

## Background

What are the sources of revenue for the federal government?

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### Q. What are the sources of revenue for the federal government?

**A. About 48 percent of federal revenue comes from individual income taxes, 9 percent from corporate income taxes, and another 35 percent from payroll taxes that fund social insurance programs (figure 1). The rest comes from a mix of sources.**

#### TOTAL REVENUES

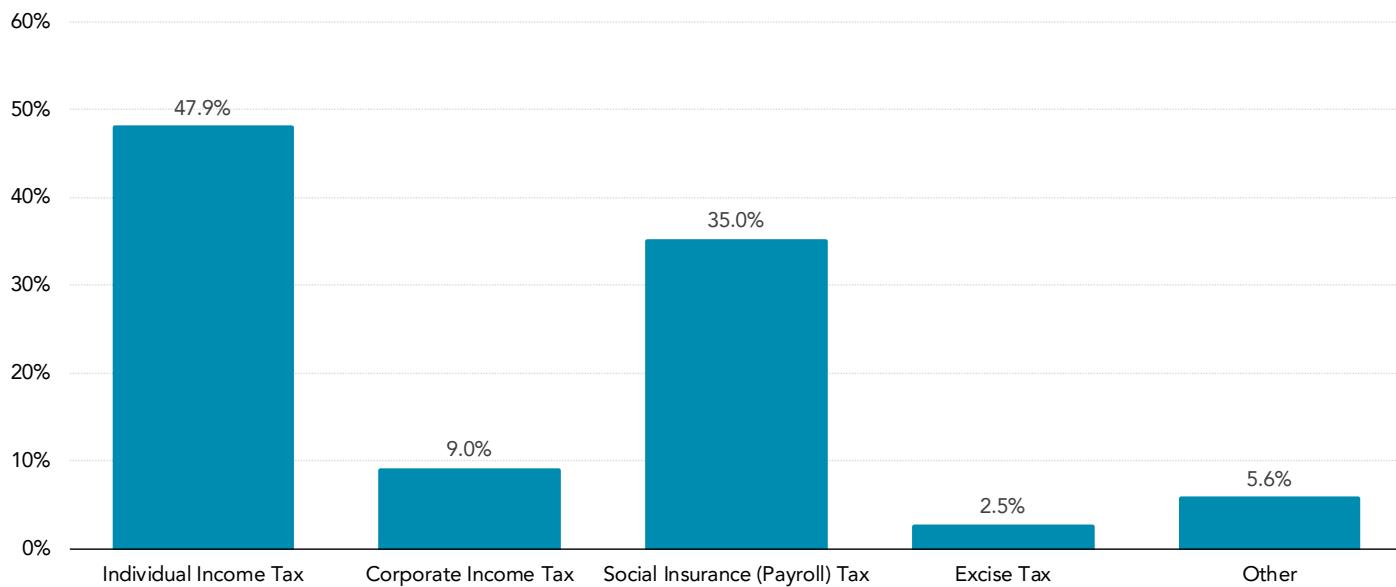
The federal government collected revenues of \$3.3 trillion in 2017—equal to about 17.3 percent of gross domestic product (GDP) (figure 2). Over the past 50 years, federal revenue has averaged 17.3 percent of GDP, ranging from 20.0 percent (in 2000) to 14.6 percent (most recently in 2009 and 2010).

FIGURE 1

Sources of Federal Revenue  
Fiscal year 2017



Share of total federal revenue



Source: Office of Management and Budget. Historical Tables. Table 2.1, "Receipts by Source: 1934–2023."

## Background

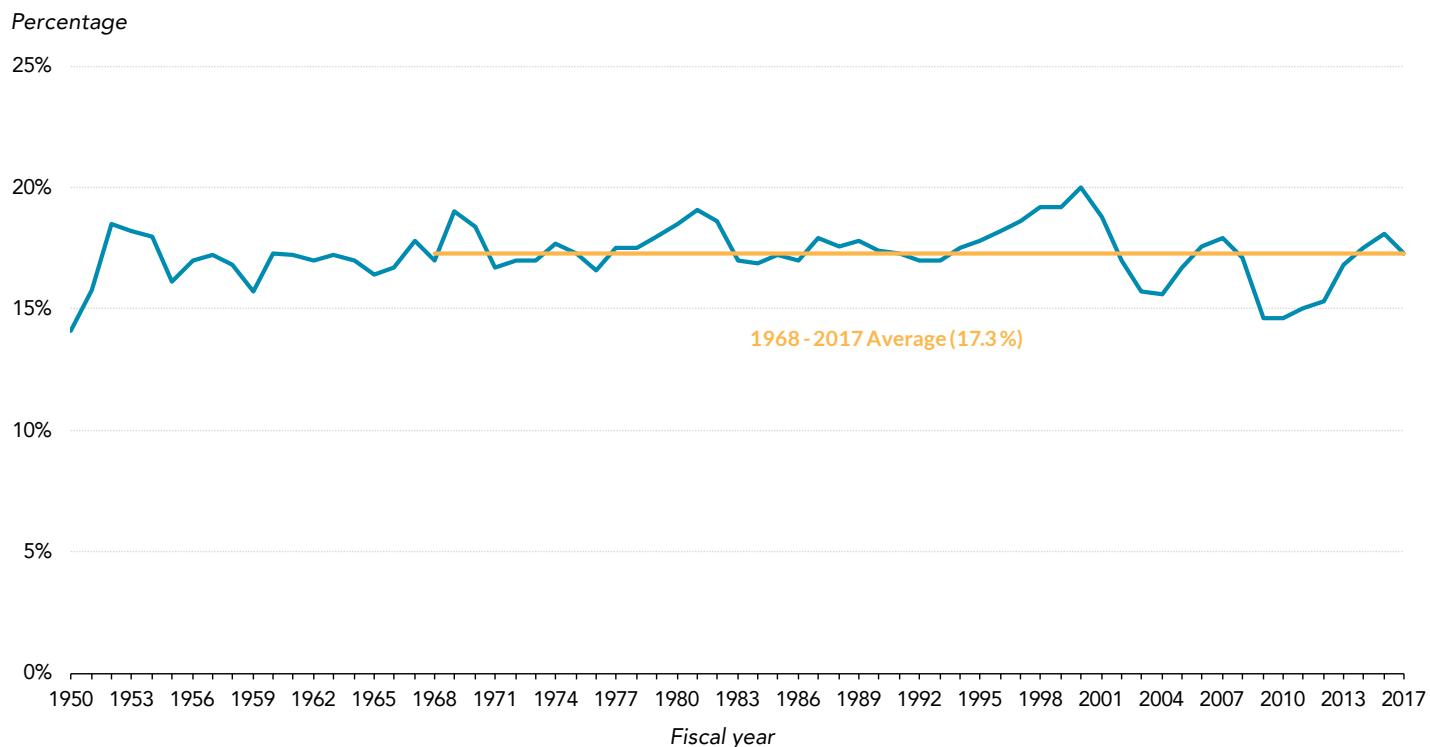
What are the sources of revenue for the federal government?

### INDIVIDUAL INCOME TAX

The individual income tax has been the largest single source of federal revenue since 1950, amounting to about 48 percent of the total and 8.3 percent of GDP in 2017 (figure 3). In recent years, individual income tax revenue has climbed as high as 9.9 percent of GDP (in 2000) at the peak of the 1990s economic boom and dropped as low as 6.1 percent (in 2010) following the 2007–09 Great Recession.

**FIGURE 2**

Federal Revenue as a Percentage of GDP  
Fiscal years 1950–2017



**Source:** Office of Management and Budget. Historical Tables. Table 2.3, "Receipts by Source as Percentages of GDP: 1934–2023."

### SOCIAL INSURANCE (PAYROLL) TAXES

The payroll taxes on wages and earnings that fund Social Security and the hospital insurance portion of Medicare make up the largest portion of social insurance receipts. Other sources include payroll taxes for the railroad retirement system and the unemployment insurance program, and federal workers' pension contributions. In total, social insurance levies were 35 percent of federal revenue in 2017.

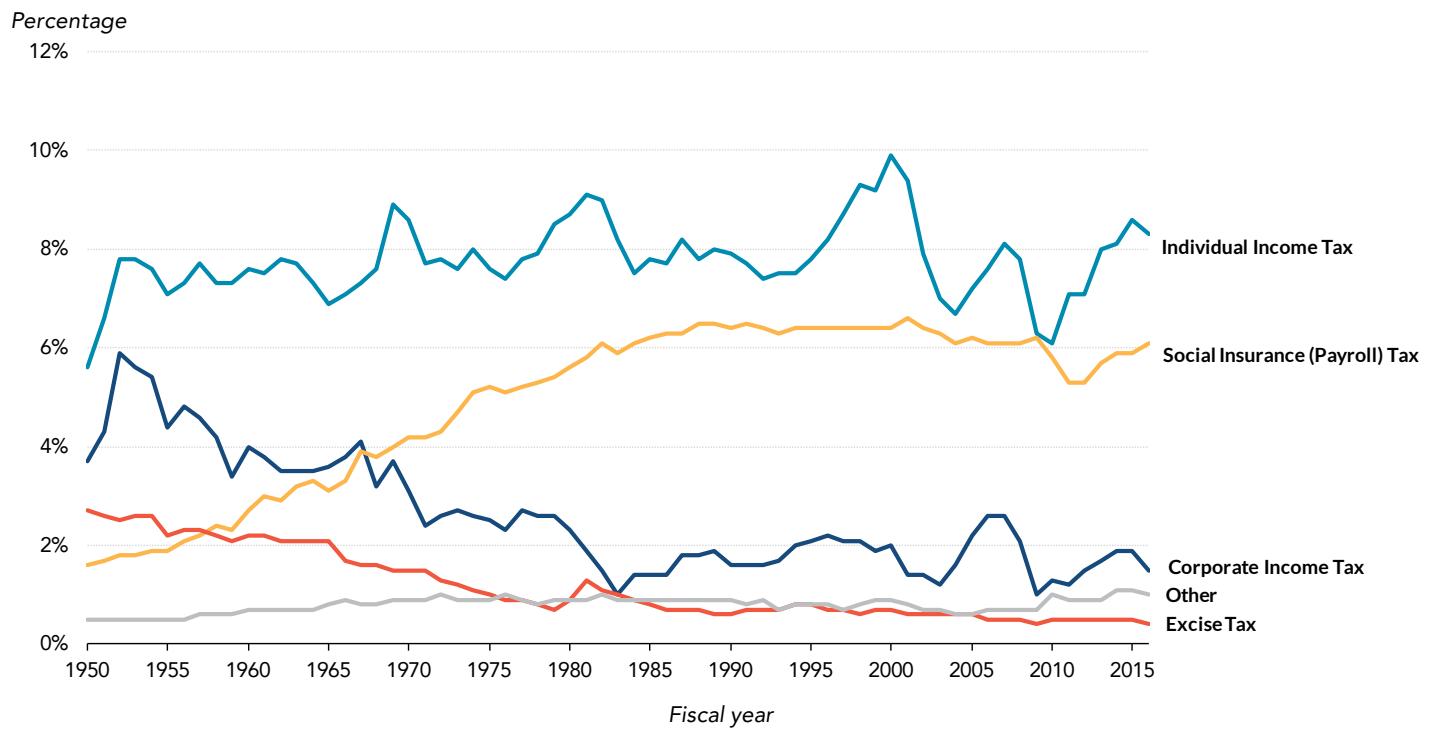
The creation of the Medicare program in 1965, combined with periodic increases in Social Security payroll taxes, caused social insurance receipts to grow from 1.6 percent of GDP in 1950 to 6.2 percent in 2009 (figure 3). A temporary reduction in employees' share of Social Security taxes—part of the stimulus program following the financial meltdown—reduced social insurance receipts to 5.3 percent of GDP in 2011 and 2012. Employees' share has since climbed back to 6.1 percent of GDP in 2017.

## Background

What are the sources of revenue for the federal government?

**FIGURE 3**

Federal Revenue as a Percentage of GDP  
Fiscal years 1950–2017



**Source:** Office of Management and Budget. Historical Tables. Table 2.3, "Receipts by Source as Percentages of GDP: 1934–2023."

### CORPORATE INCOME TAX

The tax on corporate profits yielded 9 percent of government revenue in 2017, a revenue source that has been trending downward. Revenue from the tax has fallen from an average of 3.7 percent of GDP in the late 1960s to an average of just 1.7 percent of GDP over the past five years, despite ticking up to 1.9 percent of GDP in 2014 and 2015 (figure 3).

### FEDERAL EXCISE TAXES

Taxes on purchases of goods and services, including gasoline, cigarettes, alcoholic beverages, and airline travel, generated 2.5 percent of federal revenue in 2017. But these taxes, too, are on the wane: excise tax revenues have fallen steadily from an average of 1.7 percent of GDP in the late 1960s to an average of 0.5 percent over 2012–17 (figure 3).

### OTHER REVENUES

The federal government also collects revenue from estate and gift taxes, customs duties, earnings from the Federal Reserve System, and various fees and charges. In total, these sources generated 5.6 percent of federal revenue in 2017. They have averaged between 0.6 and 1.1 percent of GDP since 1965 (figure 3). In recent years, the figure has been on the high end of that range because of unusually high profits of the Federal Reserve Board related to its efforts to stimulate the economy since 2008.

## Background

What are the sources of revenue for the federal government?

