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Comment on "Economic Implications of the Climate Provisions of the Inflation Reduction Act"

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Outline

1. Will the Inflation Reduction Act Reduce the Deficit?

2. Will the Inflation Reduction Act Affect the Macroeconomy?

3. Will the Inflation Reduction Act Affect the Distribution of After-tax Income?

4. Carbon Taxes vs. Clean Energy Subsidies

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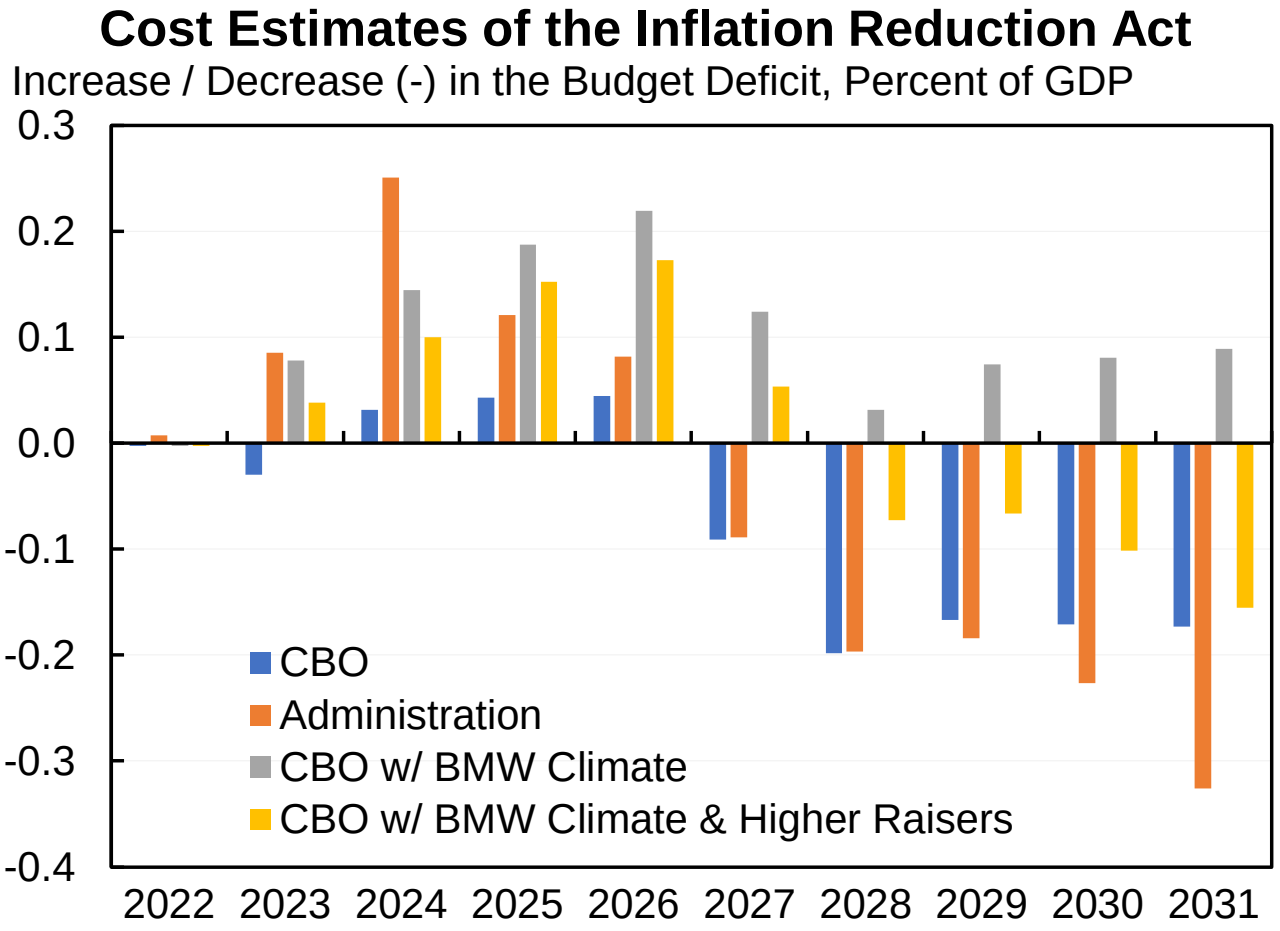
Alternative scores of the Inflation Reduction Act



Higher raisers includes administration's estimate of IRS enforcement revenue and 25% increase in revenue from buybacks and corporate AMT

Source: Author's calculations based on Congressional Budget Office, Office of Management and Budget, and Bistline, Mehrotra and Wolfram (2023).

