
# AN ANALYSIS OF TED CRUZ'S TAX PLAN

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ABSTRACT

Presidential candidate Ted Cruz's tax proposal would (1) repeal the corporate income tax, payroll taxes for Social Security and Medicare, and estate and gift taxes; (2) collapse the seven individual income tax rates to a single 10 percent rate, increase the standard deduction, and eliminate most other deductions and credits; and (3) introduce a new 16 percent broad-based consumption tax. The plan would cut taxes at most income levels, although the highest-income households would benefit the most and the poor the least. Federal tax revenues would decline by $8.6 trillion (3.6 percent of gross domestic product) over a decade.

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## SUMMARY AND INTRODUCTION

Presidential candidate Ted Cruz has proposed tax reforms that would:

1. Repeal the corporate income tax, payroll taxes for Social Security and Medicare, and estate and gift taxes.

2. Replace the system of graduated individual income tax rates with a flat rate of 10 percent, increase standard deduction amounts, repeal all itemized deductions except those for charitable contributions and mortgage interest (with a lower cap), repeal "above-the-line" deductions, allow each taxpayer to make a deductible contribution of up to $25,000 annually to a new "Universal Savings Account," repeal all credits except the child tax credit and earned income tax credit (EITC), and repeal the individual alternative minimum tax (AMT).

3. Introduce a new 16 percent broad-based consumption tax, referred to as a "Business Flat Tax." The new tax is a form of value-added tax (VAT) that would apply to all businesses, including pass-through businesses, and to the payrolls of governments and nonprofit institutions.

The Tax Policy Center estimates that the proposal would reduce federal revenue by $8.6 trillion over its first decade and an additional $12.2 trillion over the subsequent 10 years, before accounting for added interest costs or considering macroeconomic feedback effects.[1] Most of the revenue loss would stem from repealing payroll taxes ($12.2 trillion), cutting individual income taxes ($11.9 trillion), and eliminating the corporate income tax ($3.5 trillion). The VAT would raise $19.2 trillion over the decade, offsetting only 70 percent of the cost of the tax cuts.

Senator Cruz's proposal would exempt most saving from tax since only a tiny fraction of households have more than $25,000 in annual savings. In combination with the business flat tax—a form of VAT (or sales tax)—the tax system would shift closer toward a pure consumption tax. Many economists favor consumption over income as a tax base because taxing consumption eliminates the penalty on saving that is inherent in an income tax. Critics point out that consumption taxes represent an especially heavy burden on lower-income households because they spend a much larger share of their income than do higher-income individuals. However, the changes in the income tax in the Cruz proposal include features such as the larger standard deduction and the retention of some current law refundable tax credits that would mitigate the regressivity of the new sales tax.

In 2017, the proposal would cut taxes at every income level, but high-income taxpayers would receive the biggest cuts, both in dollar terms and as a percentage of income. Overall, the plan would cut taxes by an average of about $6,100, or about 8.5 percent of after-tax income.

However, the highest-income 0.1 percent of taxpayers (those with incomes over $3.7 million in 2015 dollars) would experience an average tax cut of more than $2 million in 2017, nearly 29 percent of after-tax income. Households in the middle of the income distribution would receive an average tax cut of $1,800, or 3.2 percent of after-tax income, while taxpayers in the lowest quintile would receive an average tax cut of $46, or 0.4 percent of after-tax income.

By 2025—after temporary revenue losses associated with the elimination of the corporate income tax decline—the proposal would still cut taxes at most income levels. High-income taxpayers would still receive the biggest cuts, while taxpayers with the lowest incomes would face a small average tax increase. Overall, the plan would cut taxes by an average of $6,350 in 2025 dollars, or about 7 percent of after-tax income. The highest-income 0.1 percent of taxpayers would experience an average tax cut of 23 percent of after-tax income, while households in the middle of the income distribution would receive an average tax cut of 2.4 percent of after-tax income. Taxpayers in the bottom quintile would see their taxes increase on average, with after-tax income declining by 0.6 percent.

Repealing the corporate income and payroll taxes, imposing a new VAT, and significantly reducing individual income tax rates would boost incentives to work, save, and invest if interest rates do not change. The plan would also remove most of the tax distortions in the allocation of capital. However, unless the reduction in revenue was offset by spending cuts, increased government borrowing would push up interest rates and crowd out private investment, negating some or all of the plan's positive incentive effects. Offsetting the large deficits the plan would create would require unprecedented cuts in federal spending.

The main elements of the Cruz proposal, as we modeled them, are listed below. Appendix A discusses instances in which campaign documents and the candidate's statements were unclear and presents the assumptions that we made in our modeling. All of our estimates reflect the effects of the Protecting Americans from Tax Hikes Act of 2015 and the tax provisions in the Consolidated Appropriations Act of 2016 on current law baseline revenues as well as on the Cruz plan.

***Individual Income Tax***

- Collapse the current seven tax brackets, which range from 10 to 39.6 percent, into a single rate of 10 percent.
- Repeal the 3.8 percent net investment income tax on high-income taxpayers enacted as part of the Affordable Care Act (ACA).
- Increase the standard deduction from $6,300 to $10,000 for single filers and from $12,600 to $20,000 for joint filers in 2015, indexed for inflation thereafter.
- Repeal the head of household and married filing separately filing statuses.
- Leave personal exemptions unchanged at $4,000 per person in 2015, indexed.

- Repeal all itemized deductions except the deductions for charitable contributions and mortgage interest (subject to a lower cap of $500,000).
- Repeal all above-the-line deductions except the deductions for contributions to retirement savings accounts.
- Allow each taxpayer to make a deductible contribution of up to $25,000 annually to a new "Universal Savings Account."
- Repeal all credits except the child tax credit and EITC.
- Repeal the individual AMT.

***Payroll Taxes***

- Repeal the payroll taxes for Social Security and Medicare, including the 0.9 percent Medicare tax on high-income workers enacted as part of the ACA.

***Corporate Income Tax***

- Repeal the corporate income tax (including the corporate AMT).
- Impose up to a 10 percent deemed repatriation tax on the profits of foreign subsidiaries of US companies accumulated through 2016, payable over 10 years.

***Value-Added Tax ("Business Flat Tax")***

- Impose a new broad-based VAT (referred to as a "Business Flat Tax") at a 16 percent (tax-inclusive) rate.
- Subject wages paid by nonprofits and federal, state, and local governments to the VAT and not allow any exemptions or deductions on business sales to nonprofits or governments.
- Allow deductions for employer contributions to employment-based retirement plans and for employer and employee payments for employment-based health insurance.
- Allow businesses to use unclaimed depreciation, net operating losses and inventories, and credits accumulated through 2016 against the new VAT.

***Estate and Gift Taxes***

- Repeal the federal estate and gift taxes.

## MAJOR ELEMENTS OF THE PROPOSAL

Senator Cruz's stated goals are to spur economic growth and job creation, raise the after-tax incomes of all Americans, and simplify tax filing (Cruz Campaign, 2015).

### *Individual Income Tax*

The plan would reduce the number of individual income tax brackets from the current seven brackets to a single rate of 10 percent (table 1). It would cut the top 39.6 percent rate by 29.6 percentage points, or nearly three-fourths. The plan would also repeal the 3.8 percent surtax on net investment income of high-income taxpayers that was enacted as part of the ACA.

TABLE 1

## Tax Rates Under Current Law and Under Cruz Tax Plan

Among tax filers claiming the standard deduction, 2015

| Single filers | | | | Childless married couples filing jointly | | | |
|---|---|---|---|---|---|---|---|
| Adjusted gross income ($) | | Current marginal rate (%) | Cruz plan marginal rate (%) | Adjusted gross income ($) | | Current marginal rate (%) | Cruz plan marginal rate (%) |
| Over | But not over | | | Over | But not over | | |
| 0 | 10,300[a] | 0 | 0 | 0 | 20,600[a] | 0 | 0 |
| 10,300 | 14,000 | 10 | 0 | 20,600 | 28,000 | 10 | 0 |
| 14,000 | 19,525 | 10 | 10 | 28,000 | 39,050 | 10 | 10 |
| 19,525 | 47,750 | 15 | 10 | 39,050 | 95,500 | 15 | 10 |
| 47,750 | 101,050 | 25 | 10 | 95,500 | 171,800 | 25 | 10 |
| 101,050 | 199,600 | 28 | 10 | 171,800 | 251,050 | 28 | 10 |
| 199,600 | 421,800 | 33 | 10 | 251,050 | 432,100 | 33 | 10 |
| 421,800 | 423,500 | 35 | 10 | 432,100 | 485,450 | 35 | 10 |
| 423,500 | and over | 39.6 | 10 | 485,450 | and over | 39.6 | 10 |

**Source:** Urban-Brookings Tax Policy Center based on the Cruz tax plan and Internal Revenue Service tax brackets.
**Note:** Tax filers who itemize deductions would not benefit from the Cruz tax plan's increase in the standard deduction and would thus face tax brackets different from those shown in this table.
[a] The lowest tax bracket covers the standard deduction plus personal exemptions: $6,300 + $4,000 for single filers and $12,600 + $8,000 for childless married couples filing jointly. It does not include the additional standard deduction for elderly or blind people.

The plan would increase the standard deduction in 2015 from $6,300 to $10,000 for single filers and from $12,600 to $20,000 for married couples filing jointly, while maintaining existing personal and dependent exemptions ($4,000 per person in 2015). For most nonitemizers, the Cruz plan would reduce individual income taxes throughout the income distribution. The higher standard deduction would increase the amount of income exempt from tax by $3,700 for single filers and by $7,400 for joint filers. This income would otherwise be taxed at the taxpayer's highest marginal rate. The head of household and married filing separate filing statuses would be repealed.