### SHARES OF TOTAL REVENUE

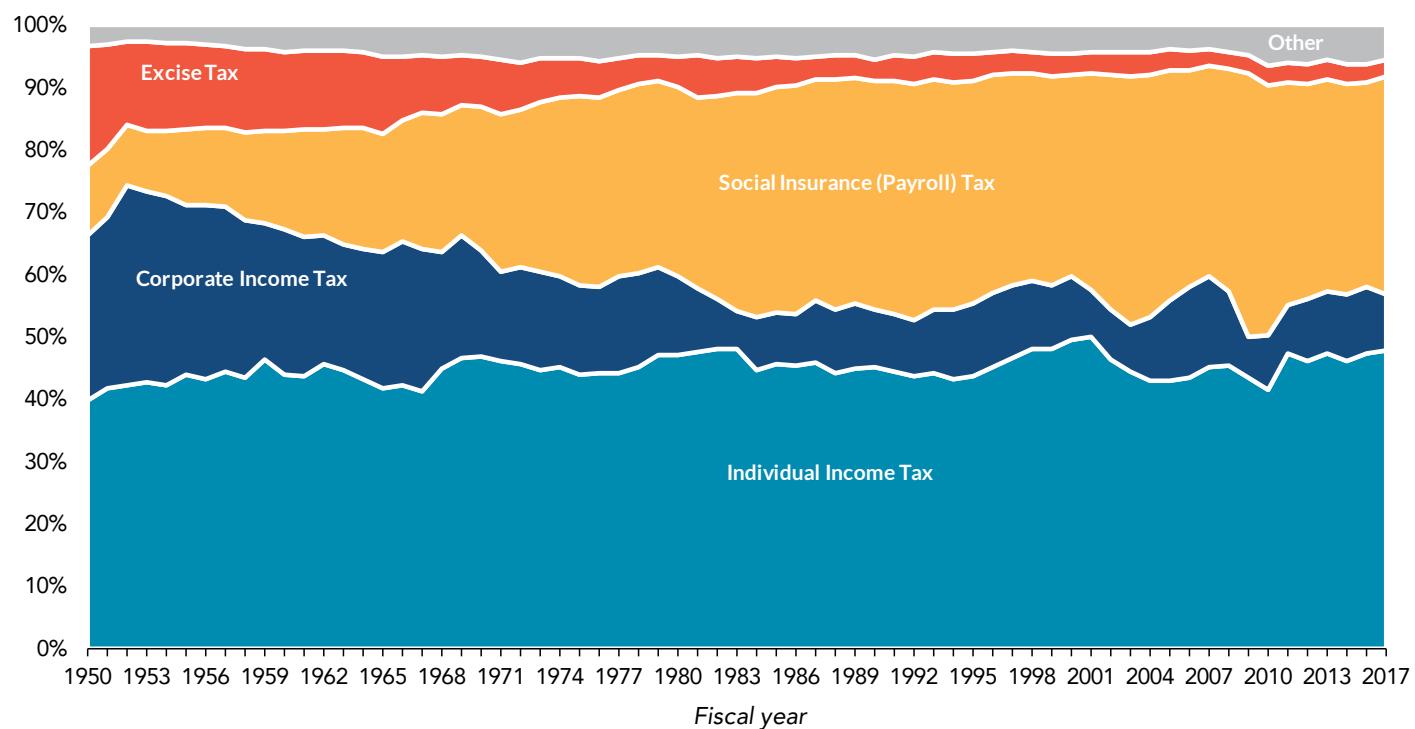
The individual income tax has provided nearly half of total federal revenue since 1950, while other revenue sources have waxed and waned (figure 4). Excise taxes brought in 19 percent of total revenue in 1950, but only about 3 percent in recent years. The share of revenue coming from the corporate income tax dropped from about one-third of the total in the early 1950s to less than one-tenth in 2017. In contrast, payroll taxes provided one-third of revenue in 2017, more than three times the share in the early 1950s.

**FIGURE 4**

Sources of Federal Revenue  
Fiscal years 1950–2017



Share of total revenue



**Source:** Office of Management and Budget. Historical Tables. Table 2.1, "Receipts by Source: 1934–2023."

### Data Source

Office of Management and Budget. [Historical Tables](#). Table 2.1, "Receipts by Source: 1934–2023," and Table 2.3, "Receipts by Source as Percentages of GDP: 1934–2023."

### Further Reading

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## Background

How does the federal government spend its money?

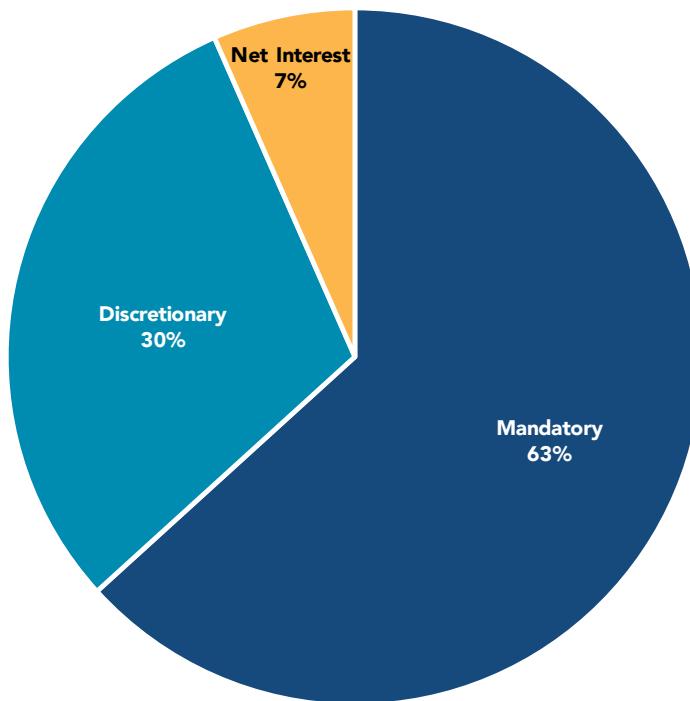
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### Q. How does the federal government spend its money?

A. About 63 percent of federal spending in 2017 was for programs not subject to regular budget re-view, while nearly 30 percent covered discretionary programs for which Congress must regularly appropriate funds. Seven percent went for interest on government debt (figure 1).

FIGURE 1

Composition of Total Federal Spending  
Fiscal year 2017



Source: Congressional Budget Office (2018).

## Background

### How does the federal government spend its money?

#### MANDATORY SPENDING

Mandatory spending covers outlays controlled by laws other than appropriations acts. Almost all such spending is for “entitlements,” for which expenditures depend on individual eligibility and participation; they are funded at whatever level needed to cover the resulting costs. Mandatory spending has grown from about 31 percent of the budget in 1962 to nearly 66 percent in 2017 (figure 2). This is largely because of new entitlements, including Medicare and Medicaid (both of which started in 1965), the earned income tax credit (1975), and the child tax credit (1997). In addition, rapid growth of both the elderly and the disabled populations has contributed to increased Social Security and Medicare spending.

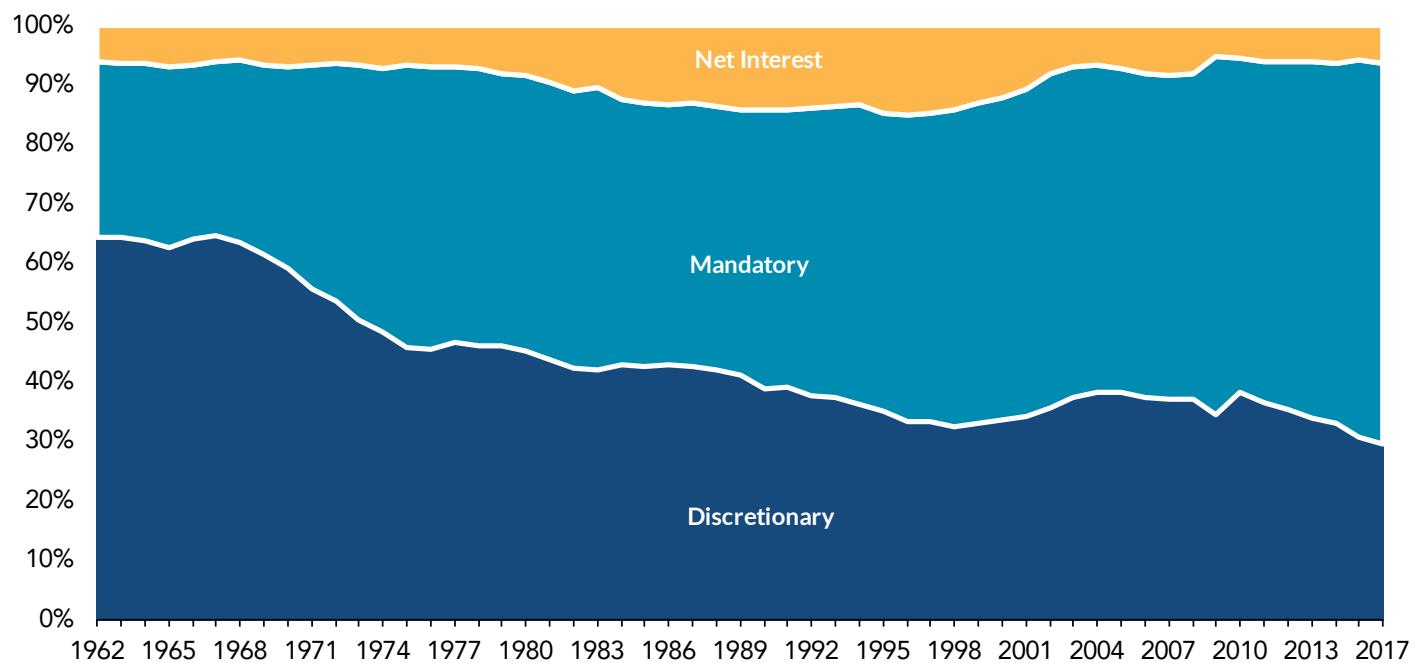
Nearly 60 percent of mandatory spending in 2017 was for Social Security and other income support programs (figure 3). Most of the remainder paid for the two major government health programs, Medicare and Medicaid.

**FIGURE 2**

**Federal Spending by Type**  
Fiscal years 1962–2017



*Share of total outlays*



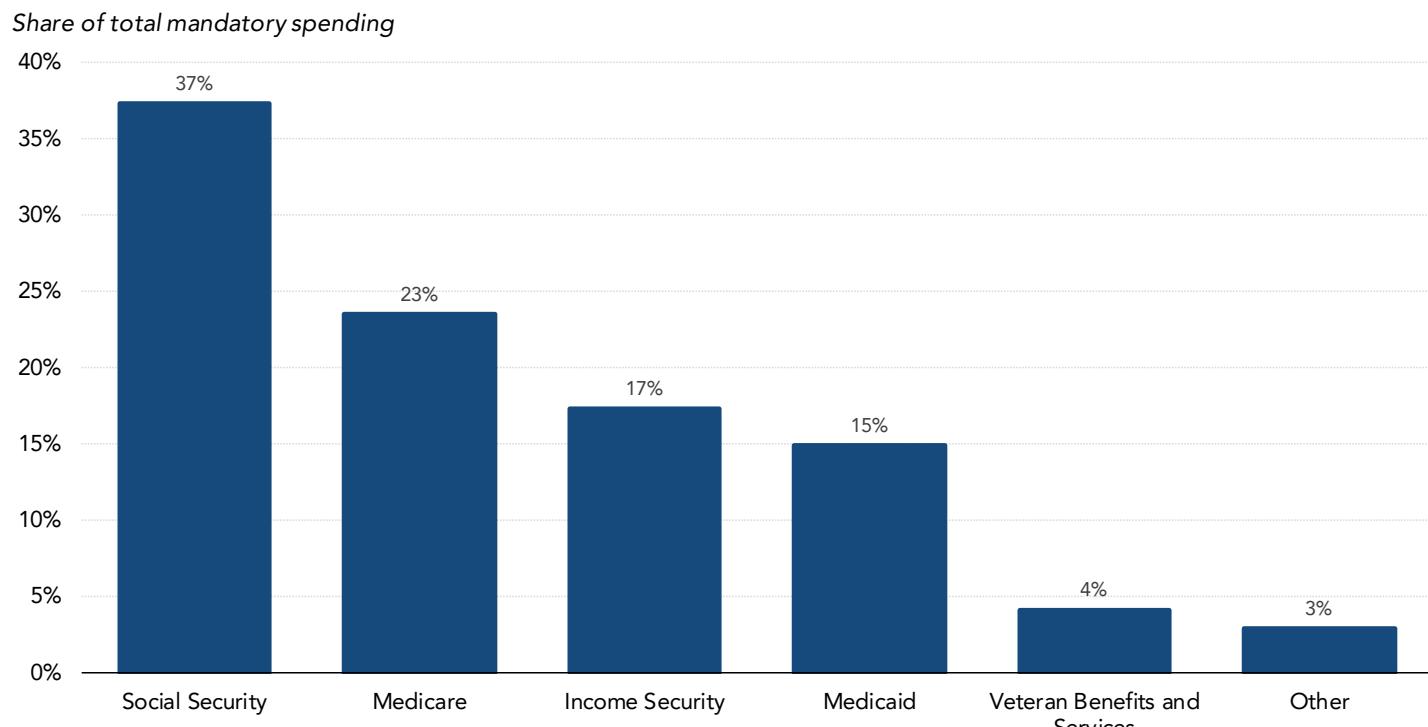
**Source:** Office of Management and Budget. 2018. Historical Tables. Table 8.1, “Outlays by Budget Enforcement Act Category: 1962–2023.”

## Background

How does the federal government spend its money?

**FIGURE 3**

Composition of Federal Mandatory Spending  
Fiscal year 2017



**Source:** Office of Management and Budget. 2018. Historical Tables. Table 8.5, "Outlays for Mandatory and Related Programs: 1962–2023."

### DISCRETIONARY SPENDING

Discretionary spending covers programs that require appropriations by Congress. Unlike mandatory spending, both the programs and the authorized levels of spending require regular renewal by Congress. The share of the budget going for discretionary spending has fallen from two-thirds in 1962 to about one-third now.

About half of FY 2017 discretionary spending went for national defense, and most of the rest for domestic programs, including transportation, education and training, veterans benefits, income security, and health care (figure 4). About 4 percent of discretionary spending funded international activities, such as foreign aid.

### DEBT SERVICE

Interest on the national debt has fluctuated over the past half century along with the size of the debt and interest rates. It climbed from 6.5 percent of total outlays in 1962 to more than 15 percent in the mid-1990s, fell to 6.1 percent in 2015, but climbed back to 6.6 percent by 2017 (figure 2). In 2016 and 2017, historically low interest rates have held down interest payments despite the national debt reaching a peacetime high of nearly 77 percent of GDP, but interest payments as a share of outlays are projected to rise because of projected increases in both the national debt and interest rates.