Alternative scores of the Inflation Reduction Act (- is deficit reduction and + is deficit increase)

	2022-2026	2027-2031	2022-2031
Nominal ($b)			
CBO	26	-264	**-238**
Administration	151	-341	**-190**
CBO w/ BMW Climate	177	131	**308**
CBO w/ BMW Climate & Higher Raisers	131	-118	**13**
Percent of GDP			
CBO	0.0%	-0.2%	**-0.1%**
Administration	0.1%	-0.2%	**-0.1%**
CBO w/ BMW Climate	0.1%	0.1%	**0.1%**
CBO w/ BMW Climate & Higher Raisers	0.1%	-0.1%	**0.0%**

Source: Author's calculations based on Congressional Budget Office, Office of Management and Budget, and Bistline, Mehrotra and Wolfram (2023).

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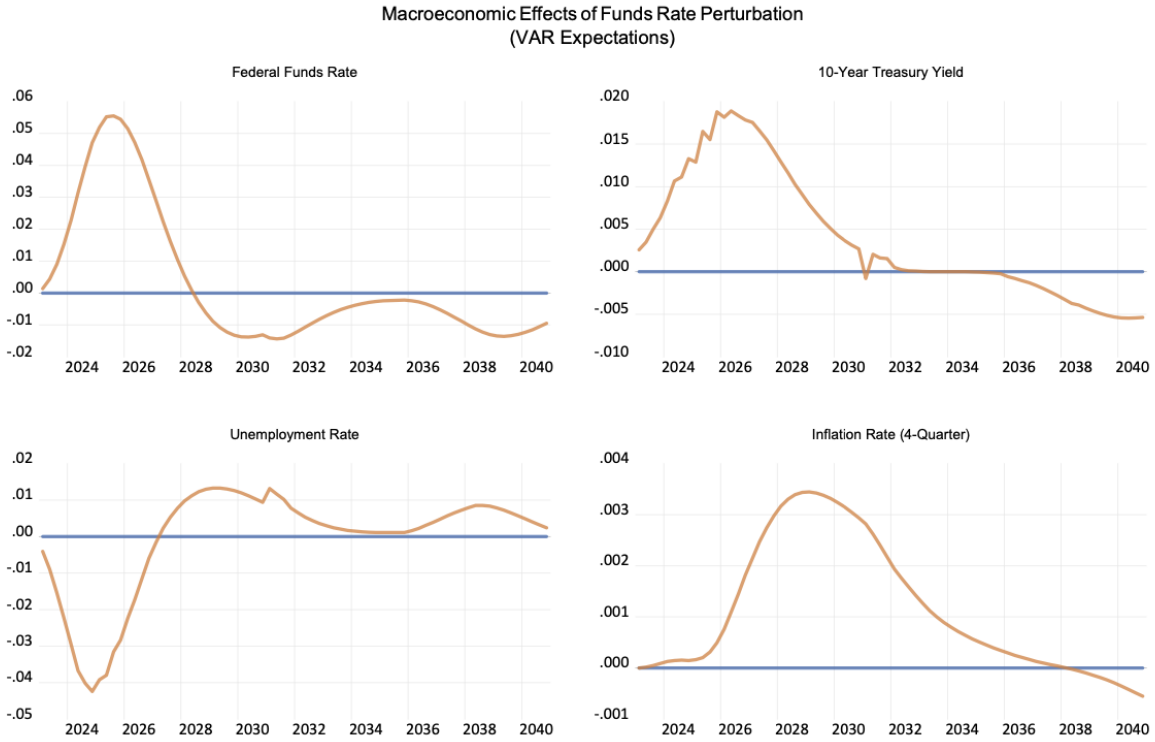
The BMW FRB-US estimates



