Budget Model

President Biden's FY2022 Budget Proposal: Budgetary and Economic Effects

***** *Corrected* **on July 30, 2021 ***

Summary: PWBM estimates that President Biden's FY2022 budget proposal would increase spending by $5.9 trillion and increase revenue by $3.9 trillion over the 2022-2031 budget window. By 2050, we project that the President's budget proposals would decrease public debt by 7.3 percent and decrease GDP by 1.1 percent relative to current law.

Key Points

- PWBM estimates that, over the 2022-2031 budget window, President Biden's FY2022 budget proposals would require $5.9 trillion in new spending and would raise $3.9 trillion in new revenues on a conventional basis (without accounting for macroeconomic feedback).

- Including macroeconomic feedback effects, we project a 0.2 percent *increase* in public debt in 2031 but a 7.3 percent *decrease* in public debt in 2050, relative to current law.

- Despite the long-run decrease in debt and increased productivity from new public investments, we project that the capital stock would fall by 3.6 percent in 2050 and GDP would fall by 1.1 percent in 2050, relative to current law.

Introduction

President Biden's Fiscal Year 2022 budget proposal adds many details to previously announced policies and combines them into one proposal. PWBM examined several of these policies in our previous analyses of the American Families Plan and American Jobs Plan. Building on our 2020 analysis of the Biden campaign platform, this brief provides comprehensive and updated analysis of the President's budget proposals, linking various policy proposals together under PWBM's integrated modeling framework that also incorporates potential interactions between these policies.

Revenue

Table 1 presents top-line conventional revenue estimates for the President's budget proposal. In total, the President's budget would raise $3.92 trillion in new revenues on a conventional basis over the 2022-2031 budget window.

Table 1. New Revenues in President Biden's FY2022 Budget Proposal

Billions of Dollars

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Category	Provision	Revenue Raised, 2022 - 2031
American Jobs Plan	Corporate rate to 28 percent	892
	Revise GILTI, disallow deductions attributable to exempt income, and limit inversions	728
	Repeal FDII deduction	260
	15% minimum book tax	184
	Replace BEAT with the SHIELD Rule	390
	Eliminate fossil fuel preferences	33
	Reform taxation of foreign fossil fuel income	73
American Families Plan	Top rate to 39.6 percent	111
	Capital gains provisions, tax carried interest as ordinary income	376
	Repeal deferral of gain from like-kind exchanges	41
	Rationalize Net Investment Income and SECA	189
	Make permanent excess business loss limitation of noncorporate taxpayers	162
	Tax compliance and administration (Revenue)	480
	Total	**3,919**

Most revenue provisions and their accompanying estimates have not changed since our previous analyses of the President's American Families Plan and American Jobs Plan. Notable exceptions are the addition of "changes to the taxation of foreign fossil fuel income," which we estimate would raise $73 billion over the budget window as well as replacing Base Erosion Anti-Abuse Tax (BEAT) with Stopping Harmful Inversions and Ending Low-Tax

Developments (SHIELD), which raises $390 billion over the budget window. PWBM will release a more detailed analysis of SHIELD and the rest of the President's international tax proposals in the near future.

Spending

Table 2 presents top-line spending numbers for the President's budget proposal, by broad spending category. In total, we estimate that the President's budget would increase spending by $5.89 trillion over the 2022-2031 budget window, including $393 billion in discretionary spending not included in the American Families Plan or American Jobs Plan.

Table 2. New Spending in President Biden's FY2022 Budget Proposal

Billions of Dollars

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Spending Category		New Spending, 2022 - 2031
American Jobs Plan	Infrastructure	1,031
	R&D and Manufacturing*	1,133
	Workforce Development	87
	Housing	234
	Long-Term Care	400
American Families Plan	Education	854
	Individual Tax Credits	853
	Child Care	550
	Paid Leave, Nutrition, Maternal Health	273
	Additional IRS Funding Outlays	80
Other	Discretionary Spending	393
	Total	**5,888**

*Note: Includes additional research spending from FDII repeal revenues (see appendix table)

For most spending provisions, the President has proposed a specific dollar amount of new outlays, for example, in spending $400 billion on long-term care. For some provisions of the American Families Plan, however, the President's budget also lays out specific goals for the spending, such as guaranteeing "2 years of universal high-

quality pre-school for every 3- and 4-year old in America, and adding 2 years of free community college." For those provisions, we provide our own conventional cost estimates.

Specifically we estimate that, over the budget window, universal pre-K would cost $382 billion while tuition-free community college would cost $299 billion.[1] Additionally, we estimate that the individual tax credit expansions in the American Families Plan would cost $853 billion over the budget window, compared to the President's budget estimate of $798 billion. Line-by-line spending and revenue estimates are available in the appendix table below.

