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Analysis of Democratic Presidential Candidate Payroll Tax Proposals

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Key Findings

- 2020 Democratic presidential candidates have proposed various changes to federal payroll tax rates and the Social Security payroll tax wage base to raise revenue and maintain solvency for major federal entitlement programs. This includes levying Social Security payroll taxes on taxpayers with high wages, raising the Social Security payroll tax rate, and enacting new payroll taxes to fund new federal programs.

- Each proposed change to payroll taxes levied on wages would make the tax code more progressive but would also reduce after-tax incomes for most wage earners. This is because employees fully bear the economic burden of payroll taxes, lowering the incentive to work and reducing economic output.

Summary of Democratic Presidential Payroll Tax Proposal Estimates

	Fmr. Vice President Biden (D)	Fmr. Mayor Buttigieg (D)	Sen. Klobuchar (D-MN)	Sen. Sanders (I-VT)	Sen. Warren (D-MA)
Plan Details	12.4% Social Security payroll tax on wages above $400,000	12.4% Social Security payroll tax on wages above $250,000	12.4% Social Security payroll tax on wages above $250,000	7.5% payroll tax on employers with a $2 million payroll exemption and 12.4% Social Security payroll tax on wages above $250,000	14.8% Social Security payroll tax on wages above $250,000
Conventional Revenue, 2021-2030 (Billions)	$808	$1,556	$1,556	$5,505	$1,890
Dynamic Revenue, 2021-2030 (Billions)	$657	$1,302	$1,302	$4,677	$1,573
Gross Domestic Product (GDP)	-0.28%	-0.36%	-0.36%	-1.17%	-0.41%
Capital Stock	-0.33%	-0.42%	-0.42%	-1.33%	-0.48%
Full-time Equivalent Jobs	-350,400	-462,500	-462,500	-1,570,000	-532,500

Source: Tax Foundation General Equilibrium Model, November 2019.

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Introduction

Proposals to modify the structure of payroll taxes levied on wage income have gained steam in policy circles and the 2020 presidential race, partly driven by large and growing budget deficits driven by projected shortfalls in major American entitlement programs, Social Security, and Medicare.[1] These programs are funded primarily by payroll taxes, making proposals to shore up the sustainability of entitlement spending an attractive option for 2020 presidential candidates.

This paper reviews the structure of existing payroll taxes and analyzes payroll tax proposals from the major 2020 Democratic presidential candidates, including changes to payroll tax rates and the Social Security payroll tax wage cap. We use the Tax Foundation General Equilibrium Model to score each proposal in isolation and the combined effect of proposals for each candidate. This paper examines proposals to modify the payroll tax levied on wages. A subsequent analysis will examine proposals to apply payroll tax rates to investment and capital income, as proposed by Sen. Elizabeth Warren (D-MA) and Sen. Bernie Sanders (I-VT).

Proposals to increase payroll tax rates or the applicable payroll tax base lower economic output by reducing the return to labor. This reduces the size of the economy and has an impact on after-tax incomes of taxpayers across different levels of income.

Structure of Existing Payroll Taxes

Payroll taxes are used to fund programs such as Social Security and Medicare, and are imposed through the Federal Insurance Contributions Act (FICA) and the Self-Employment Contributions Act (SECA) for self-employed workers. Two major payroll taxes include the Social Security, or old age, survivors, and disability insurance (OASDI) taxes, and the Medicare hospital insurance (HI) tax.

The Social Security tax is levied half on employees and half on employers. Employees contribute 6.2 percent of wages up to a wage threshold, which is set at $137,700 in tax year 2020.[2] This is known as the wage base and it is indexed to wage growth each year. Similarly, employers contribute 6.2 percent of payroll up to the wage threshold, yielding a total Social Security payroll tax rate of 12.4 percent on the first $137,700 of earnings.

