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Budget Model

Summary: PWBM projects that Democratic presidential candidate Joe Biden's Social Security reform plan would reduce the program's conventional 75-year imbalance by 1.5 percent of current law taxable payroll, leaving a remaining imbalance equal to 2.0 percent of current law taxable payroll. We project that it would lower GDP by 0.6 percent in 2030 and 0.8 percent in 2050.

Key Points

- Democratic presidential candidate Joe Biden has proposed changes to Social Security policy that would increase benefits, especially for low earners, while raising more revenues from high-earning individuals.

- The plan would reduce the conventionally-measured long-range imbalance by 1.5 percent of taxable payroll, leaving an imbalance of 2.0 percent of taxable payroll.

- The plan would decrease GDP by 0.6 percent in 2030 and 0.8 percent in 2050 due to a reduction in capital formation as well as a new type of payroll tax (the "donut hole" tax) that distorts labor supply by more than the standard payroll tax.

Analysis of the Biden Plan for Social Security

Introduction

Former Vice-President Joe Biden has proposed changes to the Social Security system as part of his presidential campaign. As summarized in Table 1, Biden's plan provides more generous benefits to low earners while increasing taxes for higher-income households.

Table 1: Reforms to Taxes and Benefits in Biden's Proposal

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Provision	Current Law	Proposed Law
Benefit Provisions		
Survivor Spouse Benefits	Dual-Earner, Single-Earner Gap Exists	Dual-Earner, Single-Earner Gap Closed
Special Minimum Benefit	Indexed to CPI-W, full Special Minimum Benefit is $886.40 in 2019 (currently outdated, since wage growth exceeds price growth)	Set Special Minimum Benefit at 125% of Federal Poverty Line ($1301 in 2019), Grown by the National Averate Wage Index (AWI)
Increase Benefits for Long-lived beneficiaries	Benefits grow only based on COLA	Provide a 5 percent uniform PIA increase 20 years after benefit eligibility. Phase in the PIA increase at 1 percent per year from the 16th through 20th years after eligibility. The full PIA increase is equal to 5 percent of the PIA of a worker assumed to have career-average earnings equal to the SSA average wage index. Auxiliary beneficiaries receive benefit enhancement based on the PIA of the governing worker.
Cost of Living Adjustment (COLA)	CPI- Urban Wage Earners and Clerical Workers (CPI-W)	CPI-Elderly (CPI-E)
Tax Provisions		
Payroll Taxes on Wage Earnings Above $400,000 (Donut Hole)	0%. Earnings above taxable-maximum ($132,900 in 2019) are not subject to payroll tax	12.40%

Changes to Benefits

Under current law, the death of a spouse leads to a steep reduction in household Social Security benefits. For example, when both spouses previously received equal benefits, the surviving household's benefit is cut by 50 percent. Because many household expenses are not divisible, this causes steep reductions in survivors' living standards. The Biden plan proposes a more generous survivor benefit for those who, under current rules, receive a smaller survivor benefit compared to the average of basic retirement benefits across all workers—that is, before any adjustments for early retirement, post-retirement earnings etc. are applied.

For long-career workers, benefits are mainly based on average historical earnings. Lower average earnings correspond to lower benefits. To protect the retirement living standards of workers with extremely low earnings, current law places a floor on the benefit level called the "special minimum benefit." Very few beneficiaries are affected by this provision, however the benefits of those affected remain well below the poverty level. The Biden plan proposes an increase to the special minimum benefit of between 5 and 50 percent for long-term low earners with work histories between 10 and 30 years.

Some expenses such as out of pocket health care spending, transportation, and personal assistance services increase at very old ages. Those who live through very old age often live longer than they expected and saved for, and thus suffer declines in living standards due to depleted personal savings. The Biden plan would provide a benefit "bump up" for older beneficiaries that increases in size during ages 78 to 82 to reach a full 5 percent increase in the basic benefit calculated in the year of their retirement ("primary insurance amount") by age 82 and beyond.

Under current Social Security laws, once the initial benefit is calculated, the benefit is adjusted each year to keep pace with general price increases in the economy. However, the price index used is the Consumer Price Index for Wage and Clerical Workers (CPI-W). That index does not accurately capture annual changes in the general price level of the basket of goods and services that retirees purchase, which includes more health-care-related items and less work-related items such as clothing and transportation. The Biden plan would increase overall benefits by shifting the index for calculating annual cost-of-living benefit adjustments to the Consumer Price Index for the Elderly (CPI-E) , which usually grows faster than the CPI-W index.

Changes to Taxes

Under current law, the 12.4 percent Social Security (OASDI) employer and employee combined payroll tax rate applies to earnings up to the annual taxable maximum level ($137,700 in 2020).