All itemized deductions would be repealed except the deductions for charitable contributions and mortgage interest. The cap on the mortgage interest deduction would be

reduced from $1 million plus $100,000 for "home equity" loans to $500,000. Above-the-line deductions (those taken in computing adjusted gross income, AGI) would be repealed.

The number of tax filers who itemize their deductions would decline sharply because of the higher standard deduction and the changes to itemized deductions. We estimate that just 2 million of the 45 million filers who would otherwise itemize in 2017 would continue to itemize deductions under the Cruz plan, reducing the share of itemizers from 31 percent under current law to about 1 percent.

The Cruz plan would reduce the tax incentive to donate to charity. The charitable deduction under current law reduces the price of giving for itemizers, who can reduce their taxable income by one dollar for each dollar of giving and thus pay less tax. For taxpayers in the 39.6 percent bracket, the after-tax cost of giving a dollar is only 60.4 cents because they save 39.6 cents in taxes for each dollar donated. Although charitable deductions would still be deductible, the dramatic drop in the number of itemizers would eliminate the charitable tax incentive for nearly all taxpayers. Most very high-income taxpayers, who account for the bulk of the dollar value of charitable donations, would continue to itemize and thus still benefit from the deduction. However, their subsidy would be much lower than it is today because of the significant reduction in their tax rates. For taxpayers currently in the 39.6 percent top bracket, the after-tax cost of giving a dollar is only 60.4 cents because they save 39.6 cents in taxes for each dollar donated. With the 10 percent tax rate in the Cruz plan, a donated dollar would save just 10 cents of tax, and the after-tax price of the donation would rise to 90 cents under the Cruz plan. In addition, eliminating the estate tax would substantially reduce the incentive for wealthy taxpayers to leave charitable bequests.

Deductibility of state and local taxes is effectively a federal subsidy on government spending at those levels. By making states and localities bear the full cost of their spending, repeal of deductibility would put pressure on state and local governments to reduce taxes and public spending.

The proposal would allow each taxpayer (i.e., both spouses on a joint return) to make deductible contributions of up to $25,000 annually to a new Universal Savings Account (USA).[2] Withdrawals from USAs would be taxable, just as withdrawals from deductible individual retirement accounts (IRAs) are taxable. The effect of the tax treatment of such accounts is to exempt from taxation the investment returns earned on account balances.[3] Because most taxpayers could shift into USAs all of their current savings held in taxable accounts, and because few taxpayers save as much as $25,000 in any single year, most taxpayers would eventually pay no income tax on their investment returns. The individual income tax would therefore be transformed over time into a consumption tax for most taxpayers.

The proposal would also repeal the deductions taken in computing AGI, such as the deductions for student loan interest, tuition and fees paid, and moving expenses, and all credits

except the child tax credit and EITC—including education tax credits and the child care credit. The individual AMT would also be repealed.

### *Payroll Taxes*

The plan would repeal the 12.4 percent payroll tax for Social Security, the 2.9 percent payroll tax for Medicare, and the 0.9 percent additional Medicare tax paid by high-income workers.

### *Corporate Income Tax*

The plan would repeal the corporate income tax, which currently taxes the worldwide income of US corporations at a maximum rate of 35 percent. The plan would also impose a one-time transition tax of up to 10 percent on existing unrepatriated foreign income of US companies, payable over 10 years.[4] The future profits of foreign subsidiaries of US companies would not be taxed. Because corporate earnings would be subject to tax only on distributed dividends or realized capital gains, the elimination of the corporate income tax would create incentives for pass-through businesses—particularly closely held ones—to incorporate and defer their tax liability on retained earnings. In addition, the absence of a corporate income tax at the federal level would make it difficult for US states to maintain their corporate income taxes.

### *Value-Added Tax ("Business Flat Tax")*

The plan would impose a new "Business Flat Tax" that would apply to all businesses, including pass-through entities such as partnerships. The base of this new tax would be the difference between a firm's sales and its purchases from other businesses, which is equal to the value-added of the business. This tax is what is known as a "subtraction method" VAT and the base is equivalent to final consumption.[5] VATs are widely used by other countries, although most countries impose what is called a "credit-invoice method" VAT, which levies tax on all sales but allows a credit for tax paid on purchases. In most respects, credit-invoice and subtraction method VATs are very similar (so long as there is only one VAT rate), but some administrative differences make credit-invoice VATs more difficult to evade.

The new VAT would be imposed at a 16 percent "tax-inclusive" rate, meaning that the tax would be assessed on sales (including the VAT) minus purchases from other businesses.[6] The VAT would be imposed on imports but removed from exports ("border adjusted").[7]

Because wages would no longer be a deductible business expense, the business flat tax would reduce pre-tax wages. This reduction in pre-tax wages would be partially offset by an increase in wages due to elimination of the employer share of the payroll tax. On net, most workers would have higher after-tax incomes because they would also receive a substantial cut in income taxes and their share of payroll taxes. See appendix B for further explanation.

Like other business purchases, investments are immediately expensed under a VAT. Thus, just as with a deductible IRA, the returns to investments are effectively exempt from the tax.[8] In addition, the Cruz plan allows firms to deduct contributions to employee retirement plans and health insurance from their VAT liability. Because these contributions are not currently taxed by either the current US payroll or income taxes and will remain tax-free under the Cruz income tax, the plan essentially keeps them free of all taxes.

### *Estate and Gift Taxes*

The plan would repeal federal estate, gift, and generation-skipping taxes. We assume that the cost basis of inherited assets would continue to be "stepped up" to their value at the time of death, a more generous provision than the one temporarily enacted when the estate and gift tax was temporarily repealed in 2010.

Eliminating the estate tax removes several economic distortions (for example, one way to avoid the tax is to spend down asset balances so that they are below the threshold for taxation). However, the estate tax is also the most progressive federal tax. Eliminating the estate tax in the context of this proposal means that wealth could accumulate across generations subject to very little tax, an advantage to those primarily concerned about savings incentives. But it also raises the risk that the resulting increased concentrations of wealth would convey more economic and political power to wealthy families.[9] Repealing the estate tax would also eliminate tax incentives for wealthy individuals to make charitable bequests.[10]

## IMPACT ON REVENUE, DISTRIBUTION, AND COMPLEXITY

### *Effects on Revenue*

We estimate that the Cruz plan would reduce federal receipts by $8.6 trillion (3.6 percent of gross domestic product, GDP) between 2017 and 2026, the 10-year budget window (table 2).[11] Table 2 also shows the small revenue loss in 2016 that results because taxpayers hold off realizing capital gains in expectation of a rate cut in 2017.

The largest revenue losses over the decade result from eliminating payroll taxes ($12.2 trillion) and the individual income tax changes ($11.9 trillion), mostly attributable to the flat marginal rate structure ($10.4 trillion) and the higher standard deduction ($2.3 trillion). Eliminating deductions and credits offsets just over 10 percent ($1.4 trillion of $13.4 trillion) of the revenue loss from individual income tax rate cuts and the higher standard deduction. Another $3.7 trillion over the decade would be lost from eliminating the corporate income tax ($3.5 trillion) and estate and gift taxes ($0.2 trillion). The new VAT would raise $19.2 trillion in the first decade, offsetting 70 percent of the revenue loss from the other tax cuts.

TABLE 2

# Estimated Effect of Cruz Tax Plan on Tax Receipts

$ billions, FY 2016–36

| Provision | Fiscal Year | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2016–26 | 2027–36 |
| **Individual income tax** | | | | | | | | |
| Repeal alternative minimum tax | 0.0 | -22.7 | -31.7 | -33.7 | -35.1 | -36.6 | -366.1 | -588.3 |
| Repeal 3.8 percent net investment surtax | -6.7 | -0.3 | -5.0 | -16.1 | -19.9 | -21.0 | -191.8 | -355.3 |
| Impose single income tax rate of 10 percent; repeal preferential rates on capital income | -14.0 | -594.0 | -830.4 | -905.9 | -969.5 | -1,025.7 | -10,374.6 | -17,701.9 |
| Repeal head of household and married filing separately statuses | 0.0 | 3.3 | 4.5 | 4.7 | 5.0 | 5.3 | 54.0 | 82.7 |
| Repeal itemized deductions other than charitable and home mortgage interest | 0.0 | 48.9 | 65.9 | 70.0 | 75.2 | 80.0 | 817.8 | 1,379.5 |
| Reform home mortgage interest deduction | 0.0 | 0.4 | 1.1 | 2.1 | 3.0 | 3.8 | 43.0 | 155.9 |
| Standard deduction of $10,000 ($20,000 for married couples), indexed after 2015 | 0.0 | -147.0 | -200.1 | -207.3 | -215.4 | -224.4 | -2,260.5 | -3,337.7 |
| Repeal above-the-line deductions | 0.0 | 4.9 | 6.6 | 6.7 | 6.8 | 7.0 | 70.3 | 112.5 |
| Repeal all tax credits except child credit and earned income credit | 0.0 | 30.0 | 41.2 | 44.1 | 46.2 | 46.9 | 466.3 | 640.6 |
| USA savings accounts | 0.0 | -3.1 | -6.6 | -9.5 | -12.3 | -15.0 | -160.7 | -467.4 |
| **Total for individual income tax revenues** | **-20.7** | **-679.8** | **-954.5** | **-1,045.0** | **-1,116.0** | **-1,179.8** | **-11,902.3** | **-20,079.3** |
| **Payroll tax** | | | | | | | | |
| Repeal payroll taxes | 0.0 | -783.2 | -1,075.4 | -1,119.6 | -1,164.0 | -1,212.5 | -12,196.7 | -18,438.5 |
| **Total for payroll tax revenues** | **0.0** | **-783.2** | **-1,075.4** | **-1,119.6** | **-1,164.0** | **-1,212.5** | **-12,196.7** | **-18,438.5** |
| **Corporate income tax** | | | | | | | | |
| Repeal the corporate income tax | 0.0 | -152.1 | -307.5 | -333.6 | -352.2 | -380.0 | -3,607.0 | -5,492.6 |
| Deemed repatriation over 10 years of accumulated untaxed pre-2017 earnings of CFCs, with reduced rates | 0.0 | 10.4 | 13.8 | 13.8 | 13.8 | 13.8 | 134.8 | 3.5 |
| **Total for corporate income tax revenues** | **0.0** | **-141.8** | **-293.7** | **-319.7** | **-338.3** | **-366.2** | **-3,472.2** | **-5,489.2** |
| **Value-added tax ("Business Flat Tax")** | | | | | | | | |
| Impose 16 percent (tax-inclusive) value-added tax | 0.0 | 1,356.9 | 1,866.3 | 1,941.6 | 2,024.9 | 2,111.7 | 21,249.6 | 32,597.5 |
| Allow unused business deductions and credits as of Jan. 1, 2017 | 0.0 | -257.2 | -384.1 | -325.5 | -251.8 | -212.8 | -2,056.9 | -485.2 |
| **Total for value-added tax revenues** | **0.0** | **1,099.7** | **1,482.2** | **1,616.1** | **1,773.1** | **1,898.9** | **19,192.6** | **32,112.2** |
| **Estate and gift taxes** | | | | | | | | |
| Repeal the estate and gift taxes (stepped-up basis of bequests retained) | 0.0 | 0.0 | -14.8 | -22.1 | -24.1 | -24.9 | -223.8 | -352.5 |
| **Total for estate and gift tax revenues** | **0.0** | **0.0** | **-14.8** | **-22.1** | **-24.1** | **-24.9** | **-223.8** | **-352.5** |
| **Total revenue effect of all provisons** | | | | | | | | |
| **Total revenue change** | **-20.7** | **-505.0** | **-856.0** | **-890.4** | **-869.4** | **-884.6** | **-8,602.3** | **-12,247.2** |
| As a percentage of GDP | -0.1% | -2.6% | -4.2% | -4.2% | -3.9% | -3.8% | -3.6% | -3.4% |

