NOTE: An update to this PWBM analysis released in September 2019.

Summary

We project that the Social Security 2100 Act would almost eliminate Social Security's long-run imbalance while having little impact on the economy within 10 years and reducing GDP by 2 percent by 2049 relative to current policy.

Key Points

- We project that The Social Security 2100 Act would nearly eliminate Social Security's conventional long-range imbalance while reducing the program's dynamic short-range imbalance.
- The Act reduces annual shortfalls that would otherwise add to national deficits under current policy, but at the cost of new tax distortions. The two effects nearly cancel in the macroeconomy. We project that the Act decreases GDP by 0.7 percent by 2029 and decreases GDP by 2 percent by 2049.
- Previously, PWBM showed that reforms that combined tax increases with progressive benefit reductions could boost GDP by over 5 percent by 2049.

The Social Security 2100 Act: Effects on Social Security Finances and the Economy

Recently, Representative John Larson introduced the Social Security 2100 Act, which raises tax revenue and includes a modest expansion of benefits. PWBM's previous analysis reveals that the Social Security program is in worse financial condition than estimated by Social Security Trustees. In addition, we previously explored a menu of possible reform options to return Social Security to financial balance and their impact on growth.

This brief reports our projections of the net impact of the Social Security 2100 Act on Social Security's financial condition and the macroeconomic economy using PWBM's model with integrated Social Security and Tax modules. A future brief will focus on distributional analysis, which requires considerably more analysis than is traditionally performed for Social Security.

Social Security 2100 Act: Main Features

The Social Security 2100 Act contains several policy provisions that alter tax revenue and benefit calculations. Table 1 summarizes the Act's provisions and compares them to current policy.

Table 1: Benefit, Tax and Other Provisions in the Social Security 2100 Act

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	Current Policy (2018)	Social Security 2100 Act
Benefit Provision		
Primary Insurance Amount (PIA) Bend Points	90 / 32 / 15	93 / 32 / 15 / 2
Cost of Living Adjustment (COLA)	CPI for Urban Wage Earners and Clerical Workers (CPI-W)	CPI for Elderly (CPI-E)
Special Minimum PIA	Indexed to CPI-W, full special minimum PIA is $872.50 in 2019	Minimum PIA tied to COLA. Minimum PIA set at 125% of poverty line in 2020, growing by the national Averate Wage Index (AWI) afterward
Tax Provision		
Income Thresholds for Taxes on OASDI Benefits	Minimum income thresholds of $34,000 (single) and $44,000 (joint); up to 85% of benefits are taxable	Minimum income thresholds set at $50,000 (single) and $100,000 (joint); up to 85% of benefits are taxable
Payroll Taxes on Wage Earnings Above $400,000 ("Donut Hole")	No	OASDI combined employer & employee tax rate
OASDI Combined Employer & Employee Tax Rate	12.4%	Increase by 0.1 percentage points annually until reaching 14.8% by 2043
Other Provisions		
Merge the OASI and DI trust funds	OASI and DI trust funds are separate	OASI and DI trust funds are merged

The Social Security 2100 Act would increase benefits in three primary ways. First, the primary insurance amount (PIA) formula, which is used to calculate initial benefits at retirement, is made more generous for low-income workers. In particular, the match rate for the lowest earnings bracket (bend point) is increased from 90 percent to 93 percent. Moreover, a new bend point with a match rate of 2 percent is added that provides some additional benefits for those paying taxes on earnings above the taxable maximum, a new provision discussed below. Second, the Act replaces the price index formula (CPI-W) that is currently used for calculating cost-of-living adjustments (COLA) on benefits after retirement with a new formula (CPI-E). This new formula more closely aligns annual COLA adjustments to the kinds of goods and services on which the elderly spend relatively more, including out-of-pocket health care expenses. The prices of those goods have historically increased faster than the prices of goods and services represented by the current formula. Third, the Act increases the minimum benefit level from 100 percent to 125 percent of the poverty threshold.

Tax revenue provisions would be changed in three primary ways. First, the income threshold required for the taxation of Social Security benefits would be increased. Second, the payroll tax rate would be levied on earnings

above $400,000. This particular provision, therefore, creates a "donut hole" where earnings between the taxable maximum, equal to $132,900 in 2019, and $400,000 do not face payroll taxes. Since the taxable maximum--but not the $400,000 threshold--increases with average wage growth over time, the donut hole eventually disappears, making all wage income taxable. Third, the combined employer-employee payroll tax rate itself would gradually increase from 12.4 percent of taxable payroll to 14.8 percent.