The Biden plan increases Social Security taxes by creating a "donut hole" in the payroll tax structure. While earnings immediately above the current taxable maximum would continue to be exempt from Social Security taxes, earnings above $400,000 would be taxed at the 12.4 percent rate. However, the new taxes on earnings above $400,000 would not trigger additional benefits.

Over time, the donut hole would disappear and all earnings would be subject to full payroll taxes. The reason for this disappearance is that the annual taxable maximum level ($137,700 in 2020) would continue to grow with average wage growth, as under current law, while the $400,000 threshold would remain fixed. The donut hole, therefore, disappears once the annual taxable maximum level reaches $400,000.

Projected Budgetary Effects

PWBM's integrated model platform allows for a holistic analysis of Social Security reforms, including: the direct impact of policy changes on the Social Security program's finances; changes in household decisions including labor supply and retirement savings; indirect effects from interactions with the rest of the federal budget; and the impact on the macroeconomy. The macroeconomic ("dynamic") feedback effects of changes in labor supply and saving affect wages, labor supply, GDP, and even future benefits received under Social Security's wage-indexed formula.

Table 2 shows PWBM's estimates of Social Security's long-range and short-range actuarial *present value balance ratios* under current law and under the Biden plan. The present-value balance ratio indicates the program's shortfall as a fraction of all future payroll. The numerator of this ratio is the current value of the trust fund plus the present value of projected receipts less payments over each time horizon. This numerator is divided by the present value of taxable payroll to produce the present-value balance ratio.

PWBM projects that, on a conventional basis, the Biden plan reduces the program's *long-range* (75-year) present value balance ratio from 3.55 percent of taxable payroll to 2.01 percent—a 1.54 percentage point reduction. On a dynamic basis, the Biden plan reduces the program's *short-range* (30-year) present value balance ratio from 2.25 percent of taxable payroll to 1.45 percent—a 0.8 percentage point reduction.

Table 2: Estimated OASDI Financial Effects of the Biden Plan Relative to Current Law

Percentage Points

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	Long Range OASDI Actuarial Present Value Balance Ratio	**Short Range OASDI Actuarial Present Value Balance Ratio**
	Conventional (Static) Estimates (2020-2094)	**Dynamic Estimates (2020-2050)**
Current Law	-3.55	-2.25
Effect of proposed changes	*1.54*	*0.80*
Proposed Law	-2.01	-1.45

Note: The OASDI actuarial present value balance ratio is the actuarial balance as a percent of current law taxable payroll. See here for a discussion of current law and current policy. Consistent with our previous dynamic analysis and the empirical evidence, the dynamic projections above assume that the U.S. economy is 40 percent open and 60 percent closed. Specifically, 40 percent of new government debt is purchased by foreigners.

Figure 1 shows dynamic estimates of Social Security's short-range balance ratio on an annual basis, under current law and the Biden proposal. This ratio is the difference between annual costs (including all benefit expenditures) and revenues (excluding interest income), divided by annual taxable payroll under current law.

Figure 1: Social Security's Annual Non-Interest Income Balance as a Share of Taxable Payroll, Short Range (2019-2049) Dynamic Estimates

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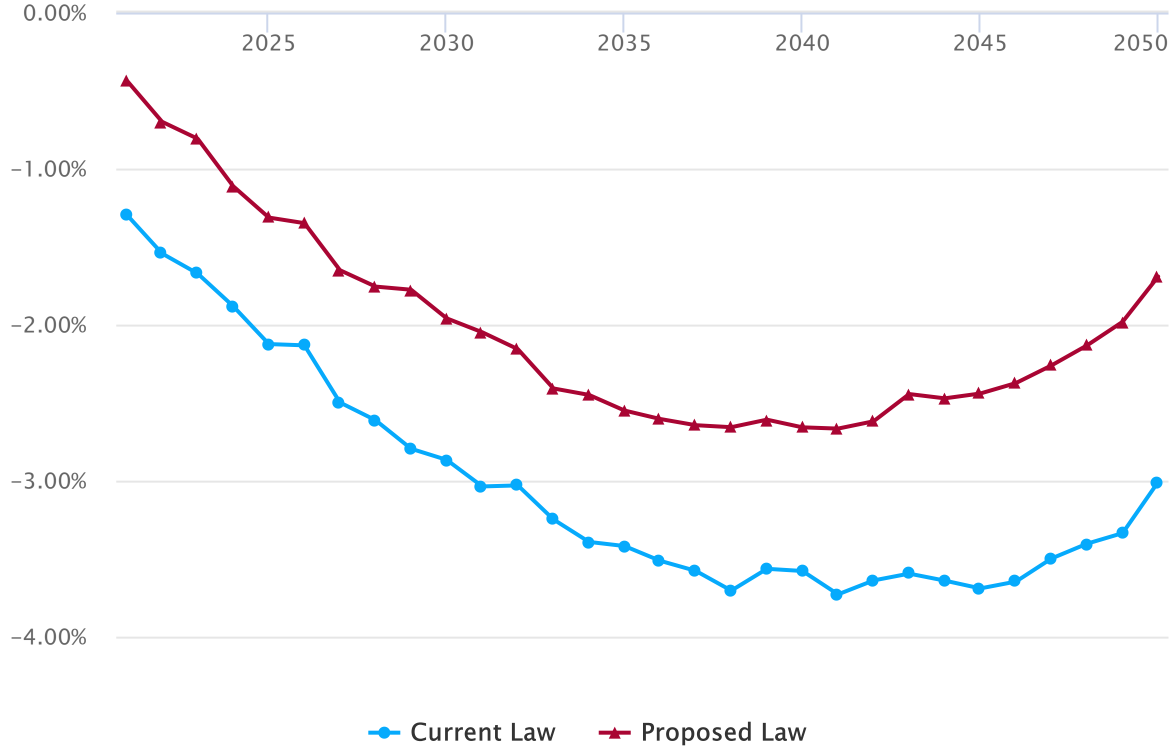