## Background

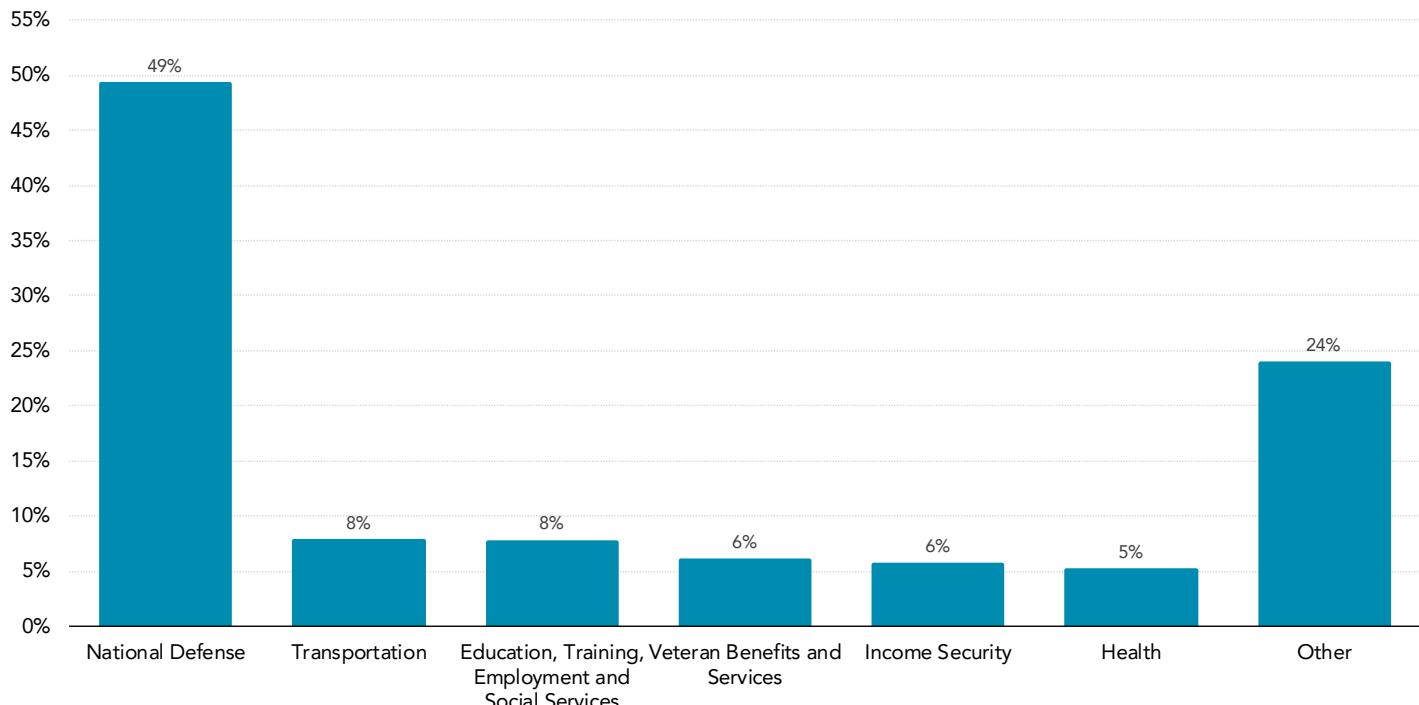
### How does the federal government spend its money?

**FIGURE 4**

#### Composition of Federal Discretionary Spending Fiscal year 2017



*Share of total discretionary spending*



**Source:** Office of Management and Budget. 2018. Historical Tables. Table 8.7, "Outlays for Discretionary Programs: 1962–2023."

### Data Sources

Congressional Budget Office. 2018. "[Budget and Economic Outlook: Fiscal Years 2018 to 2028](#)," Appendix E: Historical Budget Data. Washington, DC: Congressional Budget Office.

Office of Management and Budget. 2018. [Historical Tables](#). Table 8.1, "Outlays by Budget Enforcement Act Category: 1962–2023," Table 8.5, "Outlays for Mandatory and Related Programs: 1962–2023," and Table 8.7, "Outlays for Discretionary Programs: 1962–2023."

## Background

What is the breakdown of revenues among federal, state, and local governments?

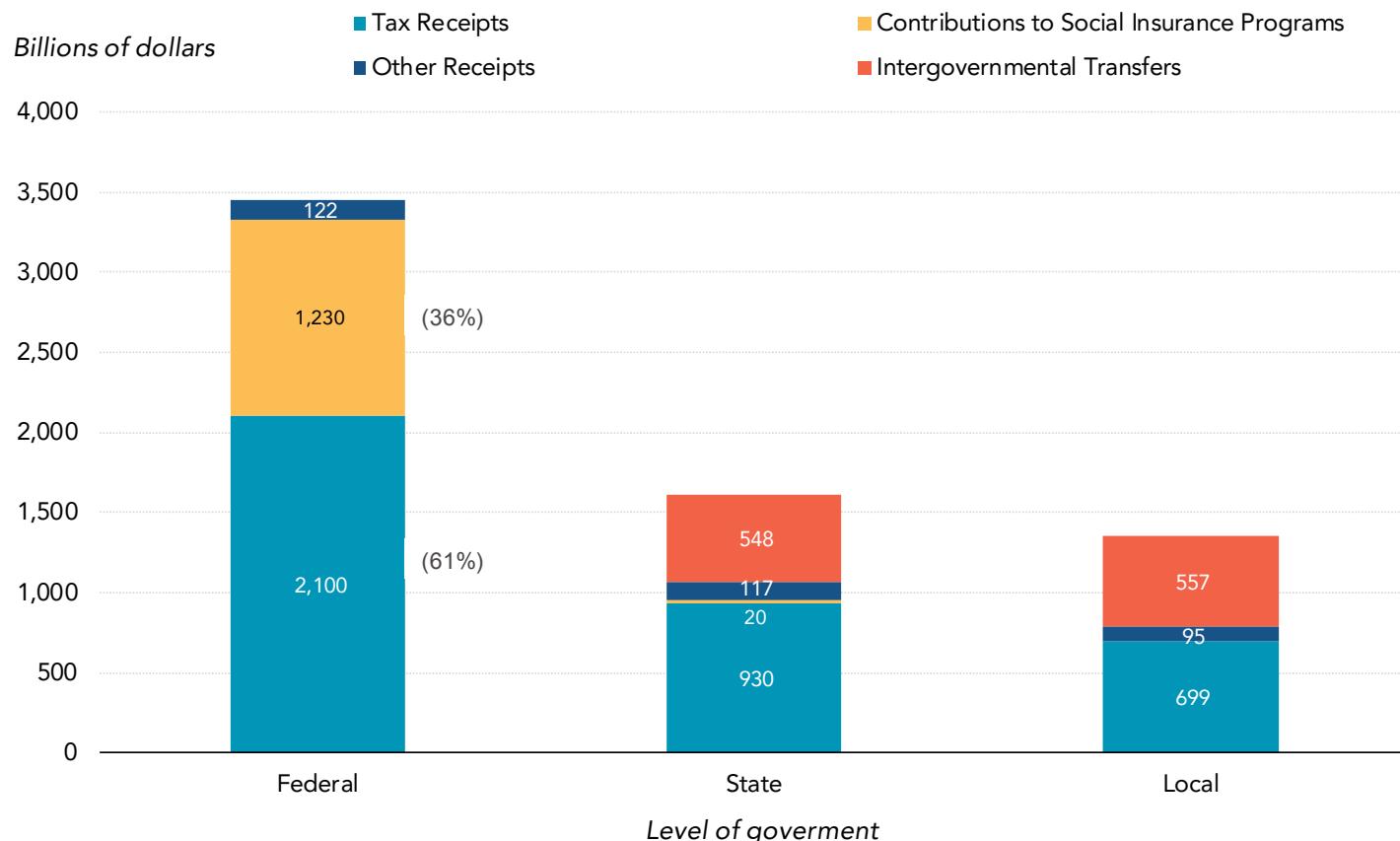
FEDERAL BUDGET

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**Q. What is the breakdown of revenues among federal, state, and local governments?**

**A. Federal, state, and local government receipts totaled \$5.3 trillion in 2016. Federal receipts were 65 percent of the total, while state and local receipts (excluding inter-governmental transfers) were 20 percent and 15 percent, respectively.**

**FIGURE 1**  
**Federal, State, and Local Government Current Receipts**  
 Fiscal year 2016



**Source:** US Bureau of Economic Analysis. 2018. National Income and Product Accounts, Section 3: Government Current Receipts and Expenditures. Table 3.2, "Federal Government Current Receipts and Expenditures."

## Background

### What is the breakdown of revenues among federal, state, and local governments?

As shown in figure 1, federal government receipts were just under \$3.5 trillion in 2016. Tax receipts were 61 percent of the total, contributions to government social insurance programs were another 36 percent, and receipts from other sources accounted for the remainder.

State current receipts were just over \$1.6 trillion in 2016. Tax receipts were 58 percent of the total, contributions to social insurance programs were 1 percent, and other receipts were 7 percent. Thirty-four percent of states' current receipts (\$548 billion) came from intergovernmental transfers, most of which (\$533 billion) were from the federal government.

Local government current receipts were just under \$1.4 trillion in 2016. Taxes were 52 percent of the total and other receipts were another 7 percent. A full 41 percent of local government revenues (\$557 billion) came from intergovernmental transfers, most of which (\$535 billion) were from state governments.

### Data Sources

U.S. Bureau of Economic Analysis (BEA), National Income and Product Accounts, Government Current Receipts and Expenditures, Tables 3.1, 3.2, 3.20, and 3.21.

## Background

How do US taxes compare internationally?

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### Q. How do US taxes compare internationally?

**A. Total US tax revenue equaled 26 percent of gross domestic product, well below the 33 percent weighted average for developed countries.**

#### TOTAL TAX REVENUE

US taxes are low relative to those in other developed countries (figure 1). In 2015, taxes at all levels of US government represented 26 percent of gross domestic product (GDP), compared with an average of 33 percent for the 35 member countries of the Organisation for Economic Co-operation and Development (OECD).

Among OECD countries, only Korea, Turkey, Ireland, Chile, and Mexico collected less than the United States as a percentage of GDP. Taxes exceeded 40 percent of GDP in seven European countries, including Denmark and France, where taxes were greater than 45 percent of GDP. But those countries generally provide more extensive government services than the United States does.

#### COMPOSITION OF TAX REVENUE

**Income and Profits Taxes:** Taxes on personal income and business profits made up 49 percent of US tax revenue in 2015, a higher percentage than in most other OECD countries, where such taxes averaged 34 percent of the total (figure 2). Australia, Denmark, and New Zealand topped the United States in this category, generating over half of their total revenue from such taxes. In the United States, taxes on income and profits of individuals alone generated 37 percent of total tax revenue, compared with 25 percent on average within the OECD.

**Social Security Contributions:** The United States collected slightly less revenue from retirement, disability, and other social security programs—24 percent of total tax revenue—than the 26 percent OECD average. Some countries were well above that average: the Slovak Republic, the Czech Republic, and Slovenia collected 40 percent or more of their revenue from that source.

**Goods and Services Taxes:** The United States relies less on taxes on goods and services (including both general consumption taxes and taxes on specific goods and services) than any other OECD country, collecting 17 percent of tax revenue this way compared with 32 percent for the OECD. The value-added tax (VAT)—a type of general consumption tax collected in stages—is the main source of consumption tax revenue. VAT is employed worldwide in 160 countries, including in all 34 OECD member countries except the United States. Most consumption tax revenue in the United States is collected by state and local governments.

## Background

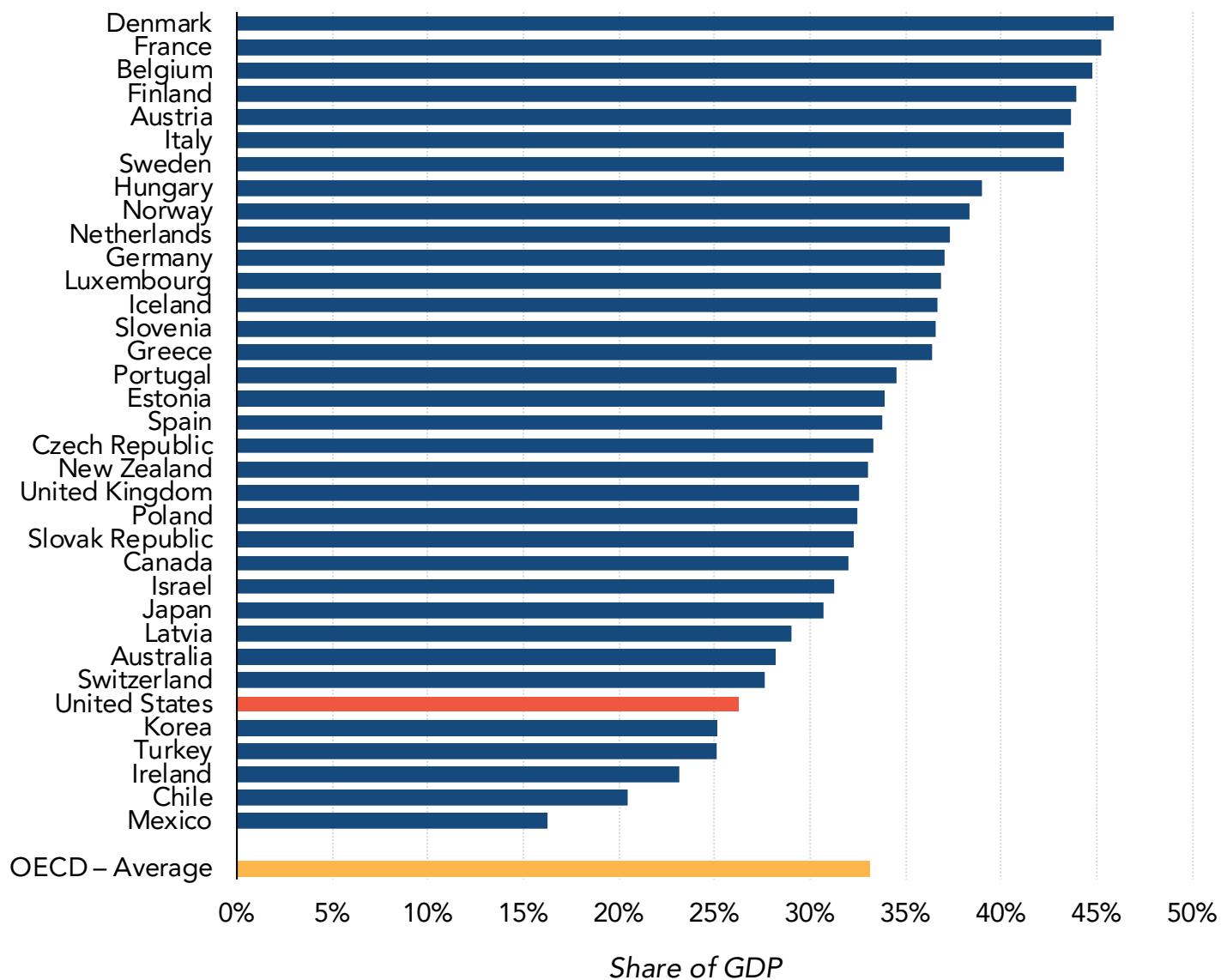
### How do US taxes compare internationally?