**Sources:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0515-4); TPC estimates.
**Note:** AMT = alternative minimum tax; CFC = controlled foreign corporation; GDP = gross domestic product.

We project that the revenue loss during the second decade (2027–36) would total $12.2 trillion (3.4 percent of GDP). The revenue loss is slightly smaller as a share of GDP in the second decade than in the first, mostly because allowing companies to take unused business deductions and credits during the transition to the VAT leads to greather revenue losses in the first few years after enactment than later when those deductions have been used up.

The revenue losses understate the total effect on the national debt because they do not include the additional interest owed on the resulting deficits. Including interest costs, the proposal would add $10.2 trillion to the national debt by 2026 and $29.4 trillion by 2036 (table 3 and figure 1). Assuming that the tax cuts are not offset by spending cuts, the national debt would rise by an estimated 35.7 percent of GDP by the end of 2026 and by 68.7 percent of GDP by the end of 2036.

TABLE 3

Effect of Cruz Tax Plan on Federal Revenues, Deficits, and the Debt

FY 2016–36

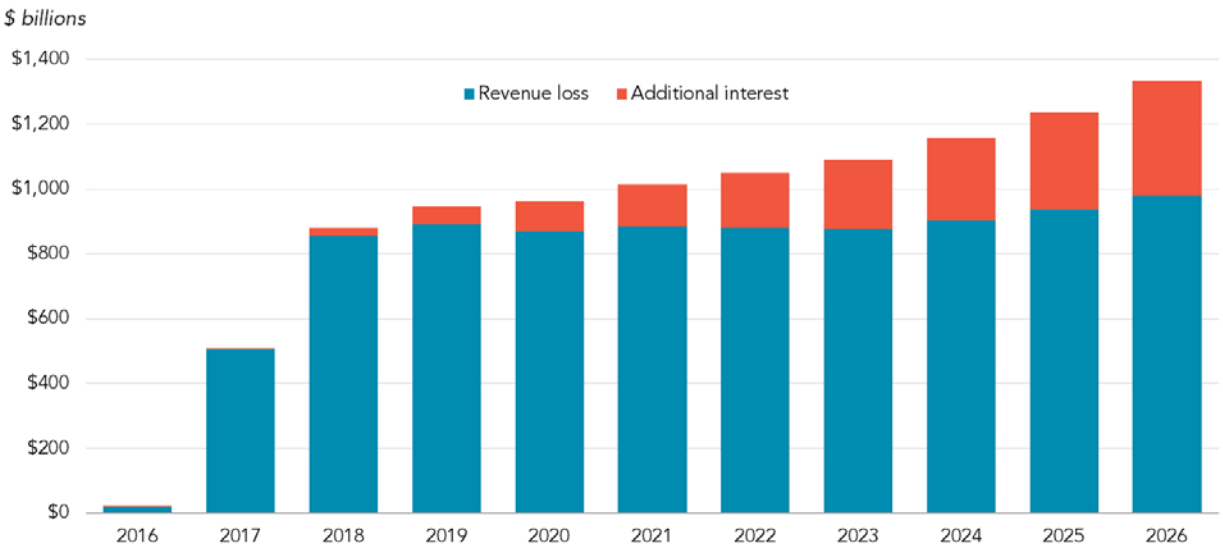
| | Fiscal Year | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2016–26 | 2027–36 |
| Revenue loss ($ billions) | 20.7 | 505.0 | 856.0 | 890.4 | 869.4 | 884.6 | 879.4 | 878.0 | 903.1 | 935.4 | 980.4 | 8,602.3 | 12,247.2 |
| Additional interest ($ billions) | 0.2 | 5.0 | 24.4 | 57.3 | 93.3 | 131.1 | 170.9 | 212.5 | 255.1 | 301.3 | 352.0 | 1,603.0 | 6,937.7 |
| Increase in deficit ($ billions) | 20.8 | 510.0 | 880.4 | 947.7 | 962.7 | 1,015.7 | 1,050.3 | 1,090.4 | 1,158.2 | 1,236.7 | 1,332.3 | 10,205.4 | 19,185.0 |
| Increase in debt[a] ($ billions) | 20.8 | 530.8 | 1,411.3 | 2,358.9 | 3,321.6 | 4,337.4 | 5,387.7 | 6,478.1 | 7,636.3 | 8,873.0 | 10,205.4 | 10,205.4 | 29,390.3 |
| **Cumulative increase in debt relative to GDP (%)** | **0.1** | **2.7** | **6.9** | **11.0** | **14.9** | **18.6** | **22.2** | **25.6** | **29.0** | **32.3** | **35.7** | **35.7** | **68.7** |
| Addendum: GDP (end of period; $ billions) | 18,831.9 | 19,701.4 | 20,558.3 | 21,403.7 | 22,314.7 | 23,271.0 | 24,261.5 | 25,287.4 | 26,352.1 | 27,455.5 | 28,600.0 | 28,600.0 | 42,800.0 |

**Source:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0515-4); Congressional Budget Office (2015a, 2015b).
**Note:** GDP = gross domestic product.
[a] Increase in debt equals the cumulative increase in deficit plus additional interest on the debt.

FIGURE 1

Effect of Cruz Tax Plan on the Debt

FY 2016–26




**Source:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0515-4); Congressional Budget Office (2015a, 2015b).

### *Effects on Distribution*[12]

In 2017, the proposal would reduce taxes throughout the income distribution.[13] It would cut taxes by an average of about $6,100, or about 8.5 percent of after-tax income (table 4). On average, households at all income levels would receive tax cuts, but the highest-income households would receive the largest cuts, both in dollars and as a percentage of income. The highest-income 1.0 percent would get an average tax cut of over $400,000 (26 percent of after-tax income), and the top 0.1 percent would get an average tax cut worth nearly $2 million, 29 percent of after-tax income. By contrast, the lowest-income households would receive an average tax cut of $46, or 0.4 percent of after-tax income. Middle-income households would receive an average tax cut of nearly $1,800, or about 3 percent of after-tax income.

TABLE 4

## Distribution of Federal Tax Change Under Cruz Tax Plan

By expanded cash income percentile, 2017

| Expanded cash income percentile[a] | Percent change in after-tax income[b] (%) | Share of total federal tax change (%) | Average federal tax change ($) | Average Federal Tax Rate[c] | |
|---|---|---|---|---|---|
| | | | | Change (percentage points) | Under the proposal (%) |
| Lowest quintile | 0.4 | 0.2 | -46 | -0.3 | 3.8 |
| Second quintile | 1.9 | 2.1 | -588 | -1.7 | 6.4 |
| Middle quintile | 3.2 | 5.8 | -1,783 | -2.8 | 10.7 |
| Fourth quintile | 4.9 | 12.1 | -4,504 | -4.0 | 12.9 |
| Top quintile | 13.7 | 79.6 | -35,471 | -10.2 | 15.4 |
| All | 8.5 | 100.0 | -6,095 | -6.8 | 13.0 |
| | | | | | |
| **Addendum** | | | | | |
| 80–90 | 6.2 | 10.3 | -8,907 | -5.0 | 14.8 |
| 90–95 | 8.1 | 9.1 | -16,129 | -6.3 | 15.3 |
| 95–99 | 12.1 | 16.6 | -39,352 | -9.1 | 16.0 |
| Top 1 percent | 26.0 | 43.7 | -407,708 | -17.4 | 15.5 |
| Top 0.1 percent | 29.0 | 21.9 | -1,994,104 | -19.1 | 15.2 |

**Source:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0515-4).

**Notes:** Number of Alternative Minimum Tax (AMT) taxpayers (millions). Baseline: 4.5; Proposal: 0. Projections are for calendar year 2017; baseline is current law (including provisions in the Protecting Americans from Tax Hikes Act of 2015 and the Consolidated Appropriations Act of 2016). The proposal includes all individual, payroll, corporate, value-added, and estate tax provisions. http://www.taxpolicycenter.org/taxtopics/Baseline-Definitions.cfm.