The Act would also merge the OASI ("Old Age and Survivors Insurance") and DI ("Disability Insurance") trust funds. The OASI and DI programs together are commonly known as "Social Security." Their respective trust funds, however, are technically separate under current policy, although the distinction means very little in practice. This provision would eliminate that technical distinction.

Impact on Social Security Finances: The Present-Value Balance Ratio

Table 2 reports PWBM's projections of The Social Security 2100 Act on Social Security's long-range and short-range actuarial *present-value balance ratios*. The present-value balance ratio is a conventional accounting measure that indicates the program's shortfall as a fraction of all future payroll.[1] The numerator of this ratio is set equal to value of the trust fund plus the present value of projected receipts less payments over the shown time horizon.[2] This numerator is then divided by the present value of taxable payroll to produce the present-value balance ratio.

Under current policy, PWBM projects a present-value balance ratio of -4.05 percent of future payroll over the next 75 years, between 2019 and 2093. As a comparison, Table 2 reports static projections provided by the expert actuaries at the Social Security Administration (SSA), which estimate a smaller balance ratio of -2.84 over the same period. Table 2 also shows PWBM and SSA actuaries' projections of changes in the balance ratio under The Social Security 2100 Act. Both PWBM and SSA project that the Act would nearly eliminate Social Security's long-range imbalance, with a small positive balance in the case of SSA projections.

Table 2: Estimated OASDI Financial Effects of the Social Security 2100 Act Relative to Current Policy, percentage points

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	Long-Range OASDI Actuarial Present Value Balance Ratio[3]			Short-Range OASDI Actuarial Present Value Balance Ratio[4]
	SSA Actuaries[5]	PWBM[6]		PWBM
	Static Estimate (2018-2092)[7]	Conventional Estimate (2019-2093)[8]	Conventional Estimate, with Interaction Effects (2019-2093)	Dynamic Estimate (2019-2049)[9][10]
Current Policy[11] (Present-Value Balance Ratio)	-2.84	-4.05	-4.05	-3.11
Provision (Change in PV Balance Ratio)				
Primary Insurance Amount (PIA) Bend Points	-0.24	-0.25	-0.25	-0.26
Cost of Living Adjustment (COLA)	-0.40	-0.43	-0.44	-0.33
Special Minimum PIA	-0.12	-0.03	-0.02	-0.02
Increase Income Thresholds for Taxes on OASDI Benefits	-0.16	-0.11	-0.11	-0.27
Payroll Taxes on Wage Earnings Above $400,000 ("donut hole")	1.90	2.29	2.29	1.52
OASDI Combined Employer & Employee Tax Rate of 14.6 Percent	1.81	2.12	2.53	1.44
Merge the OASI and DI trust funds	Negligible	Negligible	Negligible	Negligible
Total Change from all Provisions	3.10	3.99	3.99	2.26
New Policy (Current Policy + Total Change from all Provisions)	0.26	-0.06	-0.06	-0.85

PWBM's long-range conventional estimates for the new provisions shown in Table 2 include various economic responses ("elasticities") associated with reclassification and timing of income that are assumed to change the size

of the payroll tax base but not GDP or factor prices. As such, conventional estimates do not include the impact of rising government debt on capital formation or the saving or labor supply responses of households to changes in policy. The last column of Table 2 reports PWBM's dynamic estimates of the actuarial balance ratio over a 30-year horizon, between 2019 and 2049. Dynamic estimates can't be extended out for a longer time horizon since U.S. baseline policy (including non-Social Security finances) are not sustainable over a much longer time period. Our projections show that the Social Security 2100 Act reduces Social Security's actuarial balance ratio through 2049 from -3.11 under current policy to -0.85, thereby not quite closing Social Security's imbalance once dynamics are considered.

Impact on Social Security Finances: The Annual Balance Ratio

Figure 1 shows Social Security's balance ratio on an *annual* basis, under current policy and the Social Security 2100 Act. This ratio is calculated by subtracting annual costs (including all benefit expenditures) from revenues (excluding interest income), and then dividing this difference by annual taxable payrolls under current law. Each line shown in Figure 1 includes the annual balance ratio as a *level* (not the change) with *one* provision included at a time, as indicated by the line label.[12]