**Property Taxes:** Property taxes provided almost twice as large a share of US tax revenue—10 percent in 2015—than the OECD average of 6 percent. Almost all revenue from taxes on property in the United States is collected by state and local governments.

FIGURE 1

### Total Tax Revenue

Organisation for Economic Co-operation and Development (OECD) countries, 2015



**Source:** Organisation for Economic Co-operation and Development. 2015. OECD Tax Statistics. "Revenue Statistics: OECD Countries—Comparative Tables."

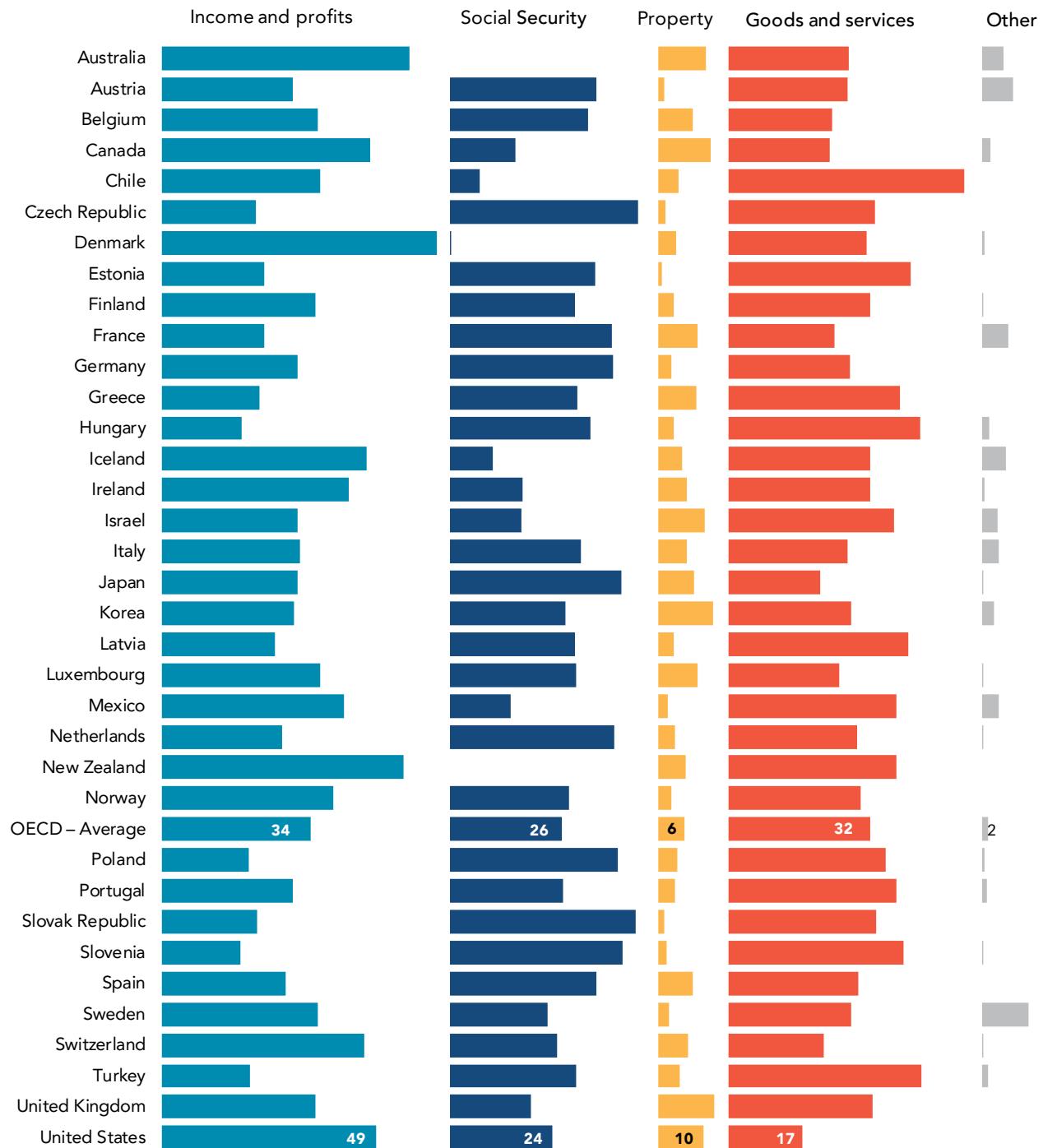
**Note:** The "OECD – Average" is a weighted average by GDP for all countries excluding the United States.

## Background

How do US taxes compare internationally?

**FIGURE 2**

Taxes by Source as a Share of Total Tax Revenues  
OECD countries, 2015



**Source:** Organisation for Economic Co-operation and Development. 2015. OECD Tax Statistics. "Revenue Statistics: OECD Countries—Comparative Tables."

**Note:** The "OECD – Average" is an unweighted average for all 35 countries; "Other" taxes include payroll taxes not classified as Social Security

## Background

How do US taxes compare internationally?

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### Data Sources

Organisation for Economic Co-operation and Development. 2015. *OECD Tax Statistics*. "[Revenue Statistics: OECD Countries—Comparative Tables](#)."

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### Further Reading

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## Background

How does the federal budget process work?

FEDERAL BUDGET PROCESS

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### Q. How does the federal budget process work?

**A. Ideally, following submission of the president's budget proposal, Congress passes a concurrent budget resolution setting total spending, revenue, and deficit targets for at least the next five years, and then passes annual appropriation bills to fund discretionary programs and legislation to enact changes to mandatory programs and taxes. The process has typically broken down at various points in recent years, however, with Congress failing to pass a concurrent resolution or completing action on appropriations.**

#### THE PRESIDENT'S BUDGET

The congressional budget process begins each year with the president submitting a budget for the following fiscal year. The president's budget proposes spending levels for federal programs whose funding is determined annually (discretionary programs) and may recommend policy changes to ongoing programs that do not require annual appropriations (mandatory programs) and to the tax code.

#### CONGRESSIONAL BUDGET RESOLUTION

Within the six weeks following submission, the various congressional committees report to the House and Senate budget committees outlining how their spending and revenue proposals will differ from the president's budget. After each budget committee compiles this information, Congress is required to pass a concurrent budget resolution setting out total spending, revenue, and deficit targets for at least the next five years and more usually for 10 years. Concurrent resolutions are endorsed by both the House and the Senate, yet lack the force of law and do not require the president's signature—which, of course, implies that the president cannot veto them, either.

The budget resolution divides total spending among the main functions of government, such as defense, transportation, and health, through spending allocations to individual congressional committees. The House and Senate appropriations committees further divide their spending allocations among their subcommittees. The budget resolution allows individual congressional committees to decide the details of their budgets, program by program, consistent with the aggregate targets. In practice, however, the debate over the resolution often becomes a debate over individual program budgets and their implications.

In recent years the Senate and the House have had difficulty agreeing to a single budget resolution. In early 2015, they agreed to a resolution for fiscal 2016—the first time they'd been successful since fiscal 2010. For fiscal 2017 and 2018, they passed perfunctory resolutions for the sole purpose of repealing the Affordable Care Act and passing a tax cut and tax reform.

## Background

### How does the federal budget process work?

During 2018 neither house plans to even pass a budget resolution out of committee. It is the first time that has happened since the budget process was enacted in 1974.

Even when they pass a resolution, Congress frequently violates the resolution's spending and revenue targets.

#### **THE APPROPRIATIONS PROCESS**

After the budget resolution passes, the House Appropriations Committee may begin the appropriations process. If a budget resolution is not passed by May 15, the House Appropriations Committee may begin appropriations in its absence. There are 12 appropriations bills covering different parts of the government. Agencies that are not funded because their appropriations have not been passed by October 1 are funded under continuing resolutions. These typically cover spending for only part of a year, but Congress sometimes extends them to cover the whole fiscal year. Continuing resolutions often limit spending to last year's level. Recently, it has become more common for no appropriation bills to pass by October 1. Then the government is funded by an extremely complicated omnibus bill. This makes it difficult for legislators to implement a rational set of national priorities.

#### **THE CONGRESSIONAL BUDGET OFFICE**

The Congressional Budget Office provides Congress with technical, nonpartisan advice on budget matters. Every bill Senate and House committees report to the floor must include a Congressional Budget Office cost estimate that covers at least five years (more recently, 10 years).

#### **RECONCILIATION**

Congress occasionally uses a special procedure called reconciliation to fast-track revenue and entitlement spending legislation. The budget resolution instructs committees to implement certain targets for changing revenues and mandatory expenditures. The resulting reconciliation bill combines spending and revenue provisions into a single piece of legislation. Debate is limited and the bill cannot be filibustered in the Senate. The Senate's Byrd rule states that a reconciliation bill cannot contain items not germane to the budget and that the bill cannot increase the deficit beyond the budget horizon, usually 10 years.

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## Background

What is the history of the federal budget process?

FEDERAL BUDGET PROCESS

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### Q. What is the history of the federal budget process?

**A. In 1972, President Richard Nixon impounded funds for various social programs. Nixon argued that because Congress lacked a process for controlling the federal budget, budget deficits might expand irresponsibly if the president lacked the power to block funding. Congress responded by establishing a formal budget process through the Congressional Budget and Impoundment Control Act of 1974.**

Today's congressional budget process has its origins in the Congressional Budget and Impoundment Control Act of 1974. That law sought to create a coherent procedure for Congress's revenue and spending decisions, and to constrain a president's ability to impound funds appropriated by Congress.

In 1972, newly reelected President Richard Nixon refused to spend funds appropriated for various social programs. Although the Constitution provides that a president may not spend money without a congressional appropriation, it was less clear whether he was obliged to spend every dollar appropriated.

Prospective recipients quickly challenged Nixon's impoundments in court, and he lost every case at the appellate level except one. Before the Supreme Court could consider the issue, Congress moved explicitly to limit the president's power to impound funds.

But Nixon had an effective counterargument. He pointed out that Congress had no formal, orderly process of its own for adding up individual spending and revenue decisions, and for relating total spending to total revenue. Nixon argued that if the president lacked the power to impound spending, total spending might expand irresponsibly.

Congress realized that Nixon had won the substantive argument and that it could not limit the president's impoundment powers unless it created a formal budget process of its own. It responded by passing the Congressional Budget and Impoundment Control Act of 1974.

There was no way to take the politics out of politics, however: The designers of the new process were intent on avoiding any significant reduction in the powers of existing committees. With a few exceptions, the new budget process only established targets for aggregate spending and revenue totals. Traditional committees were left to determine the details. This compromise made the new process much more complicated than it would otherwise have been.

The budget process has evolved since. Originally, two budget resolutions were required; now, only one. Reconciliation was originally seen as a mechanism for reconciling the first budget resolution with the second.

## Background

What is the history of the federal budget process?

Now it is a mechanism for expediting changes in entitlements and tax policy.

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### Further Reading

Schick, Allen. 1995. *The Federal Budget: Politics, Policy, Process*. Washington, DC: Brookings Institution Press.

## Background

What is the schedule for the federal budget process?

FEDERAL BUDGET PROCESS

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### **Q. What is the schedule for the federal budget process?**

**A. The congressional budget process is meant to last from early February to the end of June, but recent years have seen delays at each stage, particularly in passing congressional budget resolutions and in completing action on appropriation bills.**

The congressional budget process begins each year with the president submitting a budget for the following fiscal year. Usually, Congress receives the budget no later than the first Monday in February. The whole procedure is supposed to be completed by June 30, but that almost never happens.

Within the six weeks following submission, the various congressional committees report to the House and Senate budget committees, outlining how their spending and revenue proposals will differ from the president's budget. After each budget committee compiles this information, Congress is supposed to pass a concurrent budget resolution by April 15.

From fiscal 1976 (the first effective year of the budget process) through 1998, Congress successfully passed budget resolutions each year. Failure to pass a budget resolution has recently become more common, however. Indeed, the longest period without a budget resolution passed by the whole Congress lasted from fiscal 2011 through fiscal 2015.

After the budget resolution passes, the House Appropriations Committee may begin the appropriations process. If a budget resolution is not passed by May 15, however, the House Appropriations Committee may begin appropriations in its absence. All necessary appropriations bills are supposed to be passed by June 30 but seldom are.

Congress occasionally uses a special procedure called reconciliation to fast-track revenue and spending legislation. Reconciliation bills are supposed to be complete by June 15.

If appropriations are not complete by October 1—and that is common—federal agencies are funded under continuing resolutions. These typically cover spending for only part of a year but Congress sometimes extends them to cover the whole fiscal year. Continuing resolutions are generally understood to limit spending to last year's level, but specific programs can be adjusted up and down.