[a] The percentile includes both filing and non-filing units but excludes units that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class, but they are included in the totals. For a description of expanded cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm. The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are (in 2015 dollars) 20%, $23,099; 40%, $45,153; 60%, $80,760; 80%, $142,601; 90%, $209,113; 95%, $295,756; 99%, $732,323; 99.9%, $3,769,396.

[b] After-tax income is expanded cash income less individual income tax net of refundable credits, corporate income tax, payroll taxes (Social Security and Medicare), value-added tax, estate tax, and excise taxes.

[c] Average federal tax (includes individual and corporate income tax, payroll taxes for Social Security and Medicare, the value-added tax, the estate tax, and excise taxes) as a percentage of average expanded cash income.

TABLE 5

## Distribution of Federal Tax Change Under Cruz Tax Plan

By expanded cash income percentile, 2025

| Expanded cash income percentile[a] | Percent change in after-tax income[b] (%) | Share of total federal tax change (%) | Average federal tax change ($) | Average Federal Tax Rate[c] | |
|---|---|---|---|---|---|
| | | | | Change (percentage points) | Under the proposal (%) |
| Lowest quintile | -0.6 | -0.5 | 116 | 0.6 | 5.1 |
| Second quintile | 0.8 | 1.3 | -356 | -0.8 | 8.0 |
| Middle quintile | 2.4 | 5.5 | -1,728 | -2.0 | 12.3 |
| Fourth quintile | 3.6 | 11.2 | -4,262 | -3.0 | 14.4 |
| Top quintile | 11.3 | 82.6 | -38,165 | -8.3 | 18.0 |
| All | 6.7 | 100.0 | -6,349 | -5.3 | 15.1 |
| | | | | | |
| **Addendum** | | | | | |
| 80–90 | 4.8 | 9.6 | -8,629 | -3.8 | 16.4 |
| 90–95 | 6.0 | 7.9 | -14,536 | -4.7 | 17.1 |
| 95–99 | 9.4 | 15.3 | -37,825 | -7.0 | 18.1 |
| Top 1 percent | 21.2 | 49.8 | -490,800 | -14.1 | 19.5 |
| Top 0.1 percent | 23.0 | 23.5 | -2,235,857 | -15.1 | 19.4 |

**Source:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0515-4).

**Notes:** Number of Alternative Minimum Tax (AMT) taxpayers (millions). Baseline: 4.5; Proposal: 0. Projections are for calendar year 2017; baseline is current law (including provisions in the Protecting Americans from Tax Hikes Act of 2015 and the Consolidated Appropriations Act of 2016). The proposal includes all individual, payroll, corporate, value-added, and estate tax provisions. http://www.taxpolicycenter.org/taxtopics/Baseline-Definitions.cfm.

[a] The percentile includes both filing and non-filing units but excludes units that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class, but they are included in the totals. For a description of expanded cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm. The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are (in 2015 dollars) 20%, $26,101; 40%, $51,178; 60%, $87,777; 80%, $148,458; 90%, $217,212; 95%, $289,677; 99%, $846,843; 99.9%, $5,205,348.

[b] After-tax income is expanded cash income less individual income tax net of refundable credits, corporate income tax, payroll taxes (Social Security and Medicare), value-added tax, estate tax, and excise taxes.

[c] Average federal tax (includes individual and corporate income tax, payroll taxes for Social Security and Medicare, the value-added tax, the estate tax, and excise taxes) as a percentage of average expanded cash income.

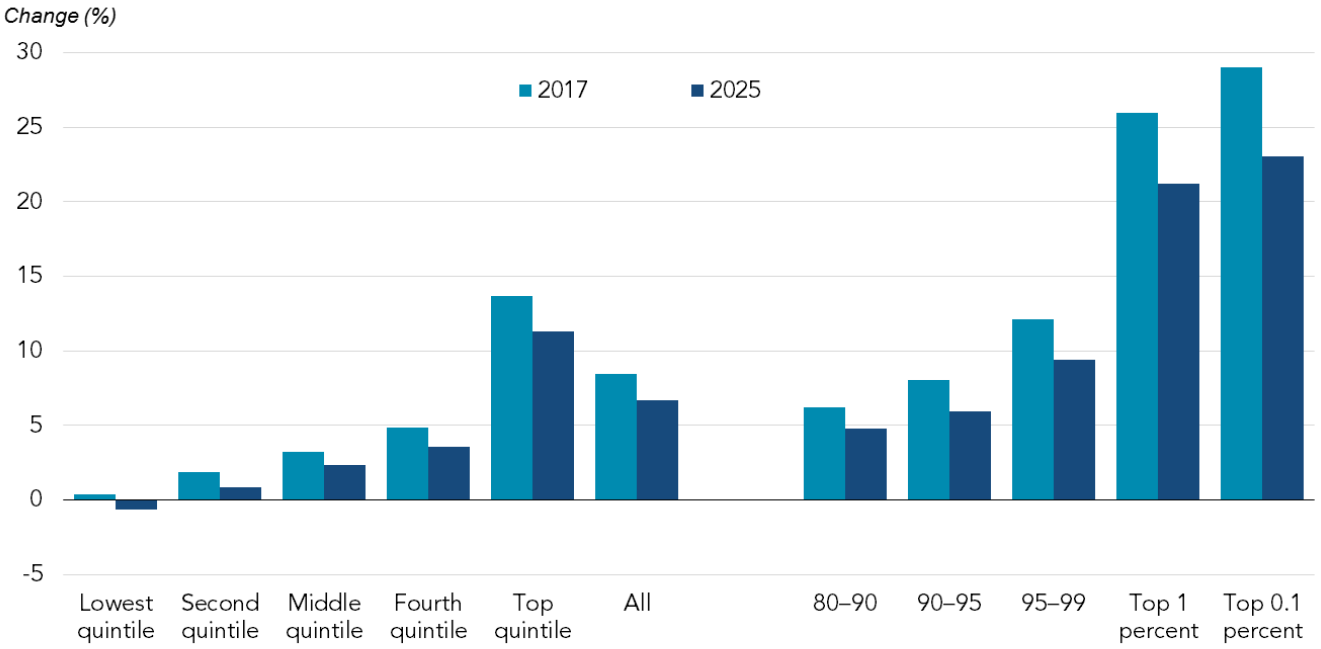
The proposal would still cut taxes at most income levels in 2025—averaging about $6,300 (table 5). However, those tax cuts would represent a smaller share (6.7 percent) of after-tax income (figure 2). The smaller overall tax cut in 2025 is due to the reduction over time in the revenue loss from allowing unused business deductions and credits associated with the elimination of the corporate income tax and other business tax provisions. High-income taxpayers would still receive the biggest cuts, while taxpayers with the lowest incomes would face little change or even a tax increase. The highest-income 0.1 percent of taxpayers would experience an average tax cut of 23 percent of after-tax income, while households in the middle of the income distribution would receive an average tax cut of 2.4 percent of after-tax income.

Taxpayers in the bottom quintile would see their taxes increase, with average after-tax income declining by 0.6 percent. Their tax increase arises primarily from the depressing effect of the VAT on gross wages (because they are no longer deductible expenses), which more than offsets the average benefit from the higher standard deduction.[14]

FIGURE 2

Change in After-Tax Income Under Cruz Tax Plan

By expanded cash income percentile, 2017 and 2025




**Source:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0515-4).

The financing of the tax cuts would ultimately affect the distribution of winners and losers in ways that are hard to predict. Although a portion of the revenue loss might be offset by higher tax revenues resulting from increased economic growth, the remainder of the financing would have to come from some combination of spending cuts and tax increases. If the tax cuts are financed by broad spending cuts, the net effects of the plan are likely to be regressive because the benefits of government spending tend to be distributed progressively (Elmendorf et al. 2008). If the resulting deficits ultimately are paid for by restoring higher taxes, and the tax increases are concentrated at the top of income distribution, the long-run effect could be less regressive (although this would entail economic costs, as addressed in the discussion of economic effects).

### *Effects on Complexity*

Senator Cruz's plan would simplify the tax code in several ways, but it would also create some new complexities. By increasing the standard deduction and eliminating a number of tax preferences, the plan would reduce record-keeping and reporting requirements and reduce the

number of taxpayers who itemize by 43 million (a 96 percent reduction) in 2017. Overall, the share of filers who itemize in 2017 would fall from 31 percent under current law to about 1 percent. Eliminating the complex AMT and the ACA surcharge on net investment income would also simplify tax preparation.

For businesses, repeal of the corporate income tax and payroll taxes, and eliminations of the need to keep track of depreciation for investments or to account separately for inventories represent major simplifications. (Publicly-traded corporations would still need to keep track of depreciation and inventories for financial reporting purposes, but they would not be required to make separate calculations for federal income tax purposes.)The new VAT would add new complexities, however, particularly during the transition to the new system. The VAT would require a completely new set of rules and procedures that would require time and expense for businesses to learn, implement, and comply with. Over time, though, the new VAT system is likely to be simpler and to have lower compliance and administrative costs than the current system of income taxation.

## ECONOMIC EFFECTS

### *Impact on Saving and Investment*

The Cruz plan would significantly alter incentives to save and invest in the United States. The plan would increase the after-tax return to savers through the elimination of the corporate income tax, large reductions in the tax rate on pass-through business profits, and lower effective marginal individual income tax rates on interest, capital gains, and dividends for nearly all taxpayers with such income (table 6).[15] Assuming that interest rates do not change (see discussion below) and that the tax cuts are not eventually financed in ways that reduce incentives to save and invest, these effects would tend to increase the amount of saving and investment in the US economy.

