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Budget Model

Senate-Passed Inflation Reduction Act: Estimates of Budgetary and Macroeconomic Effects

Summary: PWBM estimates that the Senate-passed version of the Inflation Reduction Act would reduce non-interest cumulative deficits by $264 billion over the budget window. The impact on inflation is statistically indistinguishable from zero. GDP falls slightly within the first decade while increasing slightly by 2050. Most, but not all, of the tax increases fall on higher income households.

Key Points

- PWBM estimates that the Senate-Passed Inflation Reduction Act, as written, would reduce cumulative deficits by $264 billion over the 10-year budget window.
- The Act would have no meaningful effect on inflation in the near term but would reduce inflation by around 0.1 percentage points by the middle of the first decade. These point estimates, however, are not statistically different from zero, indicating a low level of confidence that the legislation would have any measurable impact on inflation.
- Relative to current law, the Act would slightly reduce GDP in the first decade while slightly increasing GDP by 2050. These estimates include the impact of debt reduction, carbon reduction, and tax incentives on investments and working hours.
- Most, but not all, of the tax increases fall on higher income households. However, future generations, including higher-income households, gain from the improved economy, including a reduction in carbon emissions.

Introduction

On Sunday August 7th, the U.S. Senate passed the Inflation Reduction Act of 2022 under FY2022 budget reconciliation instructions. PWBM recently analyzed a previous version of the bill. We also compared our analysis

against that of the Joint Tax Committee and Congressional Budget Office who use an older economics baseline from July 2021.

In this brief, PWBM analyzes the budgetary, macroeconomic, and distributional effects of the final Senate-passed version. In line with the previously released version of the bill, the Act provides for new spending and tax incentives related to the adoption of clean energy technology, both at the industrial and consumer level. It extends a temporary expansion of Affordable Care Act (ACA) health insurance subsidies for an additional two years. To offset these deficit-increasing initiatives, the bill imposes new taxes on certain businesses, reduces government outlays on prescription drugs through pricing reforms. It also provides for new IRS funding which PWBM estimates would increase revenue collections above new outlays.

Provision Descriptions and Estimated Budgetary Effects

The final version of the Act makes several key amendments to the version we previously analyzed. First, the new corporate minimum tax no longer restricts the tax benefit of accelerated depreciation, and private equity firms are exempted from the tax. Second, the carried interest provision was removed. Third, new revenue-raising provisions (a tax on stock buybacks and a restriction on pass-through loss deductions) were added. Fourth, due to Senate rules, drug price inflation caps for private insurance plans were removed.

More specifically, the Act proposes the following policy changes:

- **Extension of expanded ACA subsidies.** Extends the temporary expansion of Premium Tax Credits through 2025. The expansion, which offers eligibility to households above 400 percent of the poverty line, is scheduled to expire at the end of 2022 under current law.
- **Climate and energy provisions.** Includes tax rebates and credits to lower energy costs for households; tax credits, research, loans, and grants to increase domestic manufacturing capacity for wind turbines, solar panels, batteries, and other essential components of clean energy production and storage; tax credits to reduce carbon emissions; programs to reduce the environmental impact of agriculture; a new fee on methane emissions; and more.
- **Minimum tax on corporations' book income.** Creates a new 15 percent corporate alternative minimum tax based on the financial statement income of corporations with at least $1 billion in such income. Allows for bonus and accelerated depreciation deductions when calculating taxable book income.
- **Tax on share repurchases.** Imposes a new 1 percent tax on corporations' net repurchase of stock.
- **Extension of excess noncorporate losses limitation.** Extends the limitation on the deduction of pass-through losses through tax year 2028, which under current law is scheduled to expire at the end of 2026. The maximum deductible loss, which is indexed to inflation, is $540,000 for married taxpayers in 2022.
- **Prescription drug price reforms.** Allows Medicare to negotiate the price of certain prescription drugs; limits the price growth of certain drugs paid covered under Medicare to inflation; repeals the implementation of a "rebate rule" scheduled to increase drug-related Medicare outlays beginning in 2027; redesigns Medicare Part D benefit formula and caps out-of-pocket costs for beneficiaries.

- **IRS funding.** Appropriates approximately $80 billion over the next decade for IRS enforcement activities including the hiring and training of new auditors, IT systems modernization, and taxpayer services.

Table 1 presents PWBM's estimate of conventional budgetary effects over the 10-year budget window defined in the FY2022 reconciliation instructions. We estimate the Act would reduce cumulative noninterest deficits by $264 billion from FY2022 through FY2031.