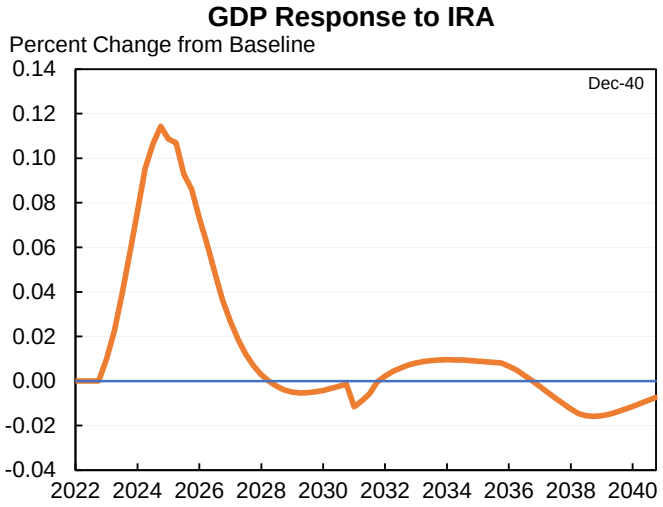
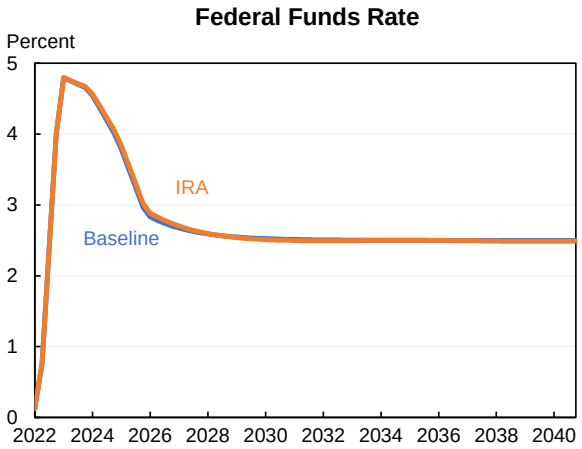
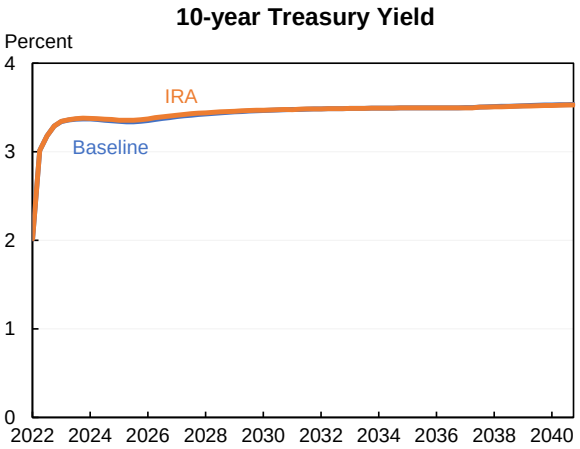


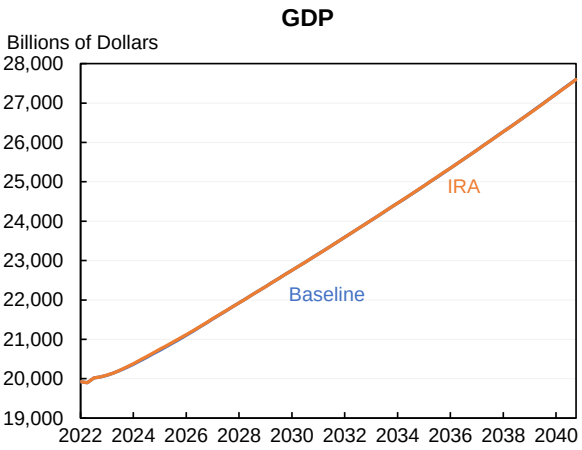
Figure 16: Interest rate, unemployment, and inflation rate response to IRA.