Modeling Framework

In the PWBM model, the spending provisions in the President's budget have one of three macroeconomic effects:

1. Public investments in infrastructure and R&D boost aggregate productivity;
2. Investments in education and childcare boost the labor productivity of the specific recipients of the spending;
3. Transfers to specific agents change labor supply decisions via income and substitution effects.

Public Investments

Investments in public capital such as transit infrastructure boost the productivity of private capital and labor. However, these investments have a build-out delay, consistent with a 2016 Congressional Budget Office report, and the investments eventually depreciate over time. Our analysis of public investments follows the same approach as in our recent analysis of the bipartisan Senate infrastructure deal.[2] For the current analysis, we assume that these investments all occur in the 2022-2031 budget window, with no additional spending beyond 2031.

Education and Childcare

Budget provisions that allocate spending toward education, childcare, and paid leave boost labor productivity. Universal preschool increases future productivity but gains to GDP do not show up until those cohorts enter the labor force beginning in 2039. Consistent with our previous work on COVID-19 related school closures, education proposals boost productivity to the specific demographic groups receiving the benefit. Productivity boosts are, for example, only applied to new public preschool enrollees who would not have been enrolled in a formal preschool program under current law. Some households switch from paying for private preschool to the public option, so those households face lower costs today, yet the future labor productivity of children in those households remains the same. Education provisions of the President's budget (such as two years of tuition-free community college) are modeled as permanent, lasting beyond 2031. New childcare spending increases parental labor force participation in some households, but these households tend to be a small portion of lower-income and lower-productivity households, so aggregate productivity effects are small.

Transfers

Transfer payments that substitute for existing spending (for instance, preschool and eldercare) increase the household budget and can disincentivize work via income effects. On the other hand, transfer payments that

allow a switch from domestic production (e.g., childcare provided by a working-age member of the household) to market production increase output, but only if there are scaling and efficiency effects. That is, if the new, government-paid caregiver was working at another job comparable to the job taken by the parent who is now able to work in the market, then no net benefit has been realized to the economy as a whole—only a switch in jobs.

Spending earmarked toward affordable housing and home- and community-based care primarily has transfer effects. Affordable housing spending generally benefits households with below-median incomes, while caregiving provisions—mainly implemented through Medicaid—generally benefit older and Medicaid-eligible households. Transfers to working-age households let those individuals work less without consuming less, reducing overall labor supply, thereby creating a downward pull on GDP.

Economic Effects

Table 3 presents estimated effects of the President’s budget proposal on various macroeconomic aggregates.

Table 3. Economic Effects of the President's FY2022 Budget

Percent difference from baseline

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Year	GDP	Capital Stock	Hourly Wage	Hours Worked	Government Debt
2031	-1.0	-2.8	-0.6	-0.4	0.2
2040	-1.0	-3.4	-0.7	-0.4	-4.0
2050	-1.1	-3.6	-0.7	-0.4	-7.3

The revenue raised from increasing taxes on high-income households and reducing the tax gap reduces government debt by 7.3 percent in 2050 relative to baseline. However, higher taxes on capital gains and dividends facing the wealthiest Americans would lower their after-tax return on equity investment and therefore disincentive saving. The increase in the top individual tax rate also discourages labor by high-productivity households. Higher corporate taxes, higher taxation on foreign-sourced income, and reduction in deductions further lower the after-tax return on equity investment.

Debt reduction increases the portion of savings allocated into private capital, as discussed in our previous explainer on capital crowd out. And the current regime of accelerated depreciation means that, in isolation, increasing the corporate tax is projected to *increase* investment as in PWBM’s recent corporate tax estimates. However, as discussed in our previous AJP analysis, the President’s proposed minimum book tax reduces the value of depreciation deductions, disincentivizing investment. The net effect is a reduction in the capital stock of 3.6 percent relative to baseline in 2050. Lower capital reduces the wage rate businesses are willing to pay by 0.7 percent in 2050. Hours worked, therefore, decline by 0.4 percent in 2050 as workers choose to work less given

lower wages. Overall, despite the boost to productivity from public investments, GDP is 1.1 percent lower than baseline in 2050.

Appendix. Spending and Revenue Details

The table below expands on Tables 1 and 2 above, showing line-by-line spending and revenue estimates for the full President's budget proposal.

