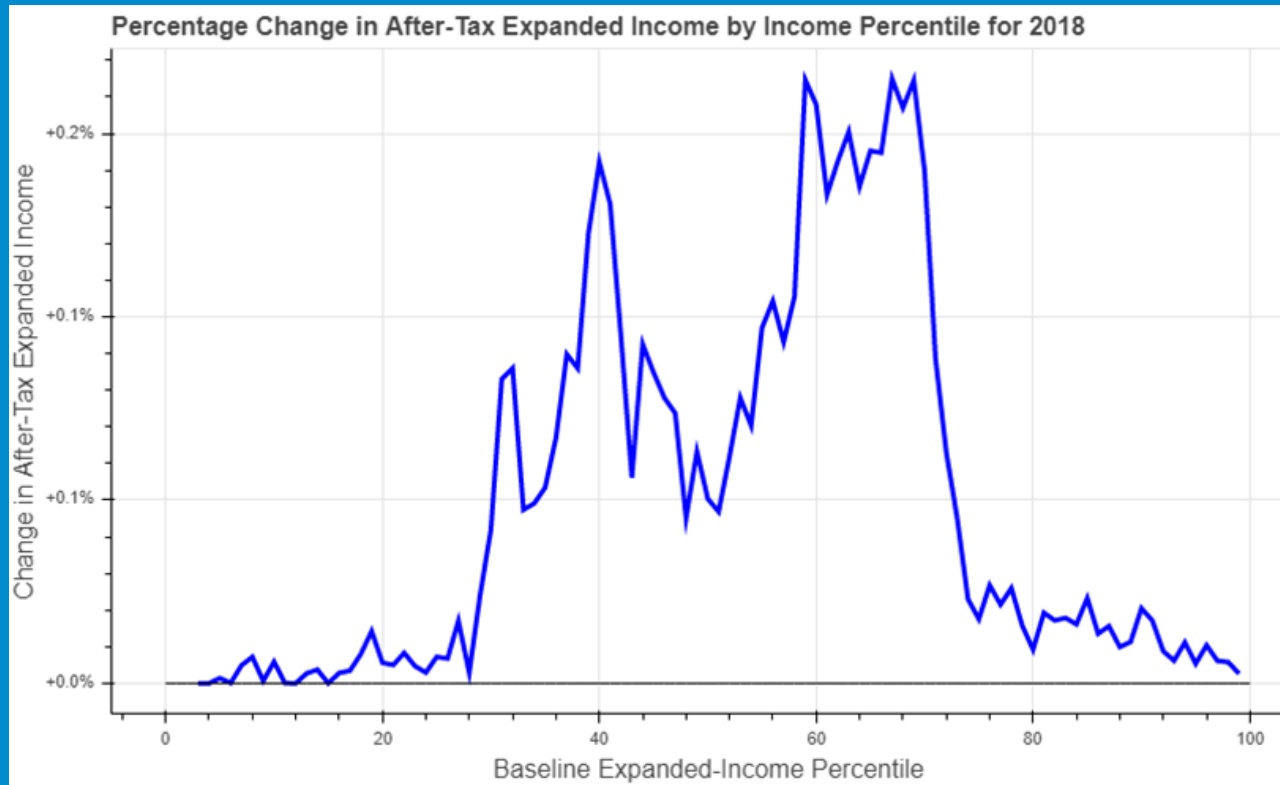
Distributional Impact of Fully Taxable \$5,000 UBI, All Filers 21 and Older



Dependent Deductions

Tax Reform	Cost of Reform (\$)	Avg. Change in After-Tax Income per Filer (\$)
Deduct \$5,000 from AGI for expenses related to care for elderly dependents, for filers earning below \$50,000/\$100,000 for single/married	131,450,910	0.84
Deduct \$5,000 from AGI for expenses related to care for child dependents, for filers earning below \$50,000/\$100,000 for single/married	9,725,216,573	61.76
Deduct \$5,000 from AGI for expenses related to care for elderly dependents, for filers earning below \$35,000/\$70,000 for single/married	75,689,911	0.48
Deduct \$5,000 from AGI for expenses related to care for child dependents, for filers earning below \$50,000/\$100,000 for single/married	4,705,342,483	29.80

Distributional Impact of \$5,000 Child Care Expense Deduction for Filers with Income below \$35,000 filing singly and \$70,000 married



Overview of Costs and Distributional Impacts of Policy Reforms

Policy	Cost (\$ billions)	Change in After-Tax Income: 1 st Decile (%)	Change in After-Tax Income: 2 nd Decile (%)	Change in After-Tax Income: 3 rd Decile (%)	Change in After-Tax Income: 4 th Decile (%)	Any Impact on Top Two Deciles?
Double EITC Maximum Credit	62.5	0.10	0.61	2.32	3.74	No
Eliminate EITC Phase-In Rate	11.9	12.02	2.42	0.41	0.14	No
Eliminate EITC Credit Criteria Based on Number of Children	84.8	4.82	7.49	8.50	5.79	No
Double Non-Refundable Portion of CTC	63.8	0.00	0.00	0.00	0.04	Yes
Entire CTC Refundable	3.5	0.02	0.01	0.30	0.26	No
Entirely Refundable and Doubled CTC	87.5	0.06	0.03	0.41	0.90	Yes
Double CDCC Phase-out Rate	1.2	0.00	0.00	0.00	0.00	No
Fully Taxable \$5,000 UBI, All Filers 21 and Older	1,011	131.23	45.83	30.82	23.12	Yes
\$5,000 Child Care Expense Deduction (\$35K/\$70K income thresholds)	4.7	0.00	0.00	0.01	0.08	Yes

Conclusion

1. The GND brings renewed focus to the issue of climate change and economic inequality and opportunity.
2. But there is no clear outline of how to achieve it.
3. In this paper, I show that a carbon tax could help with emissions reductions, while raising revenues to address social and economic policy goals.