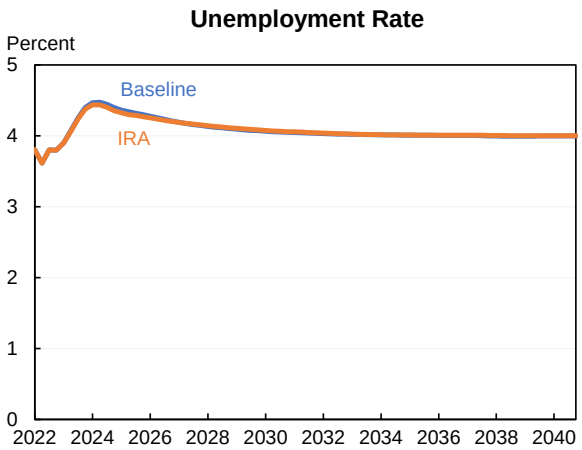
Source: Bistline, Mehrotra and Wolfram (2023).

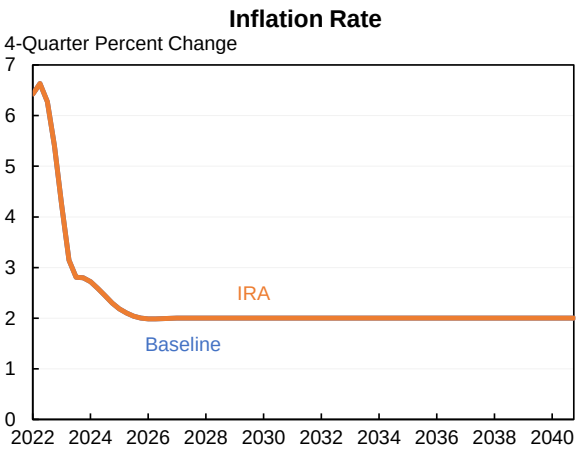
The same estimates showing baseline and post-policy