Table 1. Conventional Budget Estimates of the Inflation Reduction Act, FY2022-2031

Billions of Dollars, Change from Current-Law Baseline

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Provision	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Budget window
Extension of expanded ACA subsidies	0.0	-16.9	-23.5	-24.3	-4.9	0.0	0.0	0.0	0.0	0.0	-69.6
Climate and energy provisions	0.0	-20.5	-37.2	-47.9	-53.1	-50.1	-42.5	-44.7	-45.6	-43.3	-384.9
Minimum tax on corporations' book income	0.0	23.3	22.7	18.4	17.1	18.1	20.9	23.7	26.2	28.9	199.3
Tax on share repurchases	0.0	5.8	8.0	8.3	8.6	8.9	9.2	9.5	9.8	10.2	78.3
Extension of excess noncorporate losses limitation	0.0	0.0	0.0	0.0	0.0	27.0	30.5	7.6	0.0	0.0	65.1
Prescription drug pricing reforms	0.0	1.4	1.1	13.9	10.6	36.9	38.0	40.8	42.3	44.3	229.3
IRS funding	0.0	-3.4	-0.8	5.6	11.8	16.6	22.4	26.6	31.3	36.5	146.6
Total	**0.0**	**-10.4**	**-29.8**	**-26.0**	**-9.9**	**57.5**	**78.5**	**63.4**	**64.1**	**76.6**	**264.1**

Estimated Effects on Inflation

We estimate that the Inflation Reduction Act as passed by the Senate would have a very modest impact on inflation over the next decade. The Act produces some upward pressure on prices in 2023 and 2024, but its effects are too small to meaningfully affect measured the Personal Consumption Expenditures (PCE) inflation rate as reported by the Bureau of Economic Analysis. The Act would reduce annual inflation by around 0.1 percentage

points in about five years, once major deficit-reducing provisions of the legislation are fully implemented, but the Act would have no measurable impact on inflation after 2028. All these point estimates are not statistically different from zero, indicating a low level of confidence that the legislation would have a measurable impact on inflation.[1]

Other Macroeconomic Effects

Table 2 presents PWBM's projections of the long-run macroeconomic effects of the Inflation Reduction Act.

Table 2. Macroeconomic Effects of the Inflation Reduction Act

Percent change from baseline

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Year	GDP	Capital Stock	Hourly Wage	Hours Worked	Government Debt
2031	-0.1	-0.2	0.0	-0.1	-0.9
2040	0.0	0.0	0.0	-0.1	-4.1
2050	0.1	0.3	0.1	0.0	-8.0

Government spending rises because of the climate-related spending and the extension of the ACA subsidies are greater than the savings from prescription drug pricing reforms. However, additional tax revenues are greater than the spending increases, which leads to a decrease in government debt. Government debt goes down by 4.1 percent in 2040 and 8 percent in 2050, which *crowds-in* investment in productive private capital.

The provisions which increase taxes on business activity lower the after-tax return to investment, which offsets the positive effects on investment from lower government debt. Net of these two effects, private productive capital declines by 0.2 percent in 2031, is unchanged in 2040 and increases by 0.3 percent in 2050. The drop in productive capital in 2031 leads to a 0.1 percent decline in GDP.

Nonetheless, as government debt declines, private capital increases by 0.3 percent by 2050, and workers become more productive. Higher worker productivity is reflected in wages that increase by 0.1 percent in the same year. Moreover, the increase in private capital combined with the accumulated productivity increases from the climate and energy effects, described in a previous brief, leads to an increase in GDP, which grows 0.1 percent in 2050.

Distributional Tax Effects: Conventional Estimates

The Inflation Reduction Act contains a wide array of subsidies, taxes, and pricing reforms, each with varying impacts on households and businesses. For example, some large businesses would face higher tax bills; individuals buying certain health insurance plans would face lower out-of-pocket costs; some households who

evade taxes would be made to pay; and pharmaceutical companies would earn lower revenues. Though not responsible for remitting taxes assessed on business activity, households bear some of the economic burden of such taxes. Shareholders receive lower after-tax returns, and workers earn lower wages with fewer productivity-enhancing investments.

Distributional analysis traditionally focuses on the effects of revenue-raising tax provisions since attempting to allocate all spending---including for roads, education, national defense, some transfer programs, and the bill inherited by future payers for current deficits---is challenging and subjective. Put differently, distributional analysis typically is not intended to be a holistic incidence. Instead, distributional analysis attempts to estimate answers the narrower question: for a given set of spending benefits and change in debt, who finances the costs under the explicitly stated revenue provisions in the bill? In the case of this Act, the revenue is raised from the corporate minimum tax as well as the tax on share repurchases.

Conventional distributional analysis measures the long-run incidence of tax increases imposed at a single point in time. PWBM assumes that 75 percent of corporate income taxes are borne by owners of capital with the remainder borne by labor—magnitudes consistent with empirical research and scorekeeping convention.[2] We apply this incidence assumption when analyzing the corporate minimum tax provision. However, for the stock buyback tax, we assume that shareholders bear 100 percent of the burden because it is assessed on a discretionary balance sheet transaction rather than on income from economic production.

We find that all income groups would bear some of the additional burden of the 2023 revenue-raising business tax changes. Average burden ranges from $5 for the lowest quintile, to $55 for the middle quintile, to $61,520 for the top 0.1% of tax units. At lower incomes, the tax incidence largely reflects lower wages over time relative to baseline, whereas at high income the tax incidence mostly reflects more immediate changes in the value of financial assets.