Note: Consistent with our previous dynamic analysis and the empirical evidence, the dynamic projections above assume that the U.S. economy is 40 percent open and 60 percent closed. Specifically, 40 percent of new government debt is purchased by foreigners.

Projected Economic Effects

As summarized in Table 3, PWBM projects that the Biden plan will reduce GDP by 0.6 in 2030 and by 0.8 percent by 2050. The improvement in the actuarial balance ratio effectively reduces government debt under the unified surplus measure. By itself, this improvement would increase the nation's capital stock and GDP.

However, the Biden plan has two main offsetting effects that work in the opposite direction.

First, a large share of the Biden plan's benefit increases accrue to households who have little retirement savings to offset. However, to the extent that the plan's benefit increases accrue to households who supplement retirement resources with personal savings, those households save less for retirement and work less or retire a bit earlier. The resulting reduction in personal savings offsets some of the gains to the capital stock from deficit reduction, and reduced labor supply directly reduces national output.

Second, the new donut hole tax distorts labor supply decisions by more than the current payroll tax. As we explained previously, the current payroll tax does not distort labor supply by as much as non-Social Security taxes. The reason is that payroll taxes are linked to expected future benefits. Put differently, part of the current law payroll tax for the average worker is more similar to a "contribution" than a tax. Any tax distortions that occur arise from imperfect linkages between payroll taxes and expected future benefits due to inter-generational ("pay-as-you-go" financing) and intra-generational redistribution (progressive benefits).

The Biden plan's donut hole tax increase does not trigger a corresponding increase in future benefits. It is, therefore, fully distorting to labor supply because of its lack of "contribution-benefit" linkage. Moreover, a well established principle in the field of public economics is that these labor supply distortions increase in proportion to the *square* of the tax rate. Hence, a new tax on top of existing taxes distorts labor supply decisions by more than the new tax relative to zero initial taxes. The additional 12.4 percent tax in the Biden plan is levied on households who already face the highest combined statutory federal-state-local income and payroll tax rates.

In total, we project that by 2050 these effects cause the capital stock to decline by 1.5 percent (reducing wages), labor income to decline by 0.8 percent, and labor hours to decline by 0.1 percent. Together, this leads to our projected GDP reduction under the Biden Social Security plan.

Table 3: Effects on Key Macroeconomic Variables Relative to Current Law in Year Shown

Percent Change from Baseline

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Year	GDP	Labor Income	Hours Worked	Capital Service
2021	-0.3	-0.3	-0.1	0.1
2030	-0.6	-0.6	-0.1	-0.9
2040	-0.7	-0.7	0.0	-1.3
2050	-0.8	-0.8	-0.1	-1.5

Note: Consistent with our previous dynamic analysis and the empirical evidence, the dynamic projections above assume that the U.S. economy is 40 percent open and 60 percent closed. Specifically, 40 percent of new government debt is purchased by foreigners.

Victoria Osorio, John Ricco, and Sophie Shin conducted this analysis under the direction of Efraim Berkovich, Richard Prisinzano, and Kent Smetters. Jagadeesh Gokhale contributed to the report, and Mariko Paulson prepared it for the PWBM website. Calculations are based on PWBM's model that is developed and maintained by PWBM staff.