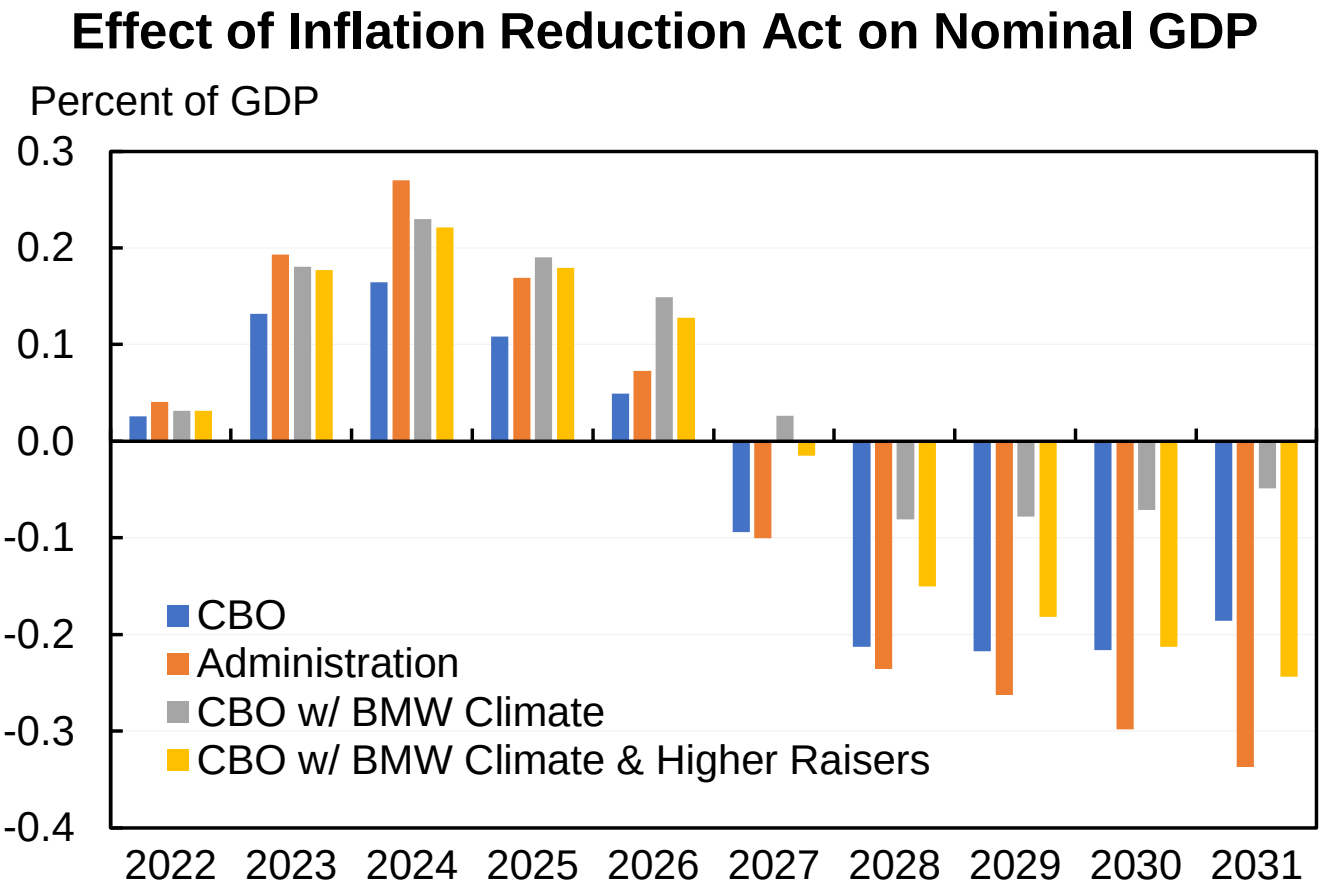






Source: Bistline, Mehrotra and Wolfram (2023).

Modelling using simple fiscal multipliers



Climate multiplier is weighted average of multipliers for business tax cuts (60%), individual tax cuts (20%) and public investment (20%). Nominal GDP increases could show up in real output, prices or be offset by higher interest rates.

Source: Calculations based on Congressional Budget Office, Office of Management and Budget, Bistline, Mehrotra and Wolfram (2023), and Council of Economic Advisers (2009, 2014). .

Other effects left out of BMW modelling may be as large as what they model