The Medicare payroll tax is levied at 1.45 percent on employees and employers separately, for a combined tax rate of 2.9 percent. Unlike the Social Security payroll tax, the Medicare tax is not capped at a wage threshold and instead is levied on all wages. When combined with the Social Security payroll tax, this yields a tax rate of 15.3 percent on the first $137,700 of wages and a 1.45 percent payroll tax on wages above $137,700. Wage earners above $200,000 (single) or $250,000 (joint filers) must pay an additional Medicare tax of 0.9 percent, yielding a combined payroll tax rate of 3.8 percent.[3]

1 Congressional Budget Office, "The Budget and Economic Outlook: 2020 to 2030," Jan. 28, 2020, https://cbo.gov/publication/56020.

2 Social Security Administration, "Fact Sheet: 2020 Social Security Changes," https://ssa.gov/news/press/factsheets/colafacts2020.pdf.

3 This mirrors the tax rate levied on net investment income under the Net Investment Income Tax (NIIT).

TABLE 1.

Combined Payroll Tax Rates by Wage Level Under Current Law

Wages Threshold	Social Security Payroll Tax Rate	Medicare (HI) Tax Rate	Combined Payroll Tax Rate
$0	12.4% (split between employers and employees)	2.9% (split between employers and employees)	15.3%
$137,700	0%	2.9% (split between employers and employees)	2.9%
$200,000*	0%	3.8% (2.9% split between employers and employees)	3.8%

* For single filers, the wage threshold for the additional Medicare tax is $200,000. The additional Medicare tax is levied at $250,000 for joint filers, unlike other payroll taxes which are levied only on individual wages.
Source: Social Security Administration.

Payroll taxes are one of the largest taxes faced by most taxpayers. Most taxpayers pay more in payroll tax than they do in income taxes: 68 percent of tax units paid more in payroll taxes than income taxes in 2019, according to the Joint Committee on Taxation (JCT).[4]

The payroll tax is projected to contribute about $1.3 trillion in revenue for fiscal year 2020, with $960 billion coming from the 12.4 percent Social Security payroll tax, $293 billion from the 2.9 percent Medicare payroll tax and 0.9 percent from the additional Medicare tax, and $49 billion in revenue coming from taxes related to unemployment insurance, railroad retirement, and other retirement plans for federal employees.[5] This amounts to about 12 percent of total federal revenue.[6]

From 2020 to 2030, payroll tax revenue will total $16.1 trillion according to the Congressional Budget Office (CBO), with $11.8 trillion coming from Social Security payroll taxes and $3.6 trillion from Medicare payroll taxes.[7] This revenue, however, will not be large enough to cover projected deficits driven by Social Security and Medicare. The CBO estimates that Social Security will run a $221 billion shortfall between 2021 and 2030, while Medicare will run a $2.2 trillion shortfall over that time period.[8] These deficits are driven by an aging population and the rising costs of health care, which will increase outlays for both programs between 1.1 and 1.6 percent of GDP from 2020 to 2030.[9]

4 Congressional Research Service, "Overview of the Federal Tax System in 2019," Nov. 20, 2019, 14-15, https://fas.org/sgp/crs/misc/R45145.pdf.

5 Congressional Budget Office, "The Budget and Economic Outlook: 2020 to 2030."

6 Congressional Research Service, "Overview of the Federal Tax System in 2019," November 20, 1.

7 Congressional Budget Office, "The Budget and Economic Outlook: 2020 to 2030," 7.

8 Ibid, 19.

9 Ibid, 20.

Analysis of Proposed Changes to Payroll Taxes on Wage Income

Five of the major Democratic presidential candidates have proposed changes to either the payroll tax rate or the Social Security payroll tax wage cap.

Former Vice President Joe Biden (D) has recommended applying the same tax to wage income above $400,000. Sen. Warren has proposed applying a 14.8 percent Social Security payroll tax to wages above $250,000, raising the rate from 12.4 percent. Sen. Sanders, Sen. Klobuchar, and former Mayor Buttigieg have recommended levying the 12.4 percent Social Security payroll tax on wage income above $250,000. Finally, Sen. Sanders has proposed an additional 7.5 percent payroll tax on all employers—with a $2 million payroll exemption—to help fund his Medicare for All proposal.

Using the Tax Foundation General Equilibrium Model, we estimated the long-run economic effects, the 10-year conventional and dynamic revenue effects, and the conventional distributional effects of raising the Social Security payroll tax rate and expanding the Social Security wage base as proposed by each Democratic presidential candidate.