Table A1. Spending and Revenue Details for the President's FY2022 Budget Proposal

Billions of Dollars

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Category	Provision	Additional Spending (+) or Revenue (-), 2022 - 2031
AJP Spending	Transportation infrastructure	596
	Broadband, electrical, water	309
	Housing - Clean energy accelerator	27
	Other Housing	185
	School buildings	87
	Federal hospitals/buildings	27
	Long-term care	400
	Domestic manufacturing	299
	Workforce development	87
	R&D spending	180
	Additional R&D from FDII repeal*	260
AJP Tax Credits	Clean energy tax breaks	367
	Housing tax credits	49
	Federally subsidized state and local bonds for infrastructure	12
AJP Revenue Raisers	Corporate rate to 28 percent	-892

Category	Provision	Additional Spending (+) or Revenue (-), 2022 - 2031
	Revise GILTI, disallow deductions attributable to exempt income, and limit inversions	-728
	Repeal FDII deduction	-260
	15% minimum book tax	-184
	Eliminate fossil fuel preferences	-33
	Replace BEAT with the SHIELD Rule	-390
	Reform taxation of foreign fossil fuel income	-73
AFP Spending	Free universal pre-K for 3- and 4-year olds**	382
	Tuition-free 2-year community college**	299
	Increase Pell grants and other education spending	173
	New child care program**	550
	Paid family and medical leave	225
	Nutrition and maternal health	48
	Increase IRS funding (outlays)	80
AFP Tax Credits	Extend ARP CTC expansion + make CTC fully refundable	439
	Extend ARP ACA premium tax credit expansions	197
	Make ARP EITC expansion permanent	125
	Make ARP CDCTC changes permanent	92
AFP Revenue Raisers	Top rate to 39.6 percent	-111
	Capital gains provisions, tax carried interest as ordinary income	-376
	Repeal deferral of gain from like-kind exchanges	-41
	Rationalize Net Investment Income and SECA	-189
	Make permanent excess business loss limitation of noncorporate taxpayers	-162
	Tax compliance and administration (Revenue)	-480
Other	Discretionary Spending	393

Category	Provision		Additional Spending (+) or Revenue (-), 2022 - 2031
		Total	**1,969**

* Note: The President's budget presents a net zero number for revenue raised by FDII repeal, allocating all such revenue towards additional R&D spending. We therefore assume that the additional outlays are equal to our estimate of revenues raised from FDII repeal.
** Note: For these spending provisions, we estimate the additional spending required to meet the budget proposal's stated goals, rather than taking as given dollar amounts specified in the proposal

Appendix: Corrected Analysis (July 30, 2021)

Federal programs that include required state and local government spending also require extra care in modeling. State-level spending financed by federal grants maps in a straightforward manner. The state budget functions as a pass-through for federal spending and therefore, that spending shows up on the federal budget. If, instead, the state government finances the program by borrowing on its own, then total government debt (federal plus state) should rise and affect the macroeconomy, but an economic model focused solely on the federal budget misses this effect. PWBM includes any net increase[3] in the state share of federal programs in the federal government’s budget. This approach favorably assumes that states can borrow at the same interest rate as the federal government but this approach does not allow for a “free lunch” that would occur if the funds necessary for state spending was not accounted for at all.

Our previous analysis of the President’s budget included $637 billion in spending on universal preschool over the ten-year budget window. That analysis assumed that the federal government pays for all public preschool programs, including those already in place.

Our previous analysis of the President’s budget did not properly account for the *existing* state spending, which should have been excluded from the unified budget. Our corrected approach replaces the total program cost with the cost of the federal *expansion* of public preschool. We estimate this cost at $382 billion. Table 3-A reports our previous calculations for the sake of continuity while Table 3-B reports our updated calculations.

Table 3-A. Previous (incorrect) macroeconomic results for President's Budget analysis

Percent difference from baseline

Year	GDP	Capital Stock	Hourly Wage	Hours Worked	Government Debt
2031	-1.2	-3.0	-0.8	-0.4	1.1
2040	-1.3	-3.8	-0.9	-0.4	-2.4
2050	-1.5	-4.2	-0.9	-0.6	-5.1

Table 3-B. Corrected macroeconomic results for President's Budget analysis

Percent difference from baseline

Year	GDP	Capital Stock	Hourly Wage	Hours Worked	Government Debt
2031	-1.0	-2.8	-0.6	-0.4	0.2
2040	-1.0	-3.4	-0.7	-0.4	-4.0
2050	-1.1	-3.6	-0.7	-0.4	-7.3

- *Efraim Berkovich and Richard Prisinzano.*

This analysis was conducted by Alexander Arnon, Marcos Dinerstein, Maddison Erbabian, John Ricco, and Youran Wu under the direction of Efraim Berkovich and Richard Prisinzano. Prepared for the website by Mariko Paulson.

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1. These estimates represent the full cost of providing universal pre-K and tuition-free community college. They are therefore not *directly* comparable to the President's budget estimates for those programs, which assume that states will cover 25 percent of the total costs. In our previous analysis of the American Jobs Plan, we assumed that state governments would cover 25 percent of the cost of universal pre-K. ↩
2. This framework is discussed in detail in a previous PWBM infrastructure explainer. ↩

3. Some programs, such as federal grants, may allow states to substitute spending within state budgets. We estimate net increases in state budgets in order to properly account for actual unified budget effects. ↩