- The non-climate parts of the IRA may have a comparably large macroeconomic effect.
- Distributional impact feeding back into consumption, interest rates, etc.
- Sectoral shifts, could raise unemployment over time.
- Induced changes in other countries—through technological spillovers and trade.
- (They also omit any feedback from changes to climate change to the macroeconomy, but that is likely very small.)

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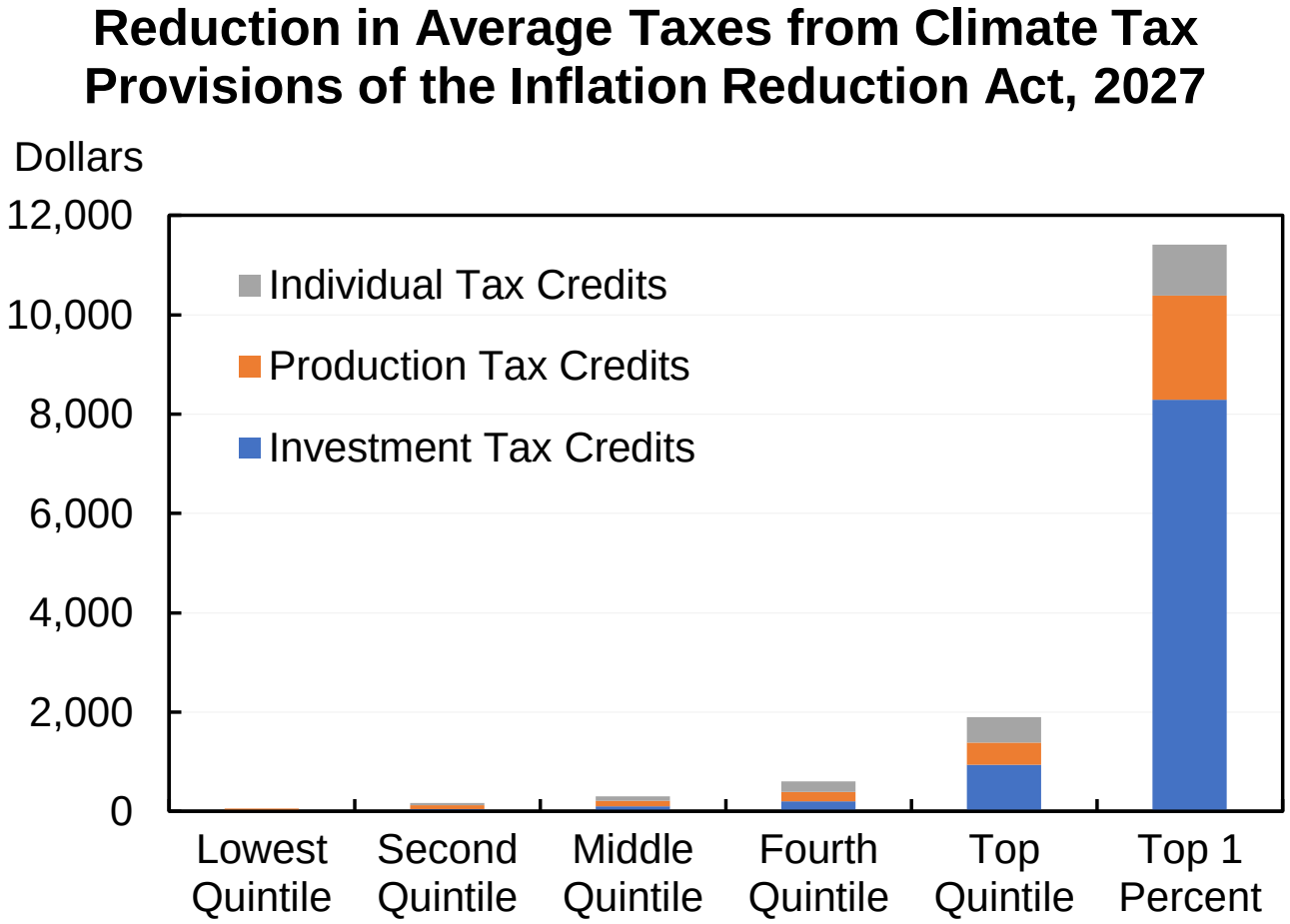
Distributional effects are an order of magnitude larger than macroeconomic effects