TABLE 6

## Effective Marginal Individual Income Tax Rates on Capital Income

By expanded cash income percentile, 2017

| Expanded cash income percentile[a] | Tax units (thousands) | Long-term capital gains | | | Qualified dividends | | | Interest income | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Current law (%) | Cruz proposal (%) | Change (percentage points) | Current law (%) | Cruz proposal (%) | Change (percentage points) | Current law (%) | Cruz proposal (%) | Change (percentage points) |
| Lowest quintile | 47,878 | 0.8 | 0.5 | -0.3 | 0.3 | 0.3 | 0.0 | 2.8 | 1.0 | -1.7 |
| Second quintile | 37,992 | 1.3 | 1.9 | 0.6 | 0.9 | 1.3 | 0.4 | 6.1 | 1.6 | -4.6 |
| Middle quintile | 34,342 | 6.3 | 7.3 | 1.0 | 7.5 | 7.6 | 0.1 | 18.3 | 6.5 | -11.7 |
| Fourth quintile | 28,545 | 9.8 | 9.1 | -0.6 | 11.0 | 10.3 | -0.7 | 21.9 | 9.8 | -12.1 |
| Top quintile | 23,785 | 22.6 | 9.7 | -12.9 | 22.0 | 10.1 | -12.0 | 34.7 | 9.9 | -24.9 |
| All | 173,829 | 20.7 | 9.3 | -11.4 | 18.8 | 9.5 | -9.4 | 27.4 | 8.4 | -19.0 |
| | | | | | | | | | | |
| **Addendum** | | | | | | | | | | |
| 80–90 | 12,240 | 12.2 | 8.8 | -3.4 | 14.1 | 10.0 | -4.1 | 25.1 | 9.3 | -15.8 |
| 90–95 | 5,942 | 14.2 | 8.3 | -5.9 | 16.4 | 9.8 | -6.6 | 28.1 | 9.4 | -18.7 |
| 95–99 | 4,468 | 19.6 | 8.6 | -11.0 | 22.6 | 10.2 | -12.4 | 35.5 | 9.9 | -25.6 |
| Top 1 percent | 1,135 | 23.9 | 9.9 | -14.0 | 24.0 | 10.1 | -13.9 | 37.5 | 10.0 | -27.5 |
| Top 0.1 percent | 116 | 24.1 | 10.0 | -14.1 | 24.0 | 10.1 | -13.9 | 36.8 | 10.1 | -26.7 |

**Source:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0515-4).

**Notes:** Projections are for calendar year 2017. Marginal effective tax rates are weighted by the appropriate income source.

[a] Includes both filing and non-filing units but excludes units that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class, but they are included in the totals. For a description of expanded cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm. The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are (in 2015 dollars) 20%, $23,099; 40%, $45,153; 60%, $80,760; 80%, $142,601; 90%, $209,113; 95%, $295,756; 99%, $732,323; 99.9%, $3,769,396.

The overall effect of taxes on incentives to save and invest can be summarized in the marginal effective tax rate (METR). METR is a forward-looking measure of the impact of the tax system on the rate of return of a hypothetical marginal (i.e., just break-even) investment project.[16] We compare the METR on different investments under the Cruz proposal with the METR under current law, including the provisions of the Protecting Americans from Tax Hikes Act of 2015 and the tax provisions in the Consolidated Appropriations Act of 2016. The Cruz proposal would generally impose much lower METRs than does current law (table 7).

TABLE 7

## Marginal Effective Tax Rates on New Investment

Percent, 2017

| Category | Current law | Cruz plan | Change (percentage points) |
|---|---|---|---|
| **Business investment** | **23.2** | **7.8** | **-15.4** |
| Corporate | 25.7 | 6.9 | -18.8 |
| Equipment | 21.6 | 6.9 | -14.7 |
| Structures | 29.5 | 6.9 | -22.6 |
| Intellectual property products | 1.3 | 6.9 | 5.6 |
| Inventories | 39.8 | 6.9 | -32.9 |
| Pass-through | 19.1 | 9.2 | -9.9 |
| Equipment | 15.8 | 9.2 | -6.6 |
| Structures | 22.4 | 9.2 | -13.2 |
| Intellectual property products | -3.3 | 9.2 | 12.5 |
| Inventories | 31.9 | 9.2 | -22.7 |
| | | | |
| **Addendum** | | | |
| Corporate (equity financed) | 32.5 | 6.0 | -26.5 |
| Corporate (debt financed) | -6.2 | 9.0 | 15.2 |
| Variation (s.d.) across assets | 12.8 | 0.0 | |
| Variation (s.d.) across industries | 6.4 | 0.0 | |

**Source:** Urban-Brookings Tax Policy Center calculations. See Rosenberg and Marron (2015) for discussion.
**Notes:** s.d. = standard deviation. Estimates for are calendar year 2017; the baseline is current law and includes the effect of provisions passed as part of the Protecting Americans from Tax Hikes Act of 2015 and the Consolidated Appropriations Act of 2016.

The Cruz proposal would lower the overall METR on nonresidential business investment by 15.4 percentage points, from 23.2 to 7.8 percent, a reduction of 66 percent. Because the VAT is a form of consumption tax, it imposes zero tax at the business level. However, interest income, dividends, and capital gains are taxed at the individual level, which lowers the after-tax rate of return earned by savers. Unlike the current system, pass-through businesses would face a higher METR (9.2 percent) than would traditional C corporations (6.9 percent) owing to the higher effective tax rate on equity income at the individual level for pass-throughs (because of a smaller number of nontaxable owners and the inability of individuals investing in pass-throughs to defer tax on retained earnings).

The proposal would also make business taxation more uniform in several dimensions. METRs for equity-financed corporate investments would decline from 32.5 to 6.0 percent, while

the METR on debt-financed corporate investment would rise from −6.2 to 9.0 percent. The higher rate on debt-financed investments arises from the higher fraction of equities held by nontaxable investors and the lower effective tax rate on capital gains relative to interest income because of the ability to defer realizations. By eliminating taxes at the business level, the proposal would level the playing field across assets and industries. More equal tax treatment across assets and financing arrangements should reduce the role of taxation in investment decisions, enabling investment to flow to projects with a higher social return rather than to those with the most favorable tax status.

Our estimates of effects on investment incentives assume the Cruz plan would not affect the overall level of interest rates and would not eventually be paid for by spending cuts or tax increases that reduce investment incentives. However, large reductions in federal revenues that are not offset by some combination of spending cuts or increased revenues from higher economic activity are likely to drive up interest rates. Higher interest rates and/or future spending cuts or tax increases could negate some or all of the reduction in the cost of capital arising from the tax changes (Gale and Orszag 2005).

***Impact on Labor Supply***

The proposal would also cut effective tax rates on labor income (i.e., wages and salaries for employees and self-employment income for others). EMTRs on labor income (accounting for individual income, payroll, and value-added taxes) would be reduced by an average of 8.9 percentage points and by 17 percentage points for the top 0.1 percent (table 8). As previously explained, the VAT is a tax on wages similar to the employer payroll tax. The 16 percent rate in the Cruz plan is slightly higher than the current payroll tax, but that increase is more than offset by substantial reductions in marginal individual income tax rates, particularly for high-income taxpayers.[17] Research suggests that taxes play a small or negligible role on labor supply decisions for most workers. When tax rates fall, some workers choose to work more because the reward for working rises, but some choose to work less because they can more easily meet consumption goals with higher take-home pay.

Second earners—lower-earning spouses—are more sensitive to taxes, however. A person married to a high earner might face a very high marginal tax rate on the first dollar of earnings, which, when combined with the costs of working (e.g., paying for child care), can make working seem especially unappealing. By reducing marginal tax rates, the proposal would reduce the disincentive for potential second earners to enter the workforce.

TABLE 8

## Effective Marginal Individual Income Tax Rates on Wages, Salaries, and Self-Employment Income

By expanded cash income percentile, 2017

| Expanded cash income percentile[a] | Tax units (thousands) | Individual income tax | | | Combined individual income tax, payroll tax, and value-added tax | | |
|---|---|---|---|---|---|---|---|
| | | Current law (%) | Cruz proposal (%) | Change (percentage points) | Current law (%) | Cruz proposal (%) | Change (percentage points) |
| Lowest quintile | 47,878 | 1.7 | -2.6 | -4.4 | 15.6 | 13.4 | -2.2 |
| Second quintile | 37,992 | 15.7 | 9.3 | -6.3 | 29.5 | 25.3 | -4.1 |
| Middle quintile | 34,342 | 19.0 | 10.4 | -8.6 | 32.6 | 26.4 | -6.2 |
| Fourth quintile | 28,545 | 19.9 | 10.2 | -9.7 | 33.4 | 26.2 | -7.2 |
| Top quintile | 23,785 | 31.0 | 10.5 | -20.5 | 38.1 | 26.5 | -11.6 |
| All | 173,829 | 24.6 | 9.8 | -14.7 | 34.8 | 25.8 | -8.9 |
| | | | | | | | |
| **Addendum** | | | | | | | |
| 80–90 | 12,240 | 25.3 | 11.0 | -14.3 | 35.9 | 27.0 | -8.9 |
| 90–95 | 5,942 | 27.6 | 10.2 | -17.5 | 35.4 | 26.2 | -9.2 |
| 95–99 | 4,468 | 33.2 | 10.3 | -22.8 | 38.6 | 26.3 | -12.2 |
| Top 1 percent | 1,135 | 39.0 | 10.1 | -28.9 | 42.9 | 26.1 | -16.9 |
| Top 0.1 percent | 116 | 39.3 | 10.1 | -29.3 | 43.1 | 26.1 | -17.0 |

**Source:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0515-4).
**Notes:** Projections are for calendar year 2017. Effective marginal tax rates are weighted by wages and salaries.