Former Vice President Biden's Proposal

Biden has proposed applying Social Security payroll taxes to higher-income taxpayers, focusing on those earning above $400,000.[10] This proposal keeps the Social Security wage cap's existing threshold of $137,700 (indexed to wage growth) but applies the 12.4 percent tax on wages over $400,000. This creates a "donut hole" in the Social Security wage base, where wages between $137,000 and $400,000 are not taxed.

TABLE 2.

Combined Payroll Tax Rates by Wage Level under Biden's Proposal

Wages Threshold	Social Security Payroll Tax Rate	Medicare (HI) Tax Rate	Combined Payroll Tax Rate
$0	12.4% (split between employers and employees)	2.9% (split between employers and employees)	15.3%
$137,700	0%	2.9% (split between employers and employees)	2.9%
$200,000*	0%	3.8% (2.9% split between employers and employees)	3.8%
$400,000	12.4% (split between employers and employees)	3.8% (2.9% split between employers and employees)	16.2%

* For single filers, the wage threshold for the additional Medicare tax is $200,000. The additional Medicare tax is levied at $250,000 for joint filers, unlike other payroll taxes which are levied only on individual wages.
Source: Tax Foundation calculations based on Biden's proposal.

This Social Security payroll tax "donut hole" between $137,700 and $400,000 in wages would gradually close over time, as the $137,700 wage cap is adjusted for wage growth and the $400,000 threshold remains fixed. Eventually, the hole would close, and all wages would be taxed at 12.4 percent for Social Security payroll tax.

10 Joebiden.com, "The Biden Plan for Older Americans," https://joebiden.com/older-americans/. See also Walker Bragman, "Joe Biden on Social Security Cuts: 'My Position Hasn't Changed,'" *Paste*, Jan. 29, 2020, https://pastemagazine.com/articles/2020/01/joe-biden-cut-social-security.html.

Economic Effect

According to the Tax Foundation General Equilibrium Model, this proposal would reduce economic output (GDP) by 0.28 percent in the long run. We estimate that the capital stock would be 0.33 percent smaller, with about 350,400 fewer full-time equivalent jobs.

TABLE 3.

Economic Effect of Biden's Proposal to Apply Social Security Payroll Tax above $400,000 in Wages

Gross Domestic Product (GDP)	-0.28%
Capital Stock	-0.33%
Full-time Equivalent Jobs	-350,400

Source: Tax Foundation General Equilibrium Model, November 2019.

While half of the Social Security payroll tax is levied on employers, the economic incidence of the payroll tax is fully borne on workers in the form of lower wages. This lowers the return to labor, resulting in a drop in economic output. Workers subject to the additional tax will be more likely to lower their hours worked due to the substitution effect away from labor.

While there is also an income effect toward increased labor to maintain the same standard of living, the substitution effect outweighs this effect.[11] This leads to a net result of fewer hours worked, lower wages, and lower economic output.

Revenue Effect

We estimate the Biden proposal to levy the Social Security payroll tax on wages above $400,000 would raise $808 billion between 2021 and 2030 on a conventional basis. Tax collections would grow as the U.S. and world economies grow, from $72 billion in 2021 to $95 billion in 2030.

TABLE 4.

Revenue Effect of Biden's Proposal to Apply Social Security Payroll Tax above $400,000 in Wages (Billions of dollars)

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2021-2030
Conventional	$72	$70	$72	$72	$76	$83	$87	$89	$92	$95	$808
Dynamic	$58	$57	$59	$59	$62	$67	$71	$72	$75	$78	$657

Source: Tax Foundation General Equilibrium Model, November 2019. Values may not add to total due to rounding.

On a dynamic basis, the proposal would raise about $657 billion between 2021 and 2030. Revenue collections are smaller on a dynamic basis due to lower output as a result of the tax. Individual income tax revenue and payroll tax revenue fall relative to the conventional estimate, as taxpayers work less, leading to a $151 billion drop in revenue.

11 Congressional Budget Office, "How the Supply of Labor Responds to Changes in Fiscal Policy," Oct. 25, 2012, https://cbo.gov/publication/43674.