- FRB-US simulation finds GDP up $79b through 2031. US-REGEN Central scenario has $781b in total tax credits through 2031.

- The clean energy subsidies are roughly the same magnitude as the Earned Income Tax Credit (EITC), Supplemental Nutrition Assistance Program, Supplemental Security Income, or the Premium Tax Credit.

- Incidence of the subsidies?
  - Electricity consumption in 2021
    - 39 percent residential
    - 35 percent commercial
    - 26 percent industrial
  - Is demand inelastic in the long-run? Is demand inelastic for all categories (e.g., industrial)? How does regulation affect the distribution? How much of the subsidy for industrial users benefits foreign importers?

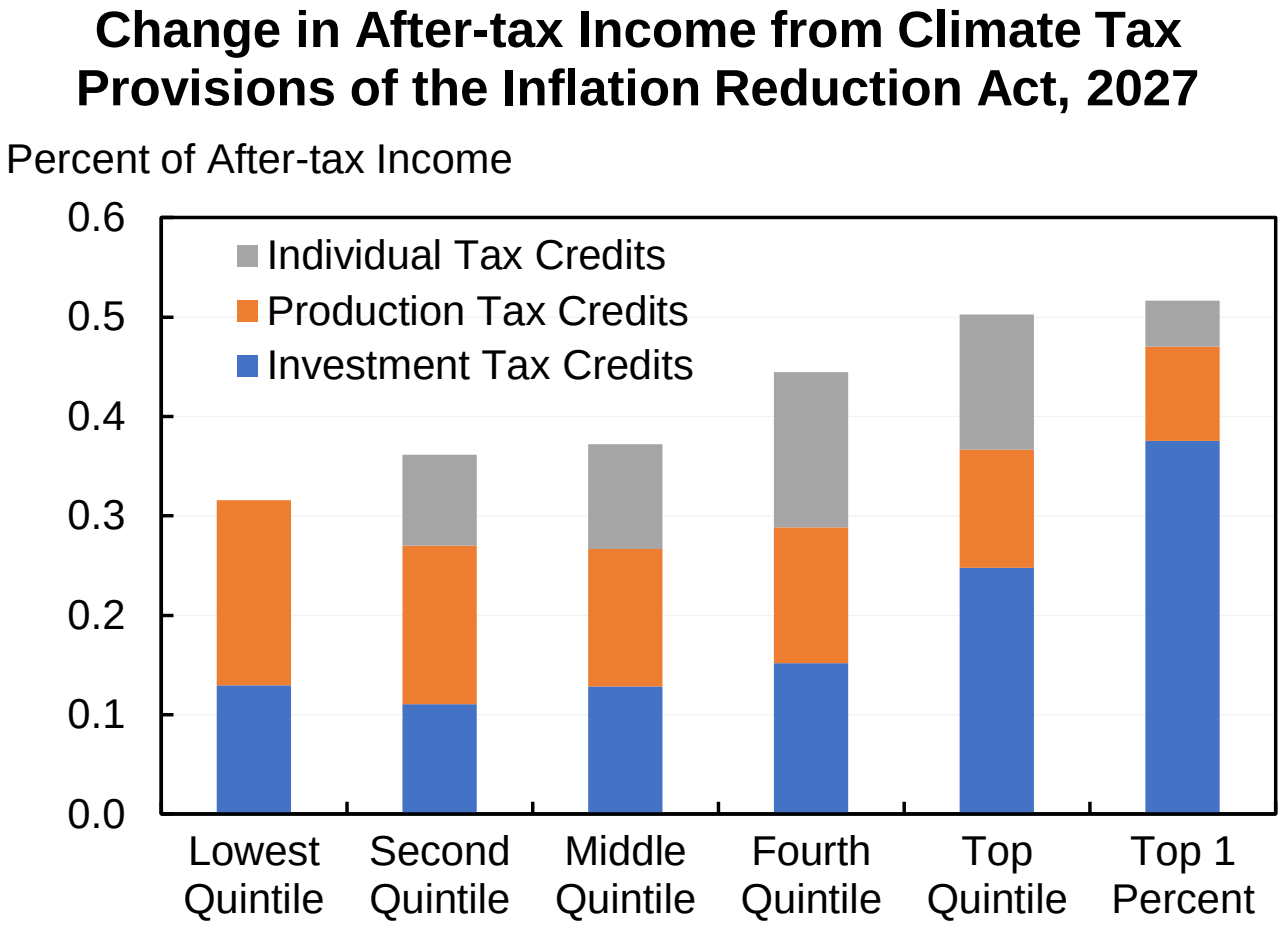
Preliminary TPC on the climate provisions rescaled to match BMW cost estimates (dollars)



Note: this is roughly equivalent to a tax cut that is roughly one-third corporate income tax reduction and two-thirds payroll tax reduction.

Source: Author's calculations based on Congressional Budget Office, Tax Policy Center, and Bistline, Mehrotra and Wolfram (2023).

Preliminary TPC on the climate provisions rescaled to match BMW cost estimates (% after tax income)