[a] Includes both filing and non-filing units but excludes units that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class, but they are included in the totals. For a description of expanded cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm. The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are (in 2015 dollars) 20%, $23,099; 40%, $45,153; 60%, $80,760; 80%, $142,601; 90%, $209,113; 95%, $295,756; 99%, $732,323; 99.9%, $3,769,396.

### *Macroeconomic Effects*

Gale and Samwick (2014) discuss the impact of an income tax cut on the long-term growth rate of the economy. They suggest that the potential effects of a change in the individual income tax can be broken into four parts. The first effect—known as the substitution effect—is that lower tax rates increase incentives to work, save, and invest.

A second effect—the income effect—tends to offset the first, however. Tax cuts raise the after-tax return to labor, saving, and investment so that individuals can more easily reach consumption targets, such as paying for college or retirement. Because taxpayers feel richer, some decide to work, save, or invest less.

The third effect of tax cuts stems from whether the revenue loss is covered primarily by increased federal borrowing or by spending cuts, and if the latter, what kind of cuts. If the immediate revenue loss from a tax cut is not offset with spending reductions, the higher federal deficits reduce net national saving. Increased federal borrowing crowds out private investment, thereby raising interest rates and the cost of capital and depressing economic growth. As noted earlier, the deficits arising from this plan are so large that they would require significant offsetting spending cuts. Even if the immediate revenue loss from a tax cut is offset with spending reductions, the combination could reduce economic growth if the spending cuts reduce public investments that boost growth.[18]

The fourth effect stems from base broadening. Broadening the base by reining in distortionary tax expenditures reduces the role that taxation plays in determining how resources are allocated across the economy, a change which in turn could increase economic output. However, Gravelle and Marples (2015) point out that some tax expenditures tend to increase with income, meaning that base broadening could increase effective marginal tax rates on an additional dollar of earnings by raising the cost of some goods and services purchased with the earnings. For example, state income taxes tend to increase with income. Thus, the deductibility of state taxes reduces the effective marginal income tax rate. Repealing the deduction, as the Cruz proposal would do, would therefore tend to increase effective marginal rates.

The actual effect of tax cuts is an empirical question, and researchers have applied many methods to estimate the impact.[19] Examination of particular historical examples of tax reform—including shifts between the pre– and post–World War II periods, and the tax changes that occurred in 1981, 1986, 2001, and 2003—suggests that taxes have little impact on growth. Simulation models imply that deficit-financed tax cuts or tax cuts financed by cutting productive government spending are less effective at promoting growth than are tax cuts financed by cutting unproductive government spending (Auerbach and Slemrod 1997; Dennis et al. 2004; Desai and Goolsbee 2004; Gale and Potter 2002). Cross-country comparisons of changes in output and changes in top marginal tax rates suggest that taxes have little or no impact on growth (Piketty, Saez, and Stantcheva 2014).

One challenge in estimating the effect of taxes on the economy is the endogenous nature of tax changes: for example, policymakers may choose to enact tax cuts when the economy is weak, which would lead to large apparent growth responses, or they might cut taxes when the economy is strong and revenues are surging, which would produce the opposite response. Romer and Romer (2010) identified plausibly exogenous US tax reforms in time-series data and measured a positive effect of net tax cuts on economic activity. Although Romer and Romer could not distinguish short-term demand-side responses from more permanent supply-side responses, some recent research (Barro and Redlick 2011; Mertens 2015) finds evidence that it is a supply-side effect.[20]

The Cruz plan would require unprecedented spending cuts to avoid adding to the federal debt. We estimate that the plan would reduce revenues by $935 billion in 2025 (before considering macroeconomic effects).

The Congressional Budget Office (2015a) projects total noninterest outlays in 2025 of about $5.3 trillion. As a result, Congress would need to cut projected program spending by nearly 18 percent to prevent the plan from adding to the deficit in 2025. If Congress eliminated all defense spending (about $711 billion), it could not meet this goal. It would need to cut discretionary spending by 67 percent, or about 34 percent of all Medicare and Social Security spending, to offset the direct revenue loss.

As in the distributional analysis previously discussed, the financing of tax cuts can have important effects on the long-run macroeconomic results. If spending were cut enough to offset most of the revenue losses—and the cuts did not impede growth—the economy would grow. A 2006 US Department of the Treasury study concluded that financing the permanent extension of the 2001 and 2003 tax cuts with spending cuts would raise GNP by 0.1 to 1.2 percent, depending on how labor supply and saving respond to tax rates (US Department of the Treasury 2006). The Treasury study also implicitly assumed that the reductions in spending came from programs like transfer payments (e.g., Social Security or food stamps). However, if spending cuts are concentrated in public investments in infrastructure, education, and research, they could ultimately harm the economy.

However, if spending were not cut and the growing deficits ultimately led to tax rate increases, the same study found that GNP would fall by 0.9 percent in the long run. The experience of the past three decades suggests that large tax cuts that widen the deficit are not necessarily followed by spending cuts and that they instead may ultimately require future tax increases.[21] If that pattern were repeated after enacting the Cruz tax cuts, total economic output could ultimately be smaller than if the tax cuts had not been enacted in the first place.

Barring politically difficult spending cuts or tax increases, the Cruz tax cuts would produce deficits of as much as $10.2 trillion over the next decade. Such deficits could offset—or even outweigh—the salutary effects arising from lowering effective marginal tax rates on work, saving, and investment. We estimate that by 2036, with no change in spending or interest rates, the proposal would raise the national debt by nearly 70 percent of GDP. If interest rates rise in response to the burgeoning public debt, the increase in the debt could be much larger.

## CONCLUSIONS

Senator Cruz's tax reform plan would repeal the corporate income tax and the payroll taxes for Social Security and Medicare, impose a new VAT, cut the individual income tax rate to 10 percent

for all taxpayers, remove almost all taxation of investment income, and repeal many tax expenditures. It would boost incentives to work, save, and invest and would simplify the tax code. At the same time, the proposal would significantly change the distribution of federal tax burdens by reducing taxes dramatically for households at the very top of the income distribution and by providing little change or even higher taxes for households at the bottom of the distribution. In addition, barring extraordinarily large cuts in government spending or future tax increases, it would yield persistently large, and likely unsustainable, budget deficits.

## APPENDIX A. UNCLEAR DETAILS AND TPC'S ASSUMPTIONS ABOUT THE CRUZ PLAN

Because candidates' proposals rarely include all the details needed to model them accurately, we ask their staffs to clarify provisions or further specify details. We sent the following questions to the campaign along with our working assumptions, which were based on Senator Cruz's statements and documents released by the campaign (see Cruz Campaign 2015). The campaign declined to answer our questions.

### 1. Individual Income Tax

Q1. Would the plan make any changes to the Married Filing Separately (MFS) or Head of Household (HOH) filing statuses?

A1. We assume the plan repeals both MFS and HOH filing statuses.

Q2. Are the values for the standard deduction ($10,000 for single filers and $20,000 for joint filers) and personal exemptions ($4,000) expressed in 2015 or 2017 dollars?

A2. We assume the values are expressed in 2015 dollars and are indexed for inflation going forward as in current law.

Q3. Will the plan exclude any sources of income currently included in the base of the individual income tax (e.g., Social Security benefits, unemployment compensation, flow-through business income)?

A3. We assume all income sources currently taxable remain included in adjusted gross income (AGI), with the exception of state and local income tax refunds and alimony (see repealed deductions below).

Q4. Would the plan repeal the current law personal exemption phaseout (PEP) or limitation on itemized deductions ("Pease")?

A4. We assume that the current law PEP and Pease limitation are maintained.

Q5. The plan reduces the current limit on the home mortgage interest deduction to $500,000.

a. Does the reduced limit apply to existing mortgages or only to new mortgages?

b. Is the additional $100,000 "home equity" limit retained?

A5. We assume the limit is reduced to $500,000 only for mortgages that originate after the effective date of the reform, and that the $500,000 is a combined limit that applies to both acquisition and "home equity" debt.

Q6. The plan states it "expands and modernizes the Earned Income Tax Credit (EITC) with greater anti-fraud and pro-marriage reforms." The Tax Foundation assumed the plan "expands the EITC by 20 percent." How would the EITC be modified?

A6. Absent further clarification, we assume the plan makes no changes to the EITC.

Q7. The documentation states that the current child tax credit is retained. Is it modified in any way (e.g., by indexing the amount of the credit or the phaseout ranges for inflation)?

A7. We assume that there are no changes to the current child tax credit.

Q8. Does the plan make any individual income tax "extenders" permanent or allow them all to expire as scheduled?

A8. We assume that all income tax extenders that were recently made permanent will be retained unless inconsistent with the plan, and that any provisions that were temporarily extended or that are otherwise scheduled to expire under current law will be allowed to expire as scheduled.

Q9. Are there any other changes to any exclusions, above-the-line deductions, or credits that are not specified in the plan description?

A9. We assume:

a. There are no changes to current-law exclusions (e.g., tax-exempt interest and employer provided health insurance).
b. Above-the-line deductions are eliminated.
c. All credits other than the child tax credit and EITC are eliminated (Note: this includes the research and experimentation tax credit).

Q10. The documentation states that up to $25,000 per year of savings can be deducted and placed in a Universal Savings Account (USA) on a tax-deferred basis. Does the $25,000 limit apply on an individual (like other tax-deferred accounts) or tax unit basis? Would withdrawals be taxable under the individual income tax?

A10. We assume that the $25,000 is a **per person** limit and that withdrawals from the USA accounts will be included in taxable income.

Q11. How will assets in USA accounts transfer upon death of the account owner?

A11. We assume that distributions must be made by beneficiaries (and included in gross income) according to current law rules for tax preferred retirement accounts (i.e., beneficiaries could elect to take distributions spread over 5 years or their remaining life expectancy).

Q12. Does the plan make any changes to current-law rules regarding tax preferred retirement accounts (e.g., IRAs, 401(k)s, or other employer-based defined benefit or defined contribution retirement plans)?