Distributional Effect

The Tax Foundation General Equilibrium Model estimates that Biden's payroll tax proposal would make the tax code more progressive. Taxpayers below the 95th percentile would see no effect on after-tax income on a conventional basis, while taxpayers between the 95th and 99th percentiles would see a 0.06 percent drop in after-tax income. Taxpayers in the 99th to 100th percentiles would experience a 2.15 percent decline in after-tax income from additional Social Security payroll tax liability.

TABLE 5.

Static Distributional Effect of Biden's Proposal to Apply Social Security Payroll Tax above $400,000 in Wages (Percent Change in After-Tax Income)

Income Group	Conventional
0% to 20%	0%
20% to 40%	0%
40% to 60%	0%
60% to 80%	0%
80% to 90%	0%
90% to 95%	0%
95% to 99%	-0.06%
99% to 100%	-2.15%
Total	-0.38%

Source: Tax Foundation General Equilibrium Model, November 2019.

While a conventional distribution shows no effect to the incomes of most taxpayers, we would expect a drop in the incomes of most taxpayers after incorporating the effect of a smaller economy.

Sen. Warren's Proposal

Warren also proposes an increase in the Social Security payroll wage base, but at a different wage level and at a different tax rate than Biden. Warren proposes levying a 14.8 percent Social Security payroll tax (7.4 percent each on employees and employers) for workers earning more than $250,000 in wages.[12] The additional revenue would be used to support Social Security's solvency. Warren also proposes extending this tax to investment income, which we will analyze in a separate piece.

TABLE 6.

Combined Payroll Tax Rates by Wage Level under Sen. Warren's Proposal

Wages Threshold	Social Security Payroll Tax Rate	Medicare (HI) Tax Rate	Combined Payroll Tax Rate
$0	12.4% (split between employers and employees)	2.9% (split between employers and employees)	15.3%
$137,700	0%	2.9% (split between employers and employees)	2.9%
$200,000*	0%	3.8% (2.9% split between employers and employees)	3.8%
$250,000	14.8% (split between employers and employees)	3.8% (2.9% split between employers and employees)	18.6%

* For single filers, the wage threshold for the additional Medicare tax is $200,000. The additional Medicare tax is levied at $250,000 for joint filers, unlike other payroll taxes which are levied only on individual wages.
Source: Tax Foundation calculations based on Warren's proposal.

This proposal would also create a Social Security payroll tax "donut hole," but it would be smaller than under Biden's plan, as the wage threshold is lower. This "donut hole" would eventually close as the $137,700 wage cap increases with wage growth over time.

Economic Effect

According to the Tax Foundation General Equilibrium Model, this proposal would reduce economic output (GDP) by 0.41 percent in the long run. We also estimate that the capital stock would be 0.48 percent smaller. The proposal would also result in about 532,500 fewer jobs in the long run.

TABLE 7.

Economic Effect of Warren's Proposal to Apply a 14.8 Percent Social Security Payroll Tax above $250,000 in Wages

Gross Domestic Product (GDP)	-0.41%
Capital Stock	-0.48%
Full-time Equivalent Jobs	-532,500

Source: Tax Foundation General Equilibrium Model, November 2019.

12 Elizabeth Warren, "My Plan to Expand Social Security," Medium.com, Sept. 12, 2019, https://medium.com/@teamwarren/expanding-social-security-4db2f3617ca9.

Revenue Effect

We estimate Warren's proposal to levy a 14.8 percent Social Security payroll tax on wages above $250,000 would raise $1.89 trillion between 2021 and 2030 on a conventional basis. Tax collections would rise from $158 billion in 2021 to $227 billion in 2030, stemming from growth in the tax base and economic growth.

TABLE 8.

Revenue Effect of Warren's Proposal to Apply a 14.8 Percent Social Security Payroll Tax above $250,000 in Wages (Billions of dollars)

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2021-2030
Conventional	$158	$160	$167	$172	$180	$191	$204	$211	$219	$227	$1,890
Dynamic	$128	$130	$135	$139	$146	$163	$174	$180	$186	$193	$1,573

Source: Tax Foundation General Equilibrium Model, November 2019. Values may not add to total due to rounding.