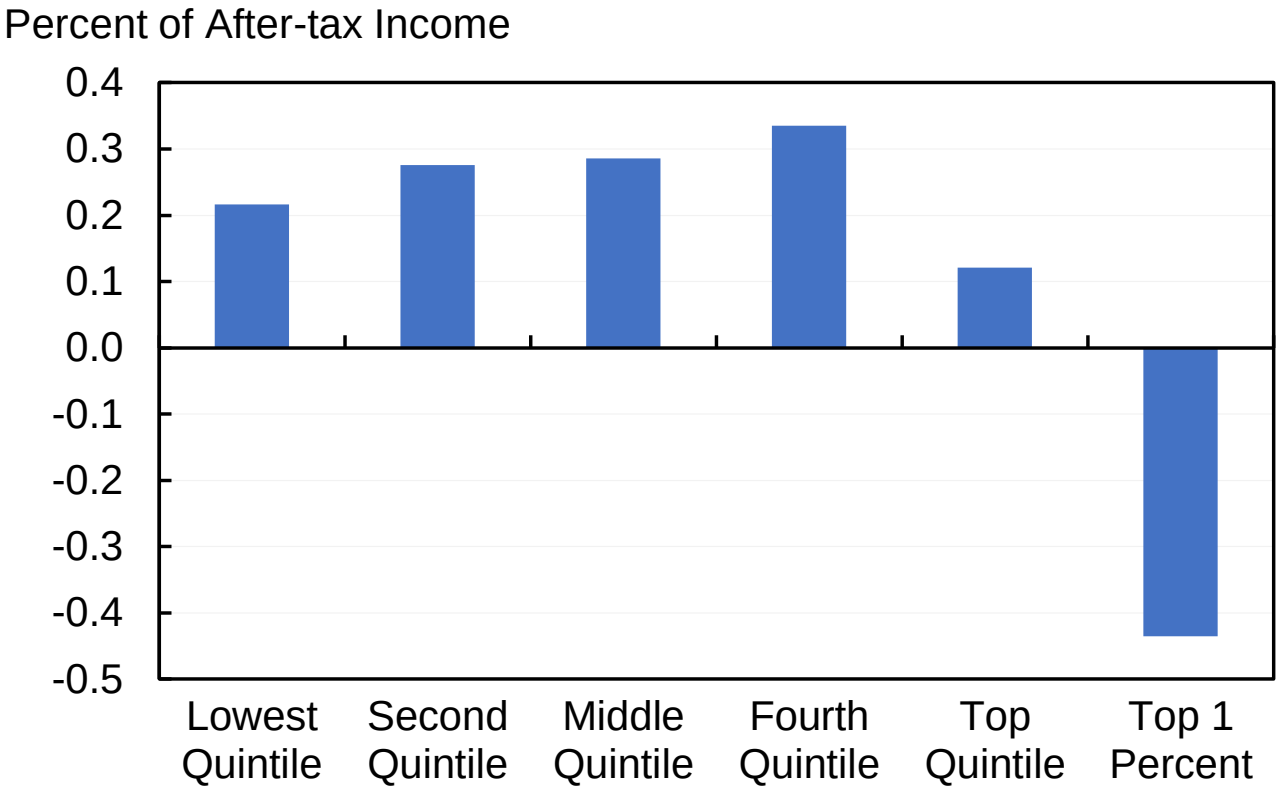


Note: this averages a 0.5% increase in after-tax income. By comparison, the FRB-US increase in GDP that year is 0.02%

Source: Author's calculations based on Congressional Budget Office, Tax Policy Center, and Bistline, Mehrotra and Wolfram (2023).

Note – the IRA as a whole is progressive when tax raisers are also counted

Change in After-tax Income from the Inflation Reduction Act, 2027



Note: Score for overall bill is Senate-passed version, excluding premium tax credit.
Source: Author's calculations based on Congressional Budget Office, Tax Policy Center, and Bistline, Mehrotra and Wolfram (2023).

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"Don't compare me to the almighty, compare me to the alternative"

	IRA	Carbon Tax
Generation Share (Change in pp from 2021 to 2035)		
Coal	-14	-18
Natural Gas	-21	-5
Coal CCS	+3	+0
Wind & Solar	+28	+19
Other	+7	+4
CO2 (% Drop from 2005)	68%	68%
Abatement Cost ($/t-CO2)	$83	$15

Source: Bistline, Mehrotra and Wolfram (2023).

The IRA provisions are very uneven

The authors do not break it down but reading through the lines / my interpretation:

- ITC and PTC very valuable, possibly almost like having a carbon tax.
- Electric vehicle subsidies have a substantial inframarginal cost.
- Some provisions close to zero or even negative for carbon emissions, especially from a global perspective (e.g., domestic content bonuses and manufacturing subsidies).
- We do not understand the marginal impact on climate change or other objectives from other aspects of the legislation, like prevailing wages.

Carbon tax and subsidy equivalence assumptions

- Demand is inelastic at every timescale and innovation is unresponsive to price. (Note, US-REGEN model predicts 13% reduction in electricity prices in 2050.)

- Distributional issues depend on use of carbon tax revenue, but in general it *can* be much more progressive than subsidizing clean energy.

- Carbon tax operates on multiple margins, for example in the vehicles sector it affects not just the choice of vehicle (like EV subsidies) but the amount of driving. It also operates across sectors.

- Carbon taxes have limitations too, especially in the electricity sector (Borenstein and Kellogg 2023).

Summary and the big question going forward

1. Net fiscal impact approximately zero, more likely deficit increasing—but very uncertain.

2. Macro impact very small. Financing, distribution and composition issues could dominate.

3. Distributional impacts an order of magnitude larger than macro impacts and very understudied.

4. Concerns relative to a carbon price:
   - Actual subsidy policy may be far from optimal
   - Sustained electricity price decline
   - Distributional impacts

Most important question: what are the next steps? The IRA is a big step but the problem is much bigger. Can subsidies be scaled up? What other approaches can reduce emissions at close the desired scale?

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