In 2018, neither house of the Congress plans any attempt to formulate a budget resolution for fiscal 2019. As noted above, the entire Congress has often failed to pass a resolution, but the Budget Committee of one house or the other has always approved a resolution. This is the first time since the budget process was enacted in 1974 that neither house has even attempted to work on one.

## Background

What is the schedule for the federal budget process?

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### Further Reading

Schick, Allen. 1995. *The Federal Budget: Politics, Policy, Process*. Washington, DC: Brookings Institute Press.

Stone, Chad. 2014. "The Federal Budget Process." In *Public Economics in the United States*, vol. 2, edited by Steven Payson, 679–98. Santa Barbara, CA: Praeger.

## Background

### What is reconciliation?

FEDERAL BUDGET PROCESS

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#### Q. What is reconciliation?

**A. Congressional budget committees use the reconciliation process to ensure tax laws and mandatory spending programs are revised according to the budget resolution's revenue and mandatory spending targets. Reconciliation is a way to fast-track revenue and spending legislation into becoming law.**

Reconciliation legislation is passed through an expedited process. First, Congress passes a budget resolution containing “reconciliation instructions” telling congressional committees how much they need to change revenue and mandatory spending to conform to a new budget resolution. The committees’ responses are then bundled by the House and Senate budget committees into a single reconciliation bill for consideration in each chamber.

Reconciliation bills are subject to special rules in the Senate. Debate on reconciliation bills is limited to 20 hours. If the law is free of points of order, it can be passed in the Senate by a simple majority; the 60 votes necessary to shut off a filibuster are not required. Any member, however, can raise a point of order against a reconciliation bill if it violates the spending and revenue targets in the budget resolution or other budget rules and laws. Sixty votes are needed to overcome a point of order. The House can set procedural rules on any legislation, including reconciliation bills, by adopting a special “rule” determined by the House Rules Committee. Debate is limited in the House to whatever time the Rules Committee allows.

The George W. Bush tax cuts of 2001–03 and the more recent tax cut and reform bill of 2017 were passed using reconciliation procedures. The content of reconciliation laws is limited in the Senate by the Byrd rule, which generally disallows items that do not affect outlays or revenue. The Byrd rule also prohibits initiatives that would increase the deficit beyond the fiscal years covered by the budget resolution.

#### EXAMPLES

Policymakers have passed 20 budget reconciliation bills since they first used the procedure in 1980. In 2001, for example, the Senate could not muster the 60-vote supermajority necessary to pass the Bush tax cuts. Instead, it passed the legislation as a reconciliation bill with 58 yea votes. However, to avoid abrogating the Byrd rule—which disallows bills that increase the deficit beyond the budget resolution’s window—the tax cuts were scheduled to expire after 10 years. Reconciliation was again used to pass the tax cut and reform bill of 2017. Many provisions of the bill were made temporary to avoid violating the Byrd rule.

## Background

### What is reconciliation?

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## Background

How is a budget resolution enforced?

FEDERAL BUDGET PROCESS

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### **Q. How is a budget resolution enforced?**

#### **A. Spending and revenue targets set in the annual budget resolution are enforced by points of order, which any member of Congress may raise against legislation inconsistent with those targets.**

The House and Senate budget committees are responsible for calculating whether spending and revenue targets are being met. A House or Senate member may raise a point of order against a bill or an amendment if it violates the spending and revenue regulations contained in the most recent budget resolution or if it violates other budget laws and rules. If a point of order is sustained, the bill or amendment is ineligible for consideration.

In the House, the rules committee often reports a so-called special rule that sets aside one or more points of order. The House then votes on adoption of the special rule, which needs only a simple majority to pass. The House rules committee also determines what amendments can be offered during the budget resolution debate. Because the rules committee has immense power, the House budget committee has less influence in enforcing the budget resolution than its Senate counterpart.

In the Senate, if a point of order is lodged against a bill or an amendment, a supermajority vote of 60 senators is needed to overcome it. The chair of the House or the Senate budget committee, often with the concurrence of the ranking member, may threaten to lodge a point of order against a legislative initiative that seriously violates the budget resolution or an established budget rule, but this step may just start a bargaining process. Eventually, the member pushing the initiative may settle for a less egregious violation in return for withdrawing the threatened point of order.

## Background

### What is PAYGO?

FEDERAL BUDGET PROCESS

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#### Q. What is PAYGO?

**A. A budget rule requiring that new legislation that affects revenues and spending on entitlement programs, taken as a whole, does not increase projected budget deficits.**

#### OVERVIEW

PAYGO, which stands for “pay as you go,” is a budget rule requiring that (using current law as the baseline) tax cuts, as well as increases in entitlement and other mandatory spending, must be offset by tax increases or cuts in mandatory spending. PAYGO does not apply to discretionary spending (spending that is controlled through the appropriations process).

#### HISTORY

The original PAYGO was part of the Budget Enforcement Act of 1990. In that year, President George H. W. Bush and congressional leaders painfully negotiated a large deficit reduction package combining spending cuts and tax increases. Having accomplished so much, Congress became concerned that future Congresses would reverse the agreement bit by bit. PAYGO helped prevent this, supplemented by caps on appropriations and outlays for discretionary spending programs. Budget experts generally agree that PAYGO worked extremely well from 1990 through 1997. In 1998, an unexpected budget surplus emerged and the discipline driven by PAYGO began to wane. The law officially expired at the end of fiscal 2002.

#### RECENT VERSIONS

The most recent version of the PAYGO rule was established in 2010: To the extent that legislation does not pay for increases in mandatory spending or for tax cuts, the cumulative amount of the projected increase in the deficit is averaged over two periods—5 years and 10 years. (Budget imbalances in the current budget year are included so in practice, the averaging is over 6 and 11 years.) To prevent manipulation of the rules, legislation subject to PAYGO cannot move costs outside the budget window (i.e., after 10 years) or move saving into the budget window from later years.

#### SEQUESTRATION

If the Office of Management and Budget determines that either the 5- or 10-year average cost is greater than zero when Congress adjourns, the president must sequester (apply an across-the-board spending cut) certain mandatory spending programs. The higher of the two averages determines the sequestered amount. Spending for each program is reduced by the same percentage for one year to offset the average projected deficit increase. Unless Congress acts to reduce or eliminate the projected deficit increase, there is another sequestration the following year.

## Background

### What is PAYGO?

Some programs are exempt from sequestration. Social Security and the postal service are exempt because they are classified as “off-budget” programs (although they are included in consideration of the unified budget). Moreover, numerous welfare and other safety net programs, such as Medicaid, the Supplemental Nutrition Assistance Program, and unemployment insurance, are also exempt. Medicare is subject to sequestration, but the spending reduction for Medicare is limited to 4 percent. If sequestration calls for an across-the-board reduction of more than 4 percent, the additional amount that would have come from Medicare is allocated proportionally to other programs.

### ENFORCEMENT

The PAYGO rule has not been enforced consistently. For example, the 1997 budget act put in place a method, known as the SGR (the sustainable growth rate), for determining Medicare payments to physicians. Application of that formula threatened huge cuts in Medicare physician reimbursements. Congress prevented the payment rates determined by SGR from taking effect, but only for one year at a time. While Congress did pay for these one-year fixes, by limiting the fix to one year it did not need to pay the cost of the fix over the full budget window. When the Medicare Access and CHIP Reauthorization Act of 2015 replaced the SGR formula with a new system in 2015, Congress waived the PAYGO rules, exempting itself from paying for the entire cost of the new legislation. They again waived the PAYGO rules at the end of 2017 so that they did not have to pay for the 2017 tax cut and reform. It appears that PAYGO can no longer be considered an effective tool for imposing budget discipline.

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## Background

What are rescissions?

FEDERAL BUDGET PROCESS

7/7

### Q. What are rescissions?

**A. The rescission process allows a president to avoid spending money on discretionary programs that has been appropriated by the Congress, but not yet obligated for the purchases of goods and services.**

The Constitution is clear that a president cannot spend money without a Congressional appropriation. It is less clear whether a president must spend money that has been appropriated by the Congress. Various presidents had from time to time refused to spend appropriations, but it was very unusual and almost always involved small amounts. It was said that the president impounded the money.

President Nixon broke precedent when, fresh off an overwhelming electoral victory in 1972, he refused to spend money that had been appropriated for several social programs. He was immediately sued and lost all cases except one before the US Court of Appeals. The case never reached the Supreme Court because the Congress quickly moved to restrict a president's ability to impound funds in the Congressional Budget and Impoundment Control Act of 1974. That act also created the congressional budget process.

The Congress did not want to totally outlaw a president's ability to impound funds, so they created two processes: rescission and deferral. The latter was later ruled unconstitutional by the Supreme Court.

In the rescission process, the president sends the Congress a request to cancel specified appropriations that have not yet been obligated to fund the purchase of goods and services. The Congress has 45 days to consider—or ignore—the president's request. If the Congress votes to approve the request or any portion thereof, the spending is cancelled. If not, the president must spend the money.

Various presidents and numerous lawmakers have backed a reform called enhanced rescission. Under this approach, the Congress would not be able to ignore a president's rescission request. They would have to vote on it within 45 days. At first sight this sounds like a minor change, but it could greatly enhance the power of rescission requests. Lawmakers voting against the president's request would be saying that an activity the president deemed wasteful was, in fact, effective. That could be a hard vote. It is easier just to ignore the president.

## Background

How accurate are long-run federal budget projections?

FEDERAL BUDGET OUTLOOK

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### Q. How accurate are long-run federal budget projections?

**A. Some elements of spending—health care costs and interest on the federal debt—are difficult to predict. But even in the best scenarios, the debt will remain a significant problem.**

The Congressional Budget Office (CBO) has been making periodic long-run budget projections since the 1990s. Since then, policies have changed—as have the economic and demographic assumptions underlying the analysis. But the lesson from these projections has remained the same: the United States is on an unsustainable fiscal path. That is to say, if policies are not reformed, the public debt will grow until no prudent investor will buy US Treasury securities.

#### CAUSES OF RISING PUBLIC DEBT

The most important underlying cause of our rising public debt is population aging. The result is pressure on Social Security, the largest program in the budget, and on Medicare and Medicaid, the largest health insurance programs. Aging is easy to forecast because life expectancy has increased steadily and current age demographics are well known. More difficult to forecast are birth rates and growth of the taxpaying population, but birth rates have remained low for a long time with no surprises.

Per person health costs have risen faster than incomes, after adjusting for the population aging that has driven the projected rise in total spending. But this “excess cost growth” is difficult to forecast. After constituting most total health cost growth for decades, excess cost growth slowed abruptly in the 2000s. And no one knows whether the slowdown will last or will be a one-time phenomenon.

Structural changes in the delivery of health care may hold down cost growth in the long run. On the other hand, excess cost growth might resume at historically familiar rates. In recent long-run projections, CBO has assumed that excess cost growth will indeed resume, but at a rate lower than the historical average.

#### MAJOR DISRUPTIONS TO THE GROWTH RATE OF PUBLIC DEBT

With Social Security and major health programs expected to grow faster than the economy and tax revenues, the deficit and public debt are expected to grow faster and interest on the debt to become a growing part of the budget problem. Over the twenty or so years that CBO has been making long-term budget projections, this basic story has held true. But three major surprises have caused the debt-GDP ratio to rise more slowly than predicted in some periods and faster in others.

The most important surprise slowing the growth of the debt-GDP ratio has been the dramatic fall in interest rates during the Great Recession. Despite a rise in the debt-GDP ratio from 39.3 percent in 2008 to 74.1 percent in 2014, the interest bill on the debt actually fell absolutely! The second surprise involved a huge

## Background

### How accurate are long-run federal budget projections?

surge in revenues related to the dot-com boom of the 1990s. It caused the debt-GDP ratio to fall from the mid-1990s to 2001, when the ratio was supposed to rise according to all long-term projections. The last surprise was the Great Recession that caused the debt-GDP ratio to rise far faster than could be explained by the increase in Social Security and health programs.

Despite the two big surprises that made the long-term outlook appear better than expected and the one surprise that made it look worse, the fundamentals of long-term projections have held true. Social Security and health programs have been on a strong upward trend propelled by aging and health costs, and there is little reason to expect this trend to evaporate. Because Social Security and health programs are therefore expected to become a greater and greater share of total spending, it is less and less likely that their effect on the deficit will be overwhelmed by surprises.

At the end of 2017 and the beginning of 2018, lawmakers faced with projections of ever-worsening deficits decided to cut taxes and increase previously legislated ceilings on discretionary spending. The long-term budget outlook took a very large step in a bad direction.

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## Background

What have budget trends been over the short and long term?

FEDERAL BUDGET OUTLOOK

2/7

### **Q. What have budget trends been over the short and long term?**

**A. Federal budget deficits are largely driven by external events—war, recession—in the near term and by demography in the long run. When events conspire to drive revenues above the trend, tax cuts usually bring them down with alacrity.**

The budget deficit has been on a roller coaster in recent years because of the Great Recession and the subsequent recovery. (The federal budget deficit measures the amount by which total government outlays exceed total revenues in a given year.) In 2007, before the recession, the deficit had fallen to 1.1 percent of gross domestic product (GDP) despite the Afghan and Iraq wars and significant tax cuts earlier in the decade. Then the recession hit and the deficit soared to 9.8 percent of GDP by 2009, as tax revenues fell, automatic safety net programs kicked in, and hundreds of additional billions were spent to stimulate the economy. But the economic recovery and subsequent economic expansion quickly lowered the deficit again. By 2015 it was 2.4 percent of GDP.

Toward the end of 2017, the Congress passed a major tax cut that was not paid for. Then, in early 2018, they increased previously legislated caps on discretionary spending. This put the deficit on a steep upward trend and by 2020, it is expected to exceed \$1 trillion for the first time since the Great Recession. Ultimately, budget projections have it growing to \$1.5 trillion by 2028.