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

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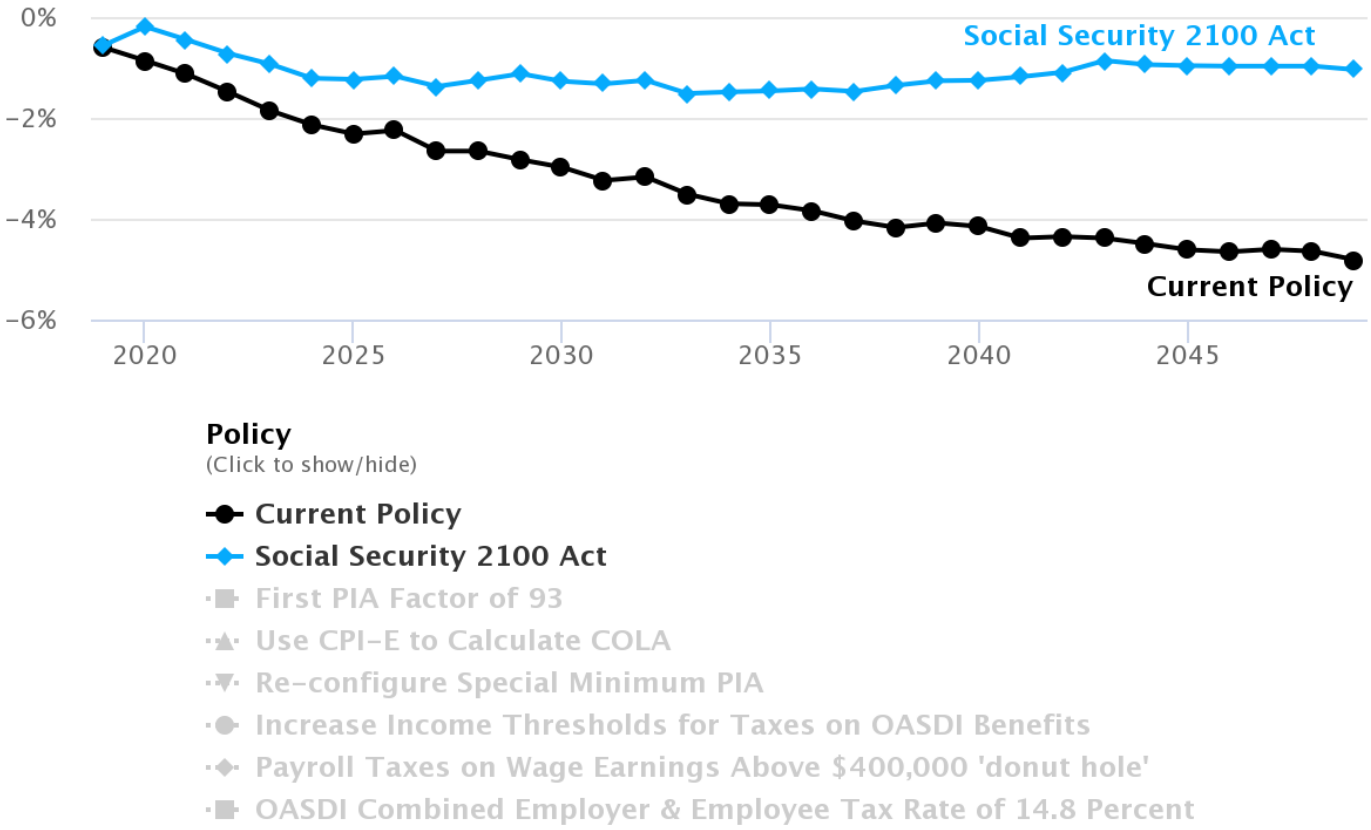
Note: Please view online to see our estimates of each provision alone.



Note: Consistent with our previous dynamic analysis and the empirical evidence, the 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.

Impact on the Economy

Our previous analysis of a range of possible reform options demonstrated that virtually all possible reforms to Social Security that create long-run balance expand the size of GDP by more than current policy, as current policy finances benefits by increasing deficits over time. Reforms that combine progressive benefits reductions with tax increases ("combined reforms") promote the most economic growth, by over 5 percent of GDP by 2049,[13] by reducing debt accumulation and encouraging additional retirement savings by higher-income households.

Table 3 reports the projected impact of the Social Security 2100 Act on GDP, labor income, hours worked and U.S. capital services in the short term (2020), after ten years (2029), after another decade (2040) and at the end of 30 years (2049). We project that the Social Security 2100 Act decreases GDP by 0.7 percent by 2029 and by 2 percent by 2049. The reason for the poorer economic performance relative to more combined reforms is that the Act does not reduce benefits and, in fact, increases benefits by 0.61 percent of future taxable payroll by 2049. Taxes that distort economic activity are then used to reduce the actuarial balance over time, including these new benefits. The Act, therefore, actually decreases the need for higher-income households to save more for their own retirement, whereas combined reforms generally increase the need.