A12. We assume there are no changes to existing retirement savings tax incentives.

### 2. Estate and Gift Taxes

Q13. The documentation states the proposal would repeal the "death tax." In addition to the estate tax, would the proposal repeal the federal gift and generation-skipping transfer (GST) taxes? If so, would any of these taxes be replaced with any form of tax on inherited wealth, or would step-up in basis be replaced with any form of carryover basis regime on inherited assets.

A13. We assume the proposal repeals the federal estate, gift, and GST taxes and does not institute any other form of tax on inherited wealth. We also assume the proposal would retain unlimited step-up in basis for inherited assets.

### 3. Business Taxes

Q14. Would there be any transition rules or phase-ins associated with the elimination of the corporate income tax and the introduction of the "Business Flat Tax?" Would old investments continue to be depreciated under current law depreciation schedules and deducted against the new Business Flat Tax? If not, how would they be treated? What about the stock of net operating losses (NOLs)? Unused credits?

A14. We assume that only new investments are expensed, and that unused depreciation on old investments would continue to be deducted under current rules. NOLs and unused credits would be allowed against the new Business Flat Tax according to current-law rules.

Q15. Is the one-time repatriation tax similar to the Camp proposal in that it would apply the 10 percent rate only to accumulated untaxed controlled foreign corporation earnings held in cash and apply a lower rate to the remainder?

A15. We assume that the one-time repatriation tax is structured in the same manner, with the same relative rates, as the Camp proposal, but the payments would be made over 10 years (rather than 8 under the Camp proposal).

Q16. How broadly would the "Business Activity Tax" apply? Would it apply to all businesses (C corporations, S corporations, sole proprietorships, and partnerships)? How would it treat nonprofit institutions and governments?

A16. We assume the tax would apply to all businesses. The tax would also apply to the payrolls of governments and nonprofit institutions and to sales by businesses to governments and nonprofit institutions.

Q17. The Tax Foundation analysis states that purchase of health insurance would be exempt under the "Business Activity Tax." Would there be any other exemptions or preferences allowed?

A17. We assume that employer-based health insurance premiums and employer contributions to defined contribution and defined benefit retirement plans (see Q12) are deductible from the "Business Activity Tax." No other special exclusions, deductions, or credits (e.g., for research and development) are provided.

### 4. Effective Date

Q18. Are all provisions intended to go into effect in 2017? Are any assumed to be phased in, and, if so, over what time period?

A18. We assume the provisions would be effective beginning in 2017, after the presidential election, and that no provisions are phased in.

## APPENDIX B. THE EFFECT OF THE BUSINESS FLAT TAX ON WAGES

Wages are the principal component of value-added and, therefore, not deductible under a VAT such as Cruz's Business Flat Tax. The VAT acts as a wedge between the price a business receives for its goods and services and the amount available to pay workers and other factors of production (including business profits). As a result, cash wages and take-home pay before income taxes would decline under the Cruz plan. The decline can be illustrated by considering a few hypothetical taxpayers (table B1). Under current law, a middle-income taxpayer who earns a cash wage of $40,000 pays 15.3 percent in combined payroll taxes for a total of $6,120, half collected from the employer and half from the employee. Because the Social Security tax is capped (at $118,500 of wages in 2015), higher income taxpayers pay a smaller percentage in payroll taxes—a taxpayer with a wage of $200,000 pays nearly $20,500 in payroll taxes, or about 10.2 percent of income—just two-thirds the rate of the lower-earning worker.

TABLE B1

### Compensation in the Cruz Plan

| | | Middle-income | | High-income | |
|---|---|---|---|---|---|
| | | Current law ($) | Cruz plan ($) | Current law ($) | Cruz plan ($) |
| 1. | Total compensation | 43,060 | 43,060 | 210,247 | 210,247 |
| 2. | Employer payroll tax | 3,060 | 0 | 10,247 | 0 |
| 3. | Value-added tax | 0 | 6,890 | 0 | 33,640 |
| 4. | Cash wage | 40,000 | 36,170 | 200,000 | 176,607 |
| 5. | Employee payroll tax | 3,060 | 0 | 10,247 | 0 |
| 6. | Take home pay (before income tax | 36,940 | 36,170 | 189,753 | 176,607 |
| 7. | Income tax | 3,993 | 2,217 | 46,207 | 16,261 |
| 8. | After-tax income | 32,947 | 33,953 | 143,546 | 160,347 |

**Source:** Urban-Brookings Tax Policy Center calculations.

**Note:** Calculations are based on 2015 tax law for a single taxpayer with only wage income that takes the standard deduction. After-tax income is total compensation less payroll taxes, value-added tax, and individual income tax.

Under the Cruz plan, wages would fall because the VAT rate is higher than the employer portion of the payroll tax. For example, our middle-income taxpayer would see his wage decline by 9.6 percent, while the high-income taxpayer would see her wage fall by 11.7 percent. Take home pay (i.e., income after payroll and value-added taxes, but before individual income tax) would also fall, but by less. The combined payroll tax rate expressed on a comparable tax-inclusive basis is equal to 14.2 percent for workers below the Social Security earnings limit (the effective rate declines as wages rise above that level). Take home pay would decline by 2 percent for our middle-income

worker and 7 percent for the high-income worker. The decline in wages and take home pay would be offset by lower individual income tax payments because of the higher standard deduction and the lower tax rates in the Cruz plan. Overall, after-tax income would increase for most taxpayers.

## APPENDIX C. COMPARISON OF TPC REVENUE ESTIMATES WITH OTHER PUBLISHED ESTIMATES

Our revenue estimates differ from other published estimates of the revenue cost of Senator Cruz's tax proposal (table C1). TPC's 10-year revenue cost ($8.6 trillion) is smaller than the $16.2 trillion estimate released by Citizens for Tax Justice (McIntyre 2015) and larger than the $3.7 trillion estimate released by the Tax Foundation (Pomerleau and Schuyler 2015).

TABLE C1

### Tax Policy Center Revenue Estimates for the Cruz Proposal Compared with Other Public Estimates

$ billions

| | Citizens for Tax Justice 2016-2025 | Tax Foundation 2015–24 | Tax Policy Center 2016–26 |
|---|---|---|---|
| Individual | N/A | -11,802 | -11,902 |
| Payroll | N/A | -12,658 | -12,197 |
| Corporate | N/A | -4,413 | -3,472 |
| Consumption | N/A | 25,444 | 19,193 |
| Estate | N/A | -238 | -224 |
| **Total** | **-16,200** | **-3,666** | **-8,602** |

**Sources:** McIntyre (2015); Pomerleau and Schuyler (2015); and Urban-Brookings Tax Policy Center calculations.
**Note:** N/A = not available.

These differences cannot be fully reconciled based on the level of detail published. One difference is the assumed starting date of the Cruz proposal: the Tax Foundation uses 2015, Citizens for Tax Justice (CTJ) uses 2016, and TPC uses 2017. The later TPC starting date, in itself, should make the TPC estimate larger than the others. TPC's estimates reflect the effects of the Protecting Americans from Tax Hikes Act of 2015 and the tax provisions in the Consolidated Appropriations Act of 2016 on baseline revenues under current law as well as on the provisions in the Cruz plan, which somewhat reduces the cost of the plan, whereas the analyses by the CTJ and the Tax Foundation were made before enactment of these acts.

A comparison of the revenue estimates of TPC and the Tax Foundation across type of tax indicates that most of the difference stems from the revenue gain of the VAT. The Tax Foundation estimates that it would raise $25.4 trillion over the decade, while TPC estimates that it would raise $19.2 trillion. Table C2 shows TPC's estimate of the effective base of the VAT for calendar year 2017. For more detail on the revenue, budgetary, and distributional implications of

introducing a value-added tax in the United States, see Toder and Rosenberg (2010) and Toder, Nunns, and Rosenberg (2011, 2012).

TABLE C2

## VAT Base in the Cruz Tax Plan, 2017

| | Level ($ billions) | Percentage of Consumption | Percentage of GDP |
|---|---|---|---|
| Personal consumption expenditures | 13,652 | 100.0 | 68.5 |
| *Less:* Rental housing adjustment | 1,897 | 13.9 | 9.5 |
| *Plus:* New housing adjustment | 638 | 4.7 | 3.2 |
| *Less:* Net foreign travel by US residents | -38 | -0.3 | -0.2 |
| *Less:* State and local general sales taxes | 227 | 1.7 | 1.1 |
| *Equals:* Household consumption in VAT base | 12,204 | 89.4 | 61.3 |
| | | | |
| *Plus:* Government purchases[a] | 1,186 | 8.7 | 6.0 |
| *Plus:* Compensation of government employees[b] | 1,824 | 13.4 | 9.2 |
| | | | |
| *Less:* Adjustment for small business exemption and noncompliances | 1,603 | 11.7 | 8.0 |
| *Less:* Deductions for employer contributions to retirement accounts and health insurance | 1,296 | 9.5 | 6.5 |
| | | | |
| **Effective VAT Base** | **12,315** | **90.2** | **61.8** |

**Sources:** Bureau of Economic Analysis and Urban-Brookings Tax Policy Center calculations.

[a] Excludes purchases for activities provided for a fee or charge and included in NIPA consumption.

[b] Excludes employee compensation to produce goods and services provided for a fee or charge and included in NIPA consumption.

Differences could also arise from different baselines or modeling differences, such as alternative assumptions about how responsive taxpayers are to changes in tax rates. Our baseline is calibrated to match the Congressional Budget Office (2015a, 2015b) projections, and our estimates of the responsiveness of taxpayers to changes in tax rates are designed to match as closely as possible the official congressional estimates produced by the Joint Committee on Taxation.