On a dynamic basis, the proposal would raise about $1.57 trillion between 2021 and 2030. Revenue collections are lower on a dynamic basis as economic output is smaller, leading to a loss of individual income tax and payroll tax revenue. This translates to a $317 billion drop in revenue from 2021 to 2030.

Distributional Effect

Using the Tax Foundation General Equilibrium Model, we find that Warren's payroll tax proposal would make the tax code more progressive. Taxpayers below the 90^{th} percentile would see no effect on after-tax income on a conventional basis.

Taxpayers between the 90^{th} and 95^{th} percentiles would see a 0.01 percent drop in after-tax income. Taxpayers in the 95^{th} to 99^{th} percentiles would experience a 0.73 percent decline in after-tax income, while those in the top 1 percent of income would have a 3.47 percent drop in after-tax income. This is the result of higher payroll tax liability for wages over $250,000.

TABLE 9.

Static Distributional Effect of Warren's Proposal to Apply a 14.8 Percent Social Security Payroll Tax above $250,000 in Wages (Percent Change in After-Tax Income)

Income Group	Conventional
0% to 20%	0%
20% to 40%	0%
40% to 60%	0%
60% to 80%	0%
80% to 90%	0%
90% to 95%	-0.01%
95% to 99%	-0.73%
99% to 100%	-3.47%
Total	-0.71%

Source: Tax Foundation General Equilibrium Model, November 2019.

Note that while not all taxpayers will see a change in after-tax income on a conventional basis, the resulting lower economic output on a dynamic basis would lower after-tax incomes for all workers.

Sen. Klobuchar and Former Mayor Buttigieg's Proposal

Klobuchar and Buttigieg recommend applying the 12.4 percent Social Security payroll tax on wages above $250,000. This is like Warren's proposal, except that it applies the existing Social Security payroll tax rate.

TABLE 10.

Combined Payroll Tax Rates by Wage Level under Sen. Klobuchar and Former Mayor Buttigieg's Proposal

Wages Threshold	Social Security Payroll Tax Rate	Medicare (HI) Tax Rate	Combined Payroll Tax Rate
$0	12.4% (split between employers and employees)	2.9% (split between employers and employees)	15.3%
$137,700	0%	2.9% (split between employers and employees)	2.9%
$200,000*	0%	3.8% (2.9% split between employers and employees)	3.8%
$250,000	12.4% (split between employers and employees)	3.8% (2.9% split between employers and employees)	16.2%

* For single filers, the wage threshold for the additional Medicare tax is $200,000. The additional Medicare tax is levied at $250,000 for joint filers, unlike other payroll taxes which are levied only on individual wages.
Source: Tax Foundation calculations based on Klobuchar and Buttigieg's proposal.

Economic Effect

According to the Tax Foundation General Equilibrium Model, extending the 12.4 percent payroll tax on wages above $250,000 would reduce economic output (GDP) by 0.36 percent in the long run. The capital stock would be 0.42 percent smaller. The proposal would also result in about 462,500 fewer jobs in the long run.

TABLE 11.

Economic Effect of Klobuchar and Buttigieg's Proposal to Apply the 12.4 Percent Social Security Payroll Tax above $250,000 in Wages

Gross Domestic Product (GDP)	-0.36%
Capital Stock	-0.42%
Full-time Equivalent Jobs	-462,500

Source: Tax Foundation General Equilibrium Model, November 2019.

The economic effect of this proposal is like Warren's proposal, with a slightly smaller magnitude due to the lower payroll tax rate (12.4 percent, as opposed to 14.8 percent under Warren's proposal). The tax reduces the return to labor, reducing hours worked and lowering economic output by 0.36 percent in the long run.

Revenue Effect

Klobuchar and Buttigieg's proposal to levy the Social Security payroll tax on wages above $250,000 is estimated to raise about $1.55 trillion between 2021 and 2030 on a conventional basis. Tax collections would rise over the budget window, going from $136 billion in 2021 to $181 billion in 2030.

TABLE 12.