#### **SHORT TERM**

As the deficit rises above \$1 trillion in 2020, The debt-GDP ratio is expected to grow from 77 percent in 2017 to 79 percent in 2020 and, ultimately, to 96 percent in 2028. This will be the highest debt-GDP ratio since shortly after World War II.

All categories of spending will rise. Recent policy changes have not affected mandatory spending significantly and it will continue its upward trend, rising 14 percent between 2017 and 2020. Discretionary spending will rise 12 percent, largely because of the legislated increase in spending caps. The interest bill on the debt will rise 84 percent because of the large increase in the debt and a forecasted increase in interest rates.

Tax revenue will fall as a percentage of GDP. The recent tax cut will lower tax revenue from 17.3 percent of GDP in 2017 to 16.7 percent in 2020. Under constant law, one would normally expect tax revenues to grow faster than GDP because real growth pushes people into higher tax brackets.

## Background

### What have budget trends been over the short and long term?

#### **LONG TERM**

Over the longer run, programs targeting the aged will hasten spending growth as baby boomers enter these programs in large numbers and expected life continues to increase. The main impact will be on spending for Social Security, Medicare, and Medicaid. Those three programs already accounted for over 50 percent of total spending in 2017 and are expected to continue to grow faster than the economy and tax revenues for the foreseeable future. Medicare and Medicaid face the added problem that even if the population were not aging, costs per recipient would be rising faster than incomes per capita after one adjusts for the effects of aging. This so-called excess cost growth slowed surprisingly after 2009. However, the Congressional Budget Office expects the growth of Medicare and Medicaid costs to reaccelerate, although not to the high levels experienced in recent decades.

The ratio of revenues to GDP has been remarkably constant over the past 50 years, almost always varying between 17 and 19 percent of GDP. Whenever the ratio has gone above 19 percent, a significant tax cut has followed. A surtax imposed during the Vietnam War pushed the ratio to 19 percent in 1969, but it was quickly removed. Rapid inflation again pushed the tax burden above 19 percent in 1981, provoking the large Reagan tax cuts. The Bush tax cuts of the early 2000s followed an enormous surge in revenues during the dot-com boom of the late 1990s that also pushed the tax burden above 19 percent.

The Great Recession was devastating to revenues and briefly brought them below 15 percent of GDP. Revenues recovered with the economy but in an unusual move, the government passed a major tax cut in 2017 when revenues were already near their historical lower bound of 17 percent. As a result, revenues are expected to drift slightly below 17 percent for the next few years. Excepting the Great Recession years, revenues only fell below 17 percent in four years between 1959 and 2017.

The inexorable growth of Social Security, Medicare, and Medicaid, combined with the reluctance to raise taxes, has been squeezing other entitlements and discretionary spending. Discretionary spending has been hit hardest, with defense falling from 9.1 percent of GDP at the height of the Vietnam War in 1968 to 3.1 percent in 2017. Nondefense spending has fallen somewhat more erratically to 3.2 percent of GDP in 2017 after reaching a 50-year high of 5.0 percent in 1978. The Congress was clearly reacting to these long-run declines when it significantly raised defense and nondefense discretionary spending in early 2018. It did not, however, pay for the increases with tax increases or other entitlement cuts.

The growth in Social Security and health spending combined with a near constant tax burden leads to the conclusion that the United States is on an unsustainable fiscal path. If these well-entrenched fiscal policies continue, the deficit will persist on an upward trend and the debt will continually grow relative to GDP. As a result, interest on the debt will become a major budget problem. Eventually, the system will explode into a fiscal crisis, and there will be no choice but to undertake painful spending and tax policy changes.

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## Overview

How much spending is uncontrollable?

FEDERAL BUDGET OUTLOOK

3/7

### Q. How much spending is uncontrollable?

**A. Entitlement spending is generally said to be uncontrollable for political rather than legal reasons. It can always be controlled legally by reforming programs, but when an entitlement is extremely popular, reform may require more political courage than is readily available.**

The federal budget divides government spending into three categories: discretionary spending, mandatory or direct spending, and net interest.

*Discretionary spending*, set in annual appropriations acts developed by the House and Senate Appropriations Committees, includes most defense programs as well as spending for education, transportation, environmental protection, law enforcement and border security, international assistance, and a host of other programs.

*Mandatory spending*, controlled by laws other than appropriations acts, includes spending on entitlement programs. This includes the big three—Social Security, Medicare, and Medicaid—and many smaller programs such as supplemental nutrition assistance, federal civilian and military retirement benefits, and unemployment insurance. Spending is also mandatory for items the government cannot avoid, such as bills from suppliers of goods and services and plaintiff awards from lawsuits.

Government spending on mandatory programs and net interest on the public debt are often described as “uncontrollable.” Entitlements can be controlled legally by reforming them, but this can be highly unpopular politically. Interest costs can be controlled indirectly by curbing spending growth or raising revenues, but that is also difficult.

Uncontrollable spending has been growing much more rapidly than total spending and thus accounts for an ever-larger share of the total. However, most growth has been concentrated in entitlements that serve the elderly and in health insurance. The population has been aging rapidly, and that affects both Social Security and health programs. The latter have grown twice as rapidly because even after adjusting for aging, health costs per beneficiary have been growing faster than incomes per capita. Health cost growth has slowed recently, but the Congressional Budget Office expects it to reaccelerate in the long run. Social Security and Medicare, the largest health program, are among the most politically popular programs ever invented.

Whereas discretionary programs are funded by specific appropriations that generally last only one year, entitlement spending for Social Security and Medicare is ongoing and is not scrutinized as carefully or as often as discretionary spending. The laws establishing entitlements specify who is eligible and describe the benefits. The government then pays for as many eligible individuals as claim them. Thus, total

## Background

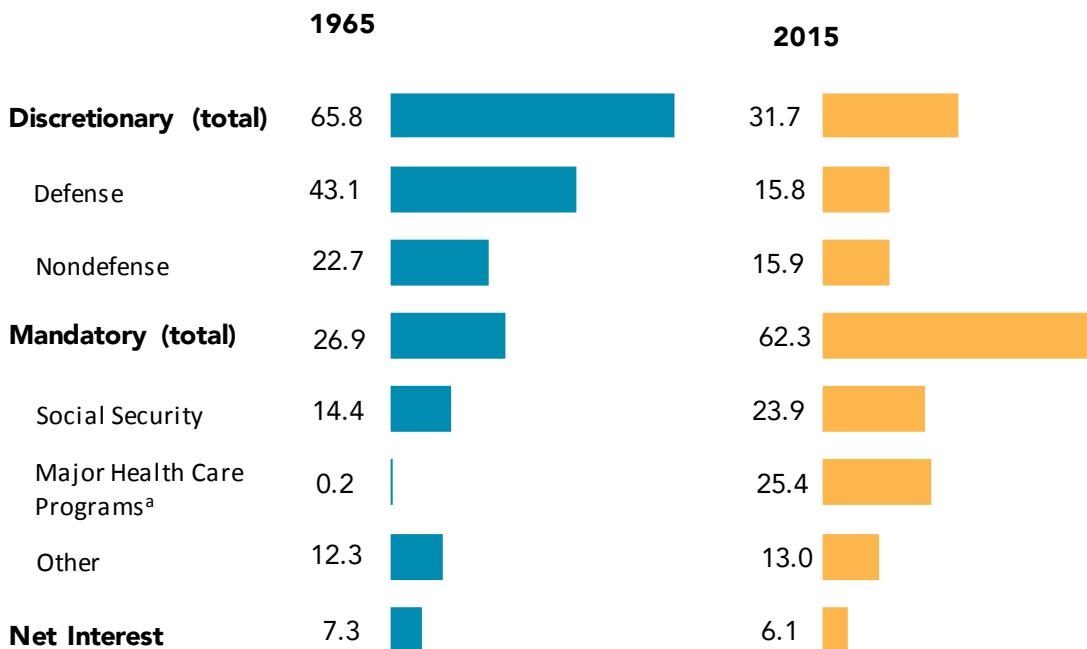
### How much spending is uncontrollable?

entitlement spending cannot be predicted with precision from year to year—and is, in this narrow sense, “uncontrollable.”

As a matter of law, though, entitlement spending can be controlled in the long run by changing eligibility criteria or the generosity of benefits. This would require Congress to actively change the law, but as implied above, that is politically perilous. In contrast, a discretionary program, unless renewed, will automatically expire when its funding does. Discretionary spending is therefore often assumed to be easier to control than entitlement spending. But the difference should not be exaggerated: cuts in appropriations from year to year can also be highly unpopular and politically difficult.

**FIGURE 1**

### Spending as a Percentage of Total Spending 1965 and 2015



**Sources:** Congressional Budget Office, Historical Budget Data, March 2016; author calculations.

(a) Spending on Medicare (net of offsetting receipts), Medicaid, the Children's Health Insurance Program, and subsidies offered through health insurance exchanges and related spending.

## Background

### How much spending is uncontrollable?

As shown in figure 1, mandatory spending has grown as a percentage of overall spending in the last 50 years. In fiscal 1965, mandatory spending plus net interest constituted 34.2 percent of total spending. By fiscal 2015 the share had doubled to 68.4 percent. Over the same period, Social Security's share of total spending rose from 14.4 percent to 23.9 percent. Medicare and Medicaid were created in 1965 and were responsible for a small portion of total spending throughout the rest of the 1960s. But by 2015 they and other health care programs consumed 25.4 percent of outlays. In contrast, defense discretionary spending fell over the same period from 43.1 percent of total spending at the peak of the Vietnam War to 15.8 percent in 2015. The percentage of total spending devoted to nondefense discretionary programs also fell from 22.7 percent in 1965 to 15.9 percent in 2015, but this has fluctuated significantly over the period.

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## Background

What are tax extenders?

FEDERAL BUDGET OUTLOOK

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### Q. What are tax extenders?

**A. Several dozen temporary tax breaks expired at the end of 2017. They are often collectively known as the “tax extenders” because lawmakers likely will consider extending most or all of them. The temporary-but-not-temporary character of these provisions complicates tax policy and budgeting.**

#### THE TAX EXTENDERS

Congress often enacts temporary tax provisions, almost all of which are tax cuts. Some are made temporary to force review when they’re scheduled to expire, or “sunset.” Some are temporary because Congress intended them to address temporary needs, such as recession, mortgage market collapse, or regional weather disasters. And some are temporary because proponents want them to be permanent but cannot muster the budgetary resources to offset the cost for more than a year or two at a time.

These temporary tax provisions are often known as the “expiring provisions,” because they are scheduled to expire or, in some years, already have. Of particular importance are several dozen temporary tax cuts that expired at the end of 2017 and a few that expire at the end of 2018. Most reward business and consumer investments in energy efficiency and production, as well as use of alternative fuels. Other business provisions reduce taxes for auto racetracks and racehorses. The largest individual extender excludes mortgage forgiveness from income. These provisions are collectively known as the “tax extenders” because of the expectation that lawmakers will consider extending most or all of them, either this year or early in 2019.

#### THE 2015 DEAL ON TAX EXTENDERS

At the end of 2015, lawmakers made permanent many provisions that had previously been temporary. Those included the research and experimentation credit (which had been temporarily renewed 16 times since 1981), the “subpart F exceptions” that allow financial firms to defer tax on some international income (renewed seven times since 1998), the personal deduction for state and local sales taxes (renewed four times since 2004), and more than a dozen other expired provisions. The law also made permanent expansions of the Earned Income Tax Credit, the Child Tax Credit, and the American Opportunity Tax Credit that were scheduled to expire at the end of 2017. Originally enacted as part of the economic stimulus in 2009 and extended in the fiscal cliff deal at the close of 2012, these provisions help working families with kids, encourage work, reduce marriage penalties, and help with education expenses.

The law thus made permanent many of the largest and most politically important expiring provisions. Dozens of temporary provisions remain, but tax extender deliberations have lower stakes now than several years ago.

## Background

### What are tax extenders?

#### PROVISIONS EXPIRING IN THE FUTURE

More tax provisions are scheduled to expire in coming years. The 2019 cohort of expirations includes prominent tax breaks such as the Work Opportunity Tax Credit and the New Markets Tax Credit. But the most important expirations are scheduled for 2025, when key provisions of the 2017 tax bill expire. These include lower individual tax rates, the expanded Child Tax Credit, limits on the Alternative Minimum Tax, and the deduction for qualified pass-through business income.

#### POLICY IMPLICATIONS

Some tax provisions are temporary for good reasons. If Congress enacts tax cuts to soften the blow from disasters and recessions, it makes sense to limit their duration. Sunsetting tax breaks after several years can also inspire more congressional oversight than permanent features of the tax code may receive.

In practice, though, Congress often extends tax breaks a year or two at a time merely to meet the letter of the law governing congressional budget procedures. Budget rules often (but not always) require lawmakers to find offsetting revenue increases or spending cuts to pay for extending a tax break. Finding such offsets is easier for a temporary extension than for a permanent one.

It should be no surprise, then, that the number of expiring provisions snowballed, with more than 50 identified as extenders before the recent law and more than 30 still remaining. The large number makes Congress less likely to consider their merits as individual provisions.

#### BUDGET IMPLICATIONS

The Congressional Budget Office must assume that these temporary-but-not-temporary laws will expire as scheduled when it compiles the budget baseline that serves as a starting point for congressional budget deliberations. Such assumptions make the baseline unrealistic, since temporary tax laws are typically extended. Moreover, because most extenders involve tax cuts, the assumption that these provisions will expire leads the Congressional Budget Office to project higher than likely revenues. There is one exception to the rule: temporary taxes whose revenue is deposited in trust funds are assumed to continue.

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## Background

What options would increase federal revenues?

FEDERAL BUDGET OUTLOOK

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### Q. What options would increase federal revenues?

**A. Policymakers can directly increase revenues by increasing tax rates, reducing tax breaks, expanding the tax base, improving enforcement, and levying new taxes. They can indirectly increase revenues through policies that increase economic activity, income, and wealth.**

Policymakers can raise revenues by modifying existing tax policy, enacting new taxes, and boosting economic activity.