Table 3. Conventional Distributional Effects of Major Revenue-Raising Tax Provisions in the Inflation Reduction Act, 2023

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Income group	Average tax change	Share with tax increase	Average tax increase	Percent change in after tax income	Share of tax change
Bottom quintile	$5	12.2%	$40	-0.1%	0.4%
Second quintile	$30	90.7%	$35	-0.1%	2.5%
Middle quintile	$55	92.4%	$60	-0.1%	4.6%
Fourth quintile	$115	93.7%	$125	-0.1%	9.6%
80-90%	$240	98.0%	$245	-0.2%	10.0%
90-95%	$460	98.8%	$465	-0.3%	9.6%
95-99%	$1,105	99.2%	$1,115	-0.5%	18.4%
99-99.9%	$5,165	99.7%	$5,180	-0.8%	19.4%
Top 0.1%	$61,520	100.0%	$61,520	-1.0%	25.6%

Notes: Reflects the corproate minimum tax and share repurchase tax provisions. Income is defined as AGI plus above-the-line deductions, nontaxable interest income, nontaxable Social Security benefits, nontaxable pensions and annuities, employer-side payroll taxes, and corporate income tax liability. Estimate income percentile thresholds for 2023: 20%: $19,440; 40%: $46,160; 60%: $84,750; 80%: $154,860; 90% $229,150; 95%: $328,120; 99%: $834,350; 99.9%: $3,648,730.

Distributional Effects: Dynamic Estimates

PWBM's dynamic distribution metric shows how benefits and costs accrue across generations when accounting for macroeconomic effects, including the increase in productivity from lowering carbon emissions relative to baseline. While this analysis is less granular than conventional distributional analysis, the dynamic "equivalent variation" measure captures important dynamics like lifetime income trajectories, the "insurance value" of means-tested benefits and changes in wages and returns to capital investments.

Table 4 reports the equivalent variation for households at different ages (relative to the year 2022) and incomes. Each value shown in Table 4 corresponds to the *one-time* benefit that the corresponding household receives from the legislation. For example, the value of -$700 for a household age 40 in the bottom income quintile indicates that this household is worse off by $700 under this legislation, including at age 40 and the remainder of his or her lifetime. Put differently, this household is indifferent between the adoption of the Inflation Reduction Act and making a one-time payment of $700 that avoids the adoption of the Act. However, a household in the bottom quintile who is born in 20 years (-20 age in 2022) would be $1,900 better off.

Notice two main effects that vary by both income and generation:

First, current workers and retirees prefer current law over the provisions in the Inflation Reduction Act. People alive today bear the burden of business tax increases in the form of lower investment returns and lower wages in the near term. However, future generations gain from the adoption of the Act, including positive gains to capital formation from reducing the debt as well as the increase in total factor productivity from reducing carbon emissions relative to baseline.

Second, current higher-income households bear a substantially larger share of the tax burden while future higher-income households also gain the most from the improved economy. In the long run, the Inflation Reduction Act leads to lower government debt, higher wages, higher total factor productivity and higher GDP. Although older workers and retirees prefer current law, this growth leads to significant gains for younger households in all income brackets. As lower government debt *crowds in* additional productive private capital, wages increase. In addition, these younger workers begin to benefit from the accumulating productivity benefits from climate investments. Therefore, workers in the future will receive higher wages and income, which is reflected in larger equivalent variations for younger cohorts of workers.

Table 4. Dynamic Distributional Effects of the Inflation Reduction Act

Willingness to pay for the policy change

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Age at start of simulation	Bottom quintile	Second quintile	Middle quintile	Fourth quintile	Top quintile
	Adjusted Gross Income (Percentile)				
-20	$1,900	$3,100	$3,300	$5,800	$13,100
-10	$1,100	$2,000	$2,200	$4,100	$8,100
0	$400	$800	$800	$1,400	$2,100
10	$0	-$200	-$400	-$700	-$2,500
20	-$200	-$600	-$1,000	-$1,600	-$3,800
30	-$300	-$700	-$1,600	-$1,900	-$4,100
40	-$700	-$1,000	-$1,300	-$2,100	-$4,500
50	-$800	-$800	-$1,400	-$2,000	-$4,300
60	-$600	-$1,000	-$1,000	-$1,500	-$3,000
70	-$400	-$900	-$1,200	-$4,400	-$7,600
80	-$200	-$500	-$700	-$2,900	-$5,000
90	$0	-$100	-$200	-$1,400	-$2,500

-7,600 0 13,100

This analysis was produced by PWBM staff. Report was written by Jon Huntley, John Ricco, and Alex Arnon. Prepared for the website by Mariko Paulson.

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1. PWBM's model incorporates two major sources of uncertainty: uncertainty around how the provisions of the Act will affect spending by households and businesses; and uncertainty around the economic outlook, which determines how changes in spending affect inflation. ↩

2. The burden on labor income represents the long-run economic adjustment caused by the additional taxes in a single year. ↩