Revenue Effect of Klobuchar and Buttigieg's Proposal to Apply the 12.4 Percent Social Security Payroll Tax above $250,000 in Wages (Billions of dollars)

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2021-2030
Conventional	$136	$136	$141	$145	$152	$158	$163	$169	$175	$181	$1,556
Dynamic	$112	$112	$116	$119	$122	$135	$139	$144	$149	$154	$1,302

Source: Tax Foundation General Equilibrium Model, November 2019. Values may not add to total due to rounding.

On a dynamic basis, we estimate that this proposal would raise about $1.3 trillion from 2021 to 2030. The difference between our conventional and dynamic estimates is the result of lower individual income tax revenue and payroll tax revenue from a smaller economy. Taxpayers work less under the higher payroll tax burden, resulting in a revenue loss of about $254 billion over the budget window.

Distributional Effect

The tax code would become more progressive under this proposal according to the Tax Foundation General Equilibrium Model. Taxpayers below the 90th percentile would see no effect on after-tax income on a conventional basis.

Taxpayers between the 90th and 95th percentiles experience a 0.01 percent drop in after-tax income. Taxpayers in the 95th to 99th percentiles see a 0.61 percent decline in after-tax income. Those in the 99th percentile would see a 2.91 percent drop in after-tax income, driven by the rise in the payroll tax rate on wages earned over $250,000.

TABLE 13.

Static Distributional Effect of Klobuchar and Buttigieg's Proposal to Apply a 12.4 Percent Social Security Payroll Tax above $250,000 in Wages (Percent Change in After-Tax Income)

Income Group	Conventional
0% to 20%	0%
20% to 40%	0%
40% to 60%	0%
60% to 80%	0%
80% to 90%	0%
90% to 95%	-0.01%
95% to 99%	-0.61%
99% to 100%	-2.91%
Total	-0.59%

Source: Tax Foundation General Equilibrium Model, November 2019.

Like the other payroll tax proposals, taxpayers earning wages below the threshold of the new levy would experience a drop in after-tax incomes on a dynamic basis. This is the result of lower economic output from fewer hours worked, leading to lower after-tax incomes across the distribution.

Sen. Sanders' Proposals

Sanders proposes two major changes to payroll taxes on wages. He recommends levying the 12.4 percent Social Security payroll tax on workers with wages over $250,000. He also proposes a new 7.5 percent payroll tax levied on employers.[13] This latter tax would be used to fund Medicare for All and would include an exemption for an employer's first $2 million in payroll to relieve small businesses from the tax.

TABLE 14.

Combined Payroll Tax Rates by Wage Level under Sen. Sanders' Proposals

Wages Threshold	Social Security Payroll Tax Rate	Medicare (HI) Tax Rate	Medicare for All Payroll Tax	Combined Payroll Tax Rate
$0	12.4% (split between employers and employees)	2.9% (split between employers and employees)	7.5%	22.8%
$137,700	0%	2.9% (split between employers and employees)	7.5%	10.4%
$200,000*	0%	3.8% (2.9% split between employers and employees)	7.5%	11.3%
$250,000	12.4% (split between employers and employees)	3.8% (2.9% split between employers and employees)	7.5%	23.7%

* For single filers, the wage threshold for the additional Medicare tax is $200,000. The additional Medicare tax is levied at $250,000 for joint filers, unlike other payroll taxes which are levied only on individual wages.
Source: Tax Foundation calculations based on Sander's proposal.

The economic, revenue, and distributional effects of Sanders' Social Security payroll tax proposal are identical to Klobuchar and Buttigieg's proposal in isolation.

Economic Effect

Sanders' proposal to levy a new 7.5 percent payroll tax on employers with a $2 million payroll exemption for each employer would result in a 0.90 percent decline in long-run economic output, according to the Tax Foundation General Equilibrium Model. The capital stock would be about 1.02 percent smaller, and employment would drop by 1,190,000 as a result of the tax.

The combined effect of the 7.5 percent payroll tax on employers and extending the 12.4 percent Social Security tax on wages would lower economic output by 1.17 percent over the long run. It would also reduce the capital stock by 1.33 percent, with about 1.5 million fewer jobs.