#### MODIFYING EXISTING TAX POLICY

- Congress could increase the tax rates that apply to personal income, corporate income, payrolls, estates, and specific products like gasoline and cigarettes.** Higher rates almost always yield higher revenues, even if people and businesses do less of the taxed activity. Capital gains, which are currently taxed at a top rate of 23.8 percent, are one exception; some estimates suggest revenues may peak at rates around 30 percent but then decline at higher rates.
- Congress could scale back or eliminate the myriad tax breaks in the existing code.** Prominent personal examples include the exclusion of employer-provided health insurance, retirement saving incentives, and the exclusion of capital gains on sales of principal residences. Prominent business examples include expensing of new investments, low tax rates on overseas income, and the 20 percent deduction for qualified business income.
- Congress could apply existing taxes more broadly.** For example, it could reduce the standard deduction in the individual income tax, increase the cap on earnings subject to the Social Security payroll tax, or reduce the estate tax exemption.
- The federal government could strengthen enforcement.** The IRS estimates that the “tax gap”—the difference between taxes owed and those actually paid—averaged about \$458 billion annually in 2008–10 and that enforcement efforts and penalties recovered about \$52 billion. Better enforcement could further reduce the remaining \$406 billion gap.

#### ENACTING NEW TAXES

Policymakers could also boost revenues by introducing new taxes. The largest potential revenue sources would be a value-added tax (already levied in every other developed nation) or a carbon tax (which would target the pollutants causing climate change). Other recent proposals include taxes on financial transactions, wealth, and unhealthy foods and drinks.

## Background

### What options would increase federal revenues?

#### BOOSTING ECONOMIC ACTIVITY

All else equal, a bigger economy generates more tax revenue. Policies that boost economic activity, incomes, and wealth can thus lift revenues as well. Examples include policies that increase the number of people in the labor force, the number of hours they work, and their skills. Policymakers can also modify the tax code to increase workers' physical and intellectual capital.

Immigration reform is one way to boost economic activity. Bringing new workers into the country would expand the labor force and attract new capital; allowing unauthorized workers to enter the legal workforce would boost their productivity and taxable wages.

Other policies that might boost economic activity include investing in infrastructure, education, and innovation; reforming the rules of social programs that discourage some people from working; and restructuring the tax code to encourage domestic investment. Actual economic gains depend on policy specifics; poorly designed investments and reforms could boomerang, reducing economic activity.

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## Background

What does it mean for a government program to be off-budget?

FEDERAL BUDGET OUTLOOK

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### Q. What does it mean for a government program to be off-budget?

**A. The two Social Security trust funds and the postal service are “off-budget”—their spending and receipts are walled off from the rest of the budget. Putting Social Security and the post office off-budget shields them from some pressures, but policymakers often focus on the unified budget that includes them. A few other agencies are excluded because of their independence (e.g., the Federal Reserve) or private character (e.g., government-sponsored, privately owned entities and funds managed for private citizens).**

#### OFF-BUDGET VERSUS ON-BUDGET ACCOUNTING

The budget brings together the spending and receipts of virtually all federal activities, from paying doctors who treat Medicare patients to financing the Environmental Protection Agency to collecting income taxes to selling oil leases on federal land. In two cases, however, Congress has separated programs from the rest of the budget. The Postal Service Fund and the disability and retirement trust funds in Social Security are formally designated “off-budget,” even though their spending and revenues are included in the unified budget.

Lawmakers created this special accounting to try to wall off these programs. For the postal service, the intent was to free the agency to pursue more efficient practices than the conventional budget process allows. But that has not helped the postal service avoid financial difficulties.

With Social Security, the intent was to protect any surpluses from being diverted into other programs. The two Social Security trust funds have accumulated large surpluses since 1983. Those will eventually be drawn down to pay benefits. Advocates therefore argued that those surpluses should be separated from budgeting for the rest of government. Congress hoped that this separation would induce greater fiscal discipline in the rest of the government.

#### RESULTS

This accounting has had mixed results. Congressional budget rules prevent spending reductions or revenue increases in Social Security from being explicitly used to pay for spending increases or tax cuts elsewhere. In that sense, off-budget accounting has protected the program. But high-level budget discussions focus on the unified budget deficit and thus ignore the off-budget versus on-budget distinction. As a result, Social Security surpluses have effectively helped finance deficits elsewhere in the government. Just how much is unclear, but in the almost three decades that Social Security has been off-budget, the rest of government has

## Background

### What does it mean for a government program to be off-budget?

run a surplus in only two years (1999 and 2000).

In any case, these arguments have less relevance today. Annual Social Security expenditures have exceeded noninterest income since 2010. The combined trust funds still run a surplus because of interest payments from the Treasury, but these payments are simply transfers from one government office to another and therefore do not affect the unified deficit.

#### THE FEDERAL RESERVE SYSTEM

The Federal Reserve System (the Fed) is part of the federal government but is explicitly excluded from the budget to shield monetary policymakers from political pressure. Other developed nations do the same. The Fed thus sets its own spending and finances itself from earnings on lending to banks and its financial assets. The Fed remits its profits to the Treasury each year, which the budget records as receipts, but the agency otherwise operates outside the budget.

#### OTHER ACTIVITIES OUTSIDE THE BUDGET

Some federal activities are outside the budget because the government plays a limited role in what is otherwise a private activity. The government manages various funds whose assets belong to Indian tribes, federal employees, copyright holders, and other private individuals. Spending from and receipts to those funds are generally not included in the budget.

Government-sponsored enterprises, such as the Federal Home Loan Banks, also fall outside the budget because they are privately owned and their debt does not bear the full faith and credit of the US government. However, most observers assume their close ties to the government would lead to a bailout if they got into financial trouble.

That assumption proved accurate for Fannie Mae and Freddie Mac, the giant mortgage finance enterprises. During the 2008 financial crisis, they received substantial financial assistance and were put into federal conservatorship. This has led to a dispute regarding their status. The Office of Management and Budget believes Fannie Mae and Freddie Mac are still sufficiently private to fall outside the budget. The Congressional Budget Office believes federal control is now so strong that the two entities are effectively federal agencies and their spending and receipts should be in the budget.

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## Background

How did the TCJA affect the federal budget outlook?

FEDERAL BUDGET OUTLOOK

7/7

### **Q. How did the TCJA affect the federal budget outlook?**

**A. The Tax Cuts and Jobs Act cut taxes substantially from 2018 through 2025. The resulting deficits will add \$1 to \$2 trillion to the federal debt, according to official estimates. The debt increase will be larger if some of TCJA's temporary tax cuts are extended.**

At the start of 2017, congressional Republicans often spoke about revenue-neutral tax reform. The revenue losses from tax cuts would be offset by rolling back tax breaks or introducing other taxes, most notably a destination-based cash flow tax—sometimes called the border-adjusted tax. The destination-based cash flow tax attracted intense opposition from business groups, especially retailers, and was eventually dropped. Lawmakers then pivoted to a combination tax cut and reform. The Tax Cuts and Jobs Act (TCJA) was the result.

#### **ESTIMATING TCJA'S BUDGET IMPACT**

The Joint Committee on Taxation and the Congressional Budget Office have published several estimates of TCJA's expected budget impact. These estimates all show TCJA substantially reducing revenues and increasing deficits over its first decade. The specific amount varies—from about \$1 trillion to \$2 trillion—for three reasons.

First, the agencies estimated budget impacts using both conventional methods (which do not account for potential changes to the overall economy) and dynamic methods (which do). Second, the agencies originally estimated the budget impacts against a budget baseline established in 2017, when the act was debated and enacted. They later published updated figures using a 2018 baseline, which included new economic and budget information. Third, official scores typically do not include any new debt service costs resulting from tax cuts or spending increases. Projections for the entire budget, however, do include debt service.

#### **CONVENTIONAL ESTIMATES**

During legislative debate, the most-cited estimate was that the TCJA would increase deficits by about \$1.5 trillion over 10 years. This figure comes from the Joint Committee on Taxation (JCT) and Congressional Budget Office's (CBO's) conventional score. JCT projected that the law would reduce revenues by \$1.65 trillion from 2018 to 2027. That deficit increase would be partly offset, CBO and JCT projected, by \$194 billion in reduced spending, primarily on health insurance.

In a subsequent update, CBO estimated the conventional budget effect at almost \$1.9 trillion over the same period. That increase reflected an updated view of certain features of the law as well as new economic projections.

## Background

### How did the TCJA affect the federal budget outlook?

#### DYNAMIC ESTIMATES

JCT's original dynamic score found that the TCJA would boost economic activity (not growth) by an average of about 0.7 percent over the budget window. That growth would reduce the deficit impact by about \$385 billion—a \$451 billion boost to revenues, partly offset by \$66 billion more in spending for higher interest rates. Including macroeconomic effects, TCJA would thus increase the deficit by slightly less than \$1.1 trillion over a decade. CBO's 2018 update increased that figure to about \$1.4 trillion.

#### DEBT SERVICE COSTS

To finance TCJA's tax cuts, the government will issue additional Treasury securities and pay additional debt service. Including that spending, the deficit effects of TCJA are larger. CBO's 2018 update, for example, puts the conventional deficit increase from TCJA at almost \$2.3 trillion over its first decade. The corresponding dynamic score is a \$1.9 trillion increase.

#### EXPIRING PROVISIONS

To satisfy budget process requirements, lawmakers decided to sunset some provisions of the TCJA. Most cuts to individual income taxes, for example, expire at the end of 2025. Business expensing for new investment is also temporary. As conventionally scored, the act thus increased deficits from 2018 through 2026 and decreased them thereafter. If lawmakers decide to extend all the expiring provisions, however, that would add about \$480 billion to deficits through 2027 and a growing amount thereafter.

#### LATER DECADES

The TCJA was enacted under a process known as reconciliation. Among other things, reconciliation requires that a bill not increase the deficit beyond the 10-year budget window. At the time, JCT and CBO concluded that the act satisfied that requirement on a conventional scoring basis. Indeed, they found that the law reduced deficits starting in 2027. If TCJA's expiring provisions are eventually made permanent, however, deficits will be persistently higher.

#### HISTORICAL CONTEXT

Any way you slice it, the TCJA was a major tax reduction. Tax revenues will average just 16.7 percent of GDP from 2018 to 2022, according to CBO's latest projections. That's well below the 17.4 percent of GDP average from 1962 to 2016.

Revenues would rise to 18.5 percent of GDP by 2028 if all TCJA's temporary provisions expire as scheduled. Revenues would be 17.5 percent of GDP if those provisions are extended.

Those revenues are far below expected spending, which CBO sees rising from 20.6 percent of GDP in 2018 to 23.6 percent in 2028. Absent dramatic spending cuts, the public debt will continue to grow faster than the economy.

## Background

How did the TCJA affect the federal budget outlook?

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## Background

How do taxes affect the economy in the short run?

TAXES AND THE ECONOMY

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### Q. How do taxes affect the economy in the short run?

**A. Primarily through their impact on demand. Tax cuts boost demand by increasing disposable income and by encouraging businesses to hire and invest more. Tax increases do the reverse. These demand effects can be substantial when the economy is weak but smaller when it is operating near capacity.**

#### TAXES AND SHORT-RUN DEMAND

Economic activity reflects a balance between what people, businesses, and governments want to buy and what they want to sell. In the short run—focusing on the next one or two years—economic policy has greater impact on the demand side. When the economy is weak, for example, the Federal Reserve tries to boost consumer and business demand by cutting interest rates or purchasing financial securities. Congress, for its part, can boost demand by increasing spending and cutting taxes.

Tax cuts increase household demand by increasing workers' take-home pay. Tax cuts can boost business demand by increasing firms' after-tax cash flow, which can be used to pay dividends and expand activity, and by making hiring and investing more attractive.

#### MULTIPLIERS

How much tax cuts boost demand (or tax hikes restrain it) depends on the sensitivity of household and business behavior—for example, how households divide increased after-tax income between consumption and saving, and whether businesses choose to hire and invest more. Economists summarize these effects in a simple measure, the output multiplier, expressing how many dollars of increased economic activity result from a dollar reduction in taxes or a dollar increase in government spending. The Congressional Budget Office (CBO) has estimated such multipliers for a mix of tax and spending policies (table 1).

As these estimates suggest, the stimulus from tax cuts or spending increases depends on the strength of the economy. If it is operating close to potential and the Federal Reserve is not constrained by the zero lower bound on interest rates, fiscal policies will have a small short-run economic effect, largely because the Fed will offset fiscal stimulus with interest rate hikes. However, if the economy is far from potential and short-term interest rates are close to zero, fiscal stimulus can have significantly more impact because the Fed will not offset it. CBO estimates that fiscal multipliers are about three times larger when the economy is very weak than when it is strong.

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How do taxes affect the economy in the short run?

**TABLE 1**

Output Multipliers for Federal Fiscal Policies



	Economy Well Below Potential		Economy Close to Potential	
	Low	High	Low	High
<b>Tax cuts</b>				
Lower- and middle-income people, two years	0.3	1.5	0.1	0.5
Higher-income people, one year	0.1	0.6	0.0	0.2
First-time homebuyer credit, extension	0.2	0.8	0.1	0.3
Corporate tax provisions primarily affecting cash flow	0.0	0.4	0.0	0.1
<b>Transfer payments</b>				
Individuals	0.4	2.1	0.1	0.7
Retirees	0.2	1.0	0.1	0.3
<b>Transfers to state and local governments</b>				
Infrastructure	0.4	2.2	0.1	0.7
Other purposes	0.4	1.8	0.1	0.6
<b>Purchases of goods and services</b>				
	0.5	2.5	0.2	0.8

**Source:** Whalen and Reichling (2015).

**Notes:** If the economy is well below potential, output gains are spread over one (Low) to four (High) quarters. If the economy is operating close to potential, output gains are spread over one (Low) to three (High) quarters and are partly offset by output losses through the eighth quarter.

CBO's numbers illustrate substantial uncertainty in our understanding of how fiscal policies affect the economy. For a two-year tax cut aimed at lower- and middle-income households, for example, CBO's low estimate of the multiplier (0.3) is just one-fifth the size of its high estimate (1.5).