## APPENDIX D. MEASURING DISTRIBUTIONAL EFFECTS OF TAX CHANGES

Analysts use a variety of measures to assess the distributional effects of tax changes. There is no perfect measure—often a combination of measures is more informative than any single measure.

The Tax Policy Center generally focuses on the percentage change in after-tax income because it measures the gain or loss of income available to households to buy goods and services, relative to the amount available before the tax change. A tax change that raises or lowers after-tax income by the same percentage for all households leaves the progressivity of the tax unchanged.

Other measures used to assess a tax change's effects include shares of the tax cut going to different parts of the income distribution, the size of each group's cut measured in dollars, and the percentage change in tax liability. The first two measures poorly indicate the effects of a tax change because they ignore the initial distribution of taxes and thus do not assess changes in a tax's progressivity. The percentage change in tax liability can be particularly misleading because it relies too much on the initial distribution of taxes. Cutting the tax on a person making $1,000 from $50 to $10 is an 80 percent cut, while reducing taxes on a person making $1 million from $250,000 to $150,000 is just a 40 percent cut. But the tax savings boosts after-tax income by only about 4 percent for the poorer person, compared with a more than 13 percent increase for the higher-income person.

Table D1 shows several different measures of the effects of the Cruz tax proposal on households at different income levels in 2017. The tax cut is most significant as a share of after-tax income (column 1) for those with high incomes, as discussed above. It's also true that for this plan, high-income people get the bulk of the tax cuts (column 2), that the average tax change is highest at high income levels (column 3), and that the tax cut is a larger share of tax liability for high-income households (column 4). Finally, the share of federal tax burdens rises for all but those at the very top of the income distribution (column 5).

TABLE D1

# Alternative Ways of Presenting Change in Distribution of Tax Burdens Under the Cruz Tax Plan

By expanded cash income percentile, 2017

| Expanded cash income percentile[a] | Percent change in after-tax income[b] (%) | Share of total federal tax change (%) | Average federal tax change[c] | | Share of federal taxes | |
|---|---|---|---|---|---|---|
| | | | Dollars | Percent | Change (% points) | Under the proposal (%) |
| Lowest quintile | 0.4 | 0.2 | -46 | -8.1 | 0.4 | 1.2 |
| Second quintile | 1.9 | 2.1 | -588 | -21.1 | 0.7 | 4.1 |
| Middle quintile | 3.2 | 5.8 | -1,783 | -20.7 | 2.0 | 11.5 |
| Fourth quintile | 4.9 | 12.1 | -4,504 | -23.8 | 2.8 | 20.2 |
| Top quintile | 13.7 | 79.6 | -35,471 | -39.8 | -5.8 | 62.7 |
| All | 8.5 | 100.0 | -6,095 | -34.3 | 0.0 | 100.0 |
| | | | | | | |
| **Addendum** | | | | | | |
| 80–90 | 6.2 | 10.3 | -8,907 | -25.2 | 1.9 | 15.9 |
| 90–95 | 8.1 | 9.1 | -16,129 | -29.1 | 0.8 | 11.5 |
| 95–99 | 12.1 | 16.6 | -39,352 | -36.3 | -0.5 | 15.2 |
| Top 1 percent | 26.0 | 43.7 | -407,708 | -53.0 | -8.1 | 20.2 |
| Top 0.1 percent | 29.0 | 21.9 | -1,994,104 | -55.7 | -4.4 | 9.1 |

**Source:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0515-4).

**Notes:** Number of Alternative Minimum Tax (AMT) taxpayers (millions). Baseline: 4.5; Proposal: 0. Projections are for calendar year 2017; baseline is current law (including provisions in the Protecting Americans from Tax Hikes Act of 2015 and the Consolidated Appropriations Act of 2016). The proposal includes all individual, payroll, corporate, value-added, and estate tax provisions. http://www.taxpolicycenter.org/taxtopics/Baseline-Definitions.cfm.

[a] The percentile includes both filing and non-filing units but excludes units that are dependents of other tax units. Tax units with negative adjusted gross income are excluded from their respective income class, but they are included in the totals. For a description of expanded cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm. The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. The breaks are (in 2015 dollars) 20%, $23,099; 40%, $45,153; 60%, $80,760; 80%, $142,601; 90%, $209,113; 95%, $295,756;

[b] After-tax income is expanded cash income less individual income tax net of refundable credits, corporate income tax, payroll taxes (Social Security and Medicare), value-added tax, estate tax, and excise taxes.

[c] Average federal tax includes individual and corporate income tax, payroll taxes for Social Security and Medicare, the value-added tax, the estate tax, and excise taxes.

For further discussion, see "Measuring the Distribution of Tax Changes" at **http://taxpolicycenter.org/taxtopics/How-to-Interpret-Distibution-Tables-2013.cfm**.

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## NOTES

[1] Our estimates account for microeconomic behavioral responses, such as reduced use of tax preferences and increased capital gains realizations when marginal tax rates on income and capital gains decline. Our estimating methodology generally follows the conventional approach used by the Joint Committee on Taxation and the US Department of the Treasury to estimate revenue effects before considering the macroeconomic effects.

[2] We assume that all existing tax-favored savings accounts would be retained.

[3] If tax rates do not change between contribution and withdrawal, the tax payment on withdrawal exactly equals the value of the up-front deduction plus accumulated earnings on that portion of the account. It is this sense in which traditional (deductible) and Roth (nondeductible) IRAs are equivalent, given an equal after-tax contribution.

[4] A similar provision was included in former Ways and Means Committee Chairman Dave Camp's tax reform plan. For more information on the Camp plan, see the TPC summary page, "Tax Topics—Camp Reform Tax Plan," at http://www.taxpolicycenter.org/taxtopics/Camp_Tax_Reform_Plan.cfm.

[5] In the January 14, 2016, GOP debate, Senator Cruz insisted that the business flat tax is not a VAT, Burman (2016) explains why the business flat tax is, in fact, a subtraction-method VAT.

[6] For example, a company with receipts (including VAT) of $100,000 from the sale of goods and with purchases from other businesses of $75,000 would have a VAT base of $25,000 and owe tax of $4,000. Typically, consumption taxes like VATs or sales taxes are imposed on a base excluding the tax, and the rate is quoted on a "tax-exclusive" basis. The tax-exclusive rate equivalent to the 16 percent rate in the Cruz plan would be close to 19 percent (i.e., if the $4,000 of tax in the example was expressed as a percentage of the $21,000 of value added excluding the VAT).

[7] The United States currently runs a trade deficit, so border adjustability makes the VAT base larger. We disagree with popular belief, however, and do not think a VAT would improve the competitive position of the United States, whether or not the tax was border adjustable. In addition, border adjustability is well established under international law for credit-invoice VATs, but not for subtraction method VATs like the one in the Cruz plan.

[8] The exemption applies only to the "normal" return to investments, the return to waiting. Investments that earn above-normal returns, such as monopoly profits, are taxed under a VAT, as they are under the income tax.

[9] However, without an estate tax, the "tax price" of political contributions would increase for wealthy donors, a result which could partially offset the wealth effect (that wealthier people make larger political contributions).

[10] Repealing the estate tax would also reduce the incentive to make donations during an individual's lifetime. Under current law, such donations produce an income tax deduction and reduce the size of the taxable estate, thereby saving both income and estate taxes. Overall, for wealthy individuals the plan would substantially increase the tax price of donating, a situation which would tend to reduce charitable giving. However, the large tax cuts for high-income households discussed later would produce a partially offsetting income or wealth effect because giving tends to rise with income, all else being equal.

[11] Appendix C compares our revenue estimates with other published estimates.

[12] This distributional analysis (as well as most of the revenue analysis) is based on the Urban-Brookings Tax Policy Center Microsimulation Model, a brief description of which is available at http://www.taxpolicycenter.org/taxtopics/Brief-Description-of-the-Model-2015.cfm.

[13] Appendix D discusses alternative distribution measures and illustrates several alternatives for the Cruz tax proposal.

[14] See Appendix B for further discussion of the effect of the business flat tax on compensation.

[15] Although a VAT imposes no tax on the "normal return" (i.e., the portion of the return to capital that represents the time-value of money), VATs do tax the portion of the return to capital that exceed that amount. While saving and

investment incentives are often determined at the margin, the taxation of the "supernormal" portion of the return to capital could have effects on the level and composition of saving or investment. Such effects are not captured in the effective marginal tax rates that are shown in table 6.

[16] See Rosenberg and Marron (2015) for derivation and discussion of METRs. Because METRs are calculated for a "breakeven" investment project that only earns the normal rate of return, these calculations do not include any effect from the value-added tax.

[17] Some low-income taxpayers that do not experience a marginal individual income rate reduction or receive larger refundable tax credits from the higher standard deduction would see their EMTR on wage income rise under the Cruz plan.

[18] Well-targeted spending on education and infrastructure, for example, may boost growth. Some safety net programs such as unemployment insurance and SNAP (Food Stamps) serve as "built-in stabilizers" by boosting spending when the economy weakens, which may increase GDP in the short run. Other spending, however, may distort resource allocation in much the same way that poorly designed tax expenditures do.

[19] See Gale and Samwick (2014) for a recent review of the literature.

[20] If the economy is operating below capacity, deficit-financed tax cuts can boost the economy in the short run by increasing aggregate demand, assuming that individuals decide to spend their tax cuts (rather than saving them or paying down debt) or that investment tax incentives encourage companies to boost purchases of machines and equipment. However, deficit-financed tax cuts can overheat an economy that is at full employment, an action that can lead to inflation and, ultimately, a recession if the Federal Reserve responds to the inflationary pressures by raising interest rates.

[21] Ronald Reagan raised taxes in 1982 and 1984. George H. W. Bush raised them in 1990. Bill Clinton raised them in 1993. Barack Obama raised taxes in 2012. With the exception of Reagan's tax increases, all of these tax changes included significant increases in top marginal tax rates.


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