13 Office of Sen. Bernie Sanders, "Options to Finance Medicare for All," https://www.sanders.senate.gov/download/options-to-finance-medicare-for-all?inline=file.

TABLE 15.

Economic Effect of Sanders' Proposals

Proposal	12.4% Payroll Tax on Wages Over $250,000	7.5% Payroll Tax on Employers	Combined Economic Effect
Gross Domestic Product (GDP)	-0.36%	-0.90%	-1.17%
Capital Stock	-0.42%	-1.02%	-1.33%
Full-time Equivalent Jobs	-462,500	-1,190,500	-1,570,000

Source: Tax Foundation General Equilibrium Model, November 2019.

While the 7.5 percent payroll tax is formally levied on employers, employees would bear the full burden of the new payroll tax. Employees would earn lower wages, lowering the return to labor. This reduces hours worked and results in lower economic output. The $2 million exemption on employer payroll reduces the negative economic effect of the tax but also reduces the tax base from a revenue perspective.

It should be noted that Sanders proposes to use the payroll tax revenue to support Medicare for All. Taxpayers and employers may see a drop in health insurance costs. However, the tax would still reduce the return to labor and reduce hours worked, as the marginal payroll tax is assessed on each additional hour of labor.

Revenue Effect

Sanders' proposal to levy a new 7.5 percent payroll tax on wages is estimated to raise about $4.1 trillion between 2021 and 2030 on a conventional basis. Revenue increases over the budget window, rising from $356 billion in 2021 to $486 billion in 2030.

We estimate that Sanders' proposed payroll taxes on wages would raise about $5.5 trillion between 2021 and 2030 on a conventional basis.

TABLE 16.

Conventional Revenue Effect of Sanders' Proposals (in Billions of Dollars)

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2021-2030
7.5 Percent Payroll Tax on Employers	$356	$364	$377	$390	$407	$422	$437	$453	$470	$486	$4,164
12.4 Percent Payroll Tax on Wages over $250,000	$136	$136	$141	$145	$152	$158	$163	$169	$175	$181	$1,556
Combined Conventional Revenue	$469	$481	$499	$517	$539	$558	$578	$600	$622	$643	$5,505

Source: Tax Foundation General Equilibrium Model, November 2019.

When accounting for lower economic output, we estimate that the 7.5 percent payroll tax on employers would raise about $3.5 trillion on a dynamic basis from 2021 to 2030. Payroll tax revenue and individual income tax revenue falls relative to the conventional estimate as workers reduce their hours worked, resulting in a loss of about $630 billion in revenue over the budget window.

When the two payroll tax proposals are combined, we estimate that the decline in economic output would reduce revenue collection by $828 billion over the budget window. This is also due to a drop in individual income tax revenue and payroll tax revenue. The difference in revenue collection over each score rises over time, going from a $71 billion revenue loss in 2021 to $96 billion in lost revenue by 2030.

TABLE 17.

Dynamic Revenue Effect of Sanders' Proposals (in Billions of Dollars)

Year	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2021-2030
7.5 Percent Payroll Tax on Employers	$301	$311	$319	$324	$345	$360	$372	$385	$399	$413	$3,530
12.4 Percent Payroll Tax on Wages over $250,000	$112	$112	$116	$119	$122	$135	$139	$144	$149	$154	$1,302
Combined Dynamic Revenue	$398	$408	$423	$438	$457	$475	$490	$511	$529	$547	$4,677

Source: Tax Foundation General Equilibrium Model, November 2019.

Distributional Effect

The proposed 7.5 percent payroll tax on employers would be regressive, impacting taxpayers in lower income groups more than higher-income earners. Taxpayers between the 1st and 20th percentiles would experience a 3.13 percent decrease in after-tax income, while taxpayers in the 20th to 40th percentile would see a 3.07 percent decline in after-tax income. By contrast, those in the 90th to 95th percentile would experience a 2.82 percent decline in after-tax income, and the top 1 percent of income earners would have a 1.31 percent decrease in after-tax income.

The distribution of the 7.5 percent payroll tax is regressive because higher-income earners are more likely to earn non-wage income. Sanders also recommends applying payroll taxes to investment income, which would impact higher-income earners more than this proposed payroll tax on wages.