Table 3: Social Security 2100 Act Effects on Key Macroeconomic Variables Relative to Current Policy in Year Shown

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Year	GDP (% change)	Labor Income (% change)	Hours Worked (% change)	Capital Services (% change)
2020	0.0	0.0	0.4	0.0
2029	-0.7	-0.7	0.4	-2.3
2040	-1.5	-1.5	0.2	-4.6
2049	-2.0	-2.0	0.4	-6.0

Note: Consistent with our previous dynamic analysis and the empirical evidence, the 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.

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1. Our previous analysis discusses the distinction between "current policy" and "current law". Conventional estimates divide by imbalances relative to current law payroll, which is larger than under current policy once dynamic effects are considered. ↩

2. By tradition, SSA projections add one-year of costs at the end of the projection period as a buffer, which we also include. ↩

3. The actuarial present-value imbalance is equal to value of the trust fund plus projected receipts less payments over the shown time horizon. The balance ratio divides the imbalance by the present value of

taxable payroll. ↩

4. The actuarial present-value imbalance is equal to value of the trust fund plus projected receipts less payments over the shown time horizon. The balance ratio divides the imbalance by the present value of taxable payroll. ↩

5. The expert actuaries at the Social Security Administration (SSA) use their intermediate assumptions to compute "static" estimates within their model. PWBM reports "conventional" estimates using a micro-simulation model. Our previous analysis discusses the micro-simulation approach in the context of Social Security. "Static" estimates do not include behaviorial responses to a policy change. "Conventional" estimates includes some micro-elasticity responses, such as the impact from income reclassification and income shifting, that change the size of the tax base but not GDP or factor prices. (The experts at the Joint Committee on Taxation and the Congressional Budget Office also routinely report conventional estimates.) In contrast, "dynamic" estimates include behavioral responses that might change GDP and factor prices, including changes to labor supply and savings, as well as debt effects on capital formation. ↩

6. The expert actuaries at the Social Security Administration (SSA) use their intermediate assumptions to compute "static" estimates within their model. PWBM reports "conventional" estimates using a micro-simulation model. Our previous analysis discusses the micro-simulation approach in the context of Social Security. "Static" estimates do not include behaviorial responses to a policy change. "Conventional" estimates includes some micro-elasticity responses, such as the impact from income reclassification and income shifting, that change the size of the tax base but not GDP or factor prices. (The experts at the Joint Committee on Taxation and the Congressional Budget Office also routinely report conventional estimates.) In contrast, "dynamic" estimates include behavioral responses that might change GDP and factor prices, including changes to labor supply and savings, as well as debt effects on capital formation. ↩

7. Estimates for individual provisions will not sum to the total because these individual estimates do not include interaction effects. Interaction effects correspond to "stacked" estimates that are typically provided by the experts at the Joint Committee on Taxation and by PWBM for tax reform. The advantage of stacking is that they allow the individual components to add up to the total. The disadvantage of stacking is that exact order in which provisions are stacked impacts the change in balance ratio assigned to each provision, although not the total change. ↩

8. Estimates for individual provisions will not sum to the total because these individual estimates do not include interaction effects. Interaction effects correspond to "stacked" estimates that are typically provided by the experts at the Joint Committee on Taxation and by PWBM for tax reform. The advantage of stacking is that they allow the individual components to add up to the total. The disadvantage of stacking is that exact order in which provisions are stacked impacts the change in balance ratio assigned to each provision, although not the total change. ↩

9. Estimates for individual provisions will not sum to the total because these individual estimates do not include interaction effects. Interaction effects correspond to "stacked" estimates that are typically provided by the experts at the Joint Committee on Taxation and by PWBM for tax reform. The advantage of stacking is that they allow the individual components to add up to the total. The disadvantage of stacking is that exact order in which provisions are stacked impacts the change in balance ratio assigned to each provision, although not the total change. ↩

10. Dynamic estimate allows for household changes in labor supply and savings, which impact factor prices. 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. ↩

11. The actuarial present-value imbalance is equal to value of the trust fund plus projected receipts less payments over the shown time horizon. The balance ratio divides the imbalance by the present value of taxable payroll. ↩

12. Readers are encouraged to explore different policies on our Social Security Simulator. A previous brief provides detailed analysis on the simulator. Please note that the current analysis takes advantage of updated PWBM models and as such, will yield different results for identical policies. Updates to the models include but are not limited to in-model estimates of a partially open economy, refinements to federal debt maturity and corporate debt, detailed treatment of business entities, and time-varying OASI benefit brackets, survival, birth and immigration rates. ↩

13. Using the newest version of our model, Option E in our previous analysis increases GDP by 5.27 percent by 2049. ↩