The distribution of the combined payroll tax proposals combines elements of each levy. For example, the changes in after-tax income for low- and mid-income groups stems primarily from the 7.5 percent tax on employers, which falls slightly as incomes rise.

TABLE 18.

Static Distributional Effect of Sanders' Proposals (Percent Change in After-Tax Income)

Income Group	12.4% Payroll Tax on Wages Above $250,000	7.5 Percent Payroll Tax on Employers	Combined Distributional Effect
0% to 20%	0%	-3.13%	-3.13%
20% to 40%	0%	-3.07%	-3.07%
40% to 60%	0%	-3.26%	-3.26%
60% to 80%	0%	-3.22%	-3.22%
80% to 90%	0%	-2.94%	-2.94%
90% to 95%	-0.01%	-2.82%	-2.83%
95% to 99%	-0.61%	-2.5%	-3.11%
99% to 100%	-2.91%	-1.31%	-4.22%
Total	-0.59%	-2.69%	-3.28%

Source: Tax Foundation General Equilibrium Model, November 2019.

The combined Sanders payroll tax proposal reduces after-tax incomes more than either proposal in isolation. Taxpayers in the 95th to 99th percentile, for example, experience a 3.11 percent reduction in after-tax income, while the top 1 percent would see a 4.22 percent decrease in after-tax income.

The combined distribution is a slight "u" shape, hitting its lowest point at the 90th percentile before rising again for high-income taxpayers. However, it is important to note that all taxpayers would experience a drop in their after-tax incomes.

Conclusion

Five major Democratic presidential candidates favor changes to the structure and rates of existing payroll taxes levied on wages. An increase in the payroll tax rate or the payroll tax base results in lower wages for workers, as payroll taxes are fully borne by labor. This results in lower economic growth and lower after-tax incomes, ranging from a drop in economic output from -0.28 percent for Biden's proposal to -1.17 percent for Sanders' combined payroll tax proposals.

Proposals to levy the Social Security payroll tax to high-income individuals ($400,000 in wages and above for Biden, $250,000 in wages and above for Warren and Sanders) would be a progressive tax policy change, though the proposals would reduce after-tax incomes for most taxpayers on a dynamic basis.

Modeling Notes and Policy Assumptions

We use the Tax Foundation General Equilibrium Tax Model to estimate the impact of tax policies.[14] The model can produce both conventional and dynamic revenue estimates of tax policy. Conventional estimates hold the size of the economy constant and attempt to estimate potential behavioral effects of tax policy. Dynamic revenue estimates consider both behavioral and macroeconomic effects of tax policy on revenue.

The model can also produce estimates of how policies impact measures of economic performance such as GDP, wages, employment, the capital stock, investment, consumption, saving, and the trade deficit. Lastly, it can produce estimates of how different tax policy impacts the distribution of the federal tax burden.

This analysis is based on details released by each presidential candidate and their advisors. Ultimately, the impact of each proposal depends on its final details and whether it is applied in combination with other policies that may create interaction effects.

Revenue estimates were calculated by estimating the percentage change in federal revenue by revenue source (such as income tax revenue and payroll tax revenue) and applying this change over the latest CBO baseline projections over the 2021-2030 budget window.

Note that raising the payroll tax wage base would encourage tax avoidance by high-income taxpayers, who may try to recategorize their labor income to avoid payroll taxes. Tax Foundation estimates do not take this behavioral response into account. Payroll taxes are tied to benefit formulas for Social Security under current law, and benefit levels may increase under proposals to increase the Social Security payroll tax wage base. We assume benefit levels are held constant for the purposes of this analysis.

Proposals to levy payroll taxes on investment income were excluded from this analysis and may have interaction effects with the economic and revenue estimates provided here when estimated in combination with one another.

14 Stephen J. Entin, Huaqun Li, and Kyle Pomerleau, "Overview of the Tax Foundation's General Equilibrium Model," Tax Foundation, April 2018 Update," https://files.taxfoundation.org/20180419195810/TaxFoundaton_General-Equilibrium-Model-Overview1.pdf.