But some things are clear. CBO's estimates suggest that, dollar for dollar, tax cuts are often a less effective means of stimulus than are spending increases. If the federal government purchases goods and services itself (or helps state and local governments do so), most or all of the spending will boost demand. If the government cuts personal taxes, however, a substantial amount of the added spending power leaks into saving. That dampening effect can be moderated by targeting tax cuts to lower- and middle-income households, which are less likely to save.

### OTHER SHORT-RUN EFFECTS

Tax policies can also affect the supply of labor in the short run. A cut in payroll taxes could bring some workers into the labor market or encourage those already working to put in more hours. Such supply changes have little effect on output if the economy is operating well below potential. Under those conditions, people have difficulty finding more work even if they want it. If the economy is operating near potential, however, increased labor supply can translate to increased output.

## Background

### How do taxes affect the economy in the short run?

#### THE TAX POLICY CENTER'S MODEL

The Tax Policy Center (TPC) model of short-run economic effects differs slightly in approach compared to CBO's but is designed to produce similar estimates. The CBO model estimates direct effects on demand based on generic policy types, as in table 1. The TPC model instead derives effects on after-tax incomes from TPC's distributional tables. TPC used this model to estimate the short-run economic and revenue effects of the Tax Cuts and Jobs Act.

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## Background

How do taxes affect the economy in the long run?

TAXES AND THE ECONOMY

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### Q. How do taxes affect the economy in the long run?

**A. Primarily through the supply side. High marginal tax rates can discourage work, saving, investment, and innovation, while specific tax preferences can affect the allocation of economic resources. But tax cuts can also slow long-run economic growth by increasing deficits. The long-run effects of tax policies thus depend not only on their incentive effects but also their deficit effects.**

Economic activity reflects a balance between what people, businesses, and governments want to buy and what they want to sell. In the short run, demand factors loom large. In the long run, though, supply plays the primary role in determining economic potential. Our productive capacity depends on the size and skills of the workforce; the amount and quality of machines, buildings, vehicles, computers, and other physical capital that workers use; and the stock of knowledge and ideas.

#### TAX INCENTIVES

By influencing incentives, taxes can affect both supply and demand factors. Reducing marginal tax rates on wages and salaries, for example, can induce people to work more. Expanding the earned income tax credit can bring more low-skilled workers into the labor force. Lower marginal tax rates on the returns to assets (such as interest, dividends, and capital gains) can encourage saving. Reducing marginal tax rates on business income can cause some companies to invest domestically rather than abroad. Tax breaks for research can encourage the creation of new ideas that spill over to help the broader economy. And so on.

Note, however, that tax reductions can also have negative supply effects. If a cut increases workers' after-tax income, some may choose to work less and take more leisure. This "income effect" pushes against the "substitution effect," in which lower tax rates at the margin increase the financial reward of working.

Tax provisions can also distort how investment capital is deployed. Our current tax system, for example, favors housing over other types of investment. That differential likely induces overinvestment in housing and reduces economic output and social welfare.

#### BUDGET EFFECTS

Tax cuts can also slow long-run economic growth by increasing budget deficits. When the economy is operating near potential, government borrowing is financed by diverting some capital that would have gone into private investment or by borrowing from foreign investors. Government borrowing thus either crowds out private investment, reducing future productive capacity relative to what it could have been, or reduces how much of the future income from that investment goes to US residents. Either way, deficits can reduce

## Background

### How do taxes affect the economy in the long run?

future well-being.

The long-run effects of tax policies thus depend not only on their incentive effects but also on their budgetary effects. If Congress reduces marginal tax rates on individual incomes, for example, the long-run effects could be either positive or negative depending on whether the resulting impacts on saving and investment outweigh the potential drag from increased deficits.

### **PUTTING IT TOGETHER**

That leaves open questions on how large incentive and deficit effects are, and how to model them for policy analysis. The Congressional Budget Office and the Joint Committee on Taxation each use multiple models that differ in assumptions about how forward-looking people are, how the United States connects to the global economy, how government borrowing affects private investment, and how businesses and individuals respond to tax changes. Models used in other government agencies, in think tanks, and in academia vary even more. The one area of consensus is that the most pro-growth policies are those that improve incentives to work, save, invest, and innovate without driving up long-run deficits.

The Urban-Brookings Tax Policy Center (TPC) has developed its own economic model to analyze the long-run economic effects of tax proposals. In TPC's model, simple reduced-form equations based on empirical analysis determine the impact of tax policy on labor supply, saving, and investment. TPC used this model to estimate the long-run economic and revenue effects of the Tax Cuts and Jobs Act.

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## Background

What are dynamic scoring and dynamic analysis?

TAXES AND THE ECONOMY

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### Q. What are dynamic scoring and dynamic analysis?

**A. Tax, spending, and regulatory policies can affect incomes, employment, and other broad measures of economic activity. Dynamic analysis accounts for those macroeconomic impacts, while dynamic scoring uses dynamic analysis in estimating the budgetary impact of proposed policy changes.**

#### BUDGET SCORING

The Congressional Budget Office (CBO) and the Joint Committee on Taxation (JCT) estimate the budgetary effects of tax, spending, and regulatory legislation. The resulting “scores” play a major role in policy deliberations because of congressional budget rules and public concern about the budget.

CBO and JCT recognize that households’ and businesses’ economic activity can be sensitive to changes in policy. An increase in the cigarette tax, for example, will reduce smoking, while new subsidies for health insurance will increase coverage. The agencies account for those behavioral responses in their estimates.

For many years, however, CBO and JCT budget scores did not account for the secondary impact on employment, gross domestic product, and other macroeconomic measures. The agencies often analyzed those macroeconomic impacts separately in what is called dynamic analysis, but did not include their feedback effects in official scores. An exception is immigration reform scoring: the effects on population and labor force are so direct that CBO and JCT did account for them.

In 2015, Congress adopted new budget rules that required dynamic scoring in certain cases. CBO and JCT now include macroeconomic feedback in official scores if proposed legislation has a sufficiently large budget impact (more than 0.25 percent of gross domestic product in any year in the budget window, equivalent to about \$50 billion in 2018) or if a budget committee chair requests it. These rules cover major tax and mandatory spending proposals; an unresolved question is how these rules might also apply to investments, like infrastructure and education, funded through discretionary spending.

For dynamic scoring, CBO and JCT prepare conventional, nondynamic scores of proposed legislation and then use economic models to identify any short- or long-run effects on the overall economy. The agencies then estimate the budget effects of those macroeconomic feedbacks. The agencies have long done dynamic analyses of major legislation, using multiple models and parameter estimates. A major difference with dynamic scoring is that it distills multiple estimates down to the single set of estimates the budget process requires.

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### What are dynamic scoring and dynamic analysis?

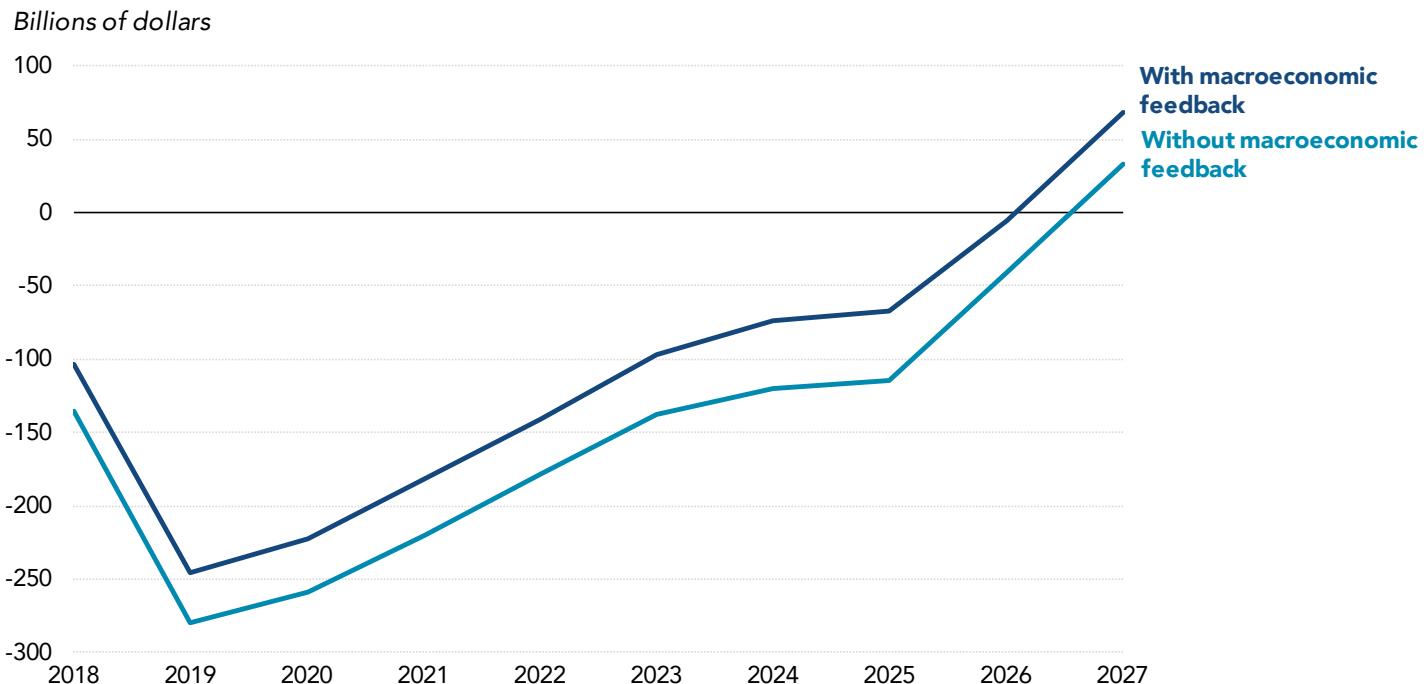
#### CASE STUDY: THE TAX CUTS AND JOBS ACT

As mandated by the new budgetary rules, JCT analyzed the potential budget effects of the Tax Cuts and Jobs Act (TCJA). Including macroeconomic feedback, they estimated that the legislation would increase cumulative deficits by \$1.1 trillion over the next decade. With conventional scoring, the estimated deficit increase would have been larger, \$1.5 trillion (figure 1).

That difference arises because the agency's best estimates—subject, they emphasize, to significant uncertainty—suggest that the TCJA will expand economic activity. In the short run the law gives people more after-tax income, which increases demand for goods and services, boosting the economy. In the longer run, lower marginal tax rates on returns to saving and investment incentives will push up saving, investment, and the capital stock. Until many provisions expire after 2025, TCJA also lowers marginal tax rates on labor income, encouraging people to work more. JCT estimated that TCJA would boost the level of output by 0.7 percent, on average, over 2018–27. The larger output means more taxable income, generating additional revenue over the period—an effect slightly offset by higher interest rates, which raise projected interest payments on the national debt.

**FIGURE 1**

#### Estimated Budgetary Effects of the Tax Cuts and Jobs Act By fiscal year



**Source:** Joint Committee on Taxation (2017).

**Notes:** Negative numbers correspond to an increase in the deficit.

The term "macroeconomic feedback" refers to the estimated effects on the federal budget that would arise from changes in economic output or other macroeconomic variables—such as changes in the number of hours that people work and in their aggregate compensation, which would change revenues, or changes in interest rates, which would change interest payments.

## Background

### What are dynamic scoring and dynamic analysis?

#### DYNAMIC ANALYSIS BY THE TAX POLICY CENTER

Beginning in 2016, the Urban-Brookings Tax Policy Center has been publishing dynamic analyses of the tax plans of both presidential candidates and Congress. Those analyses generally found only modest dynamic effects on estimated revenue, largely because any incentive effects of lower tax rates were offset by increases in budget deficits. Most recently, the Tax Policy Center analyzed the dynamic effects of the TCJA, finding an initial boost to the economy that dwindled over time due to expiring provisions and rising debt.

#### CONTROVERSY OVER DYNAMIC SCORING

In principle, dynamic scoring should not be controversial. Policymakers and the public want to know how policy changes may affect the budget, whether through direct behavioral responses or macroeconomic feedback. In practice, however, dynamic scoring has been controversial: Advocates for a policy often hope that dynamic scoring will make enacting it easier. Opponents, however, fear the advocates will be right.

In reality, the effect will be more muted. Dynamic scores for tax cuts will include the pro-growth incentive effects that advocates emphasize. But dynamic scores will also account for offsetting effects, such as higher deficits crowding out investment or people working less because their incomes rise. The net of incentive and offsetting effects often yields smaller growth projections than advocates hope. Indeed, dynamic scoring sometimes shows that tax cuts are more expensive than conventionally estimated, usually when pro-growth incentives are not big enough to offset anti-growth effects.

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## Background

Do tax cuts pay for themselves?

TAXES AND THE ECONOMY

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### Q. Do tax cuts pay for themselves?

**A. At current tax rates, the direct revenue loss from cutting tax rates almost always exceeds the indirect gain from increased activity or reduced tax avoidance. Cutting tax rates can, however, partly pay for itself. How much depends on how people respond to tax changes.**

#### TAX RATES AND REVENUES

Economic activity generally responds to tax changes. If you increase the tax on cigarettes, people will smoke less and some will shift to illegal, untaxed cigarettes. Income taxes also trigger a response. If you increase the tax rate on wages and salaries, some people will work less. (Some will also work more to recoup lost after-tax income, but evidence suggests that the disincentive effect dominates.) Similarly, if you increase tax rates on returns to saving and investing, such as interest, dividends, and capital gains, some people will save and invest less. (Here too some people may save more to maintain the same after-tax savings, but evidence suggests that the disincentive effect, though small, still dominates.)

Meanwhile, people will also respond by trying to avoid the tax increase without changing their underlying work or saving behavior. For example, some may work off the books or reclassify earnings to lower-tax forms of income. And some will devote more effort to using tax-advantaged retirement savings, charitable deductions, and other tax breaks to cut their taxable incomes. All these responses reduce the potential revenue gain from increasing tax rates.

The same is true in reverse. If the government reduces tax rates on an activity, people will do more of it and will devote less effort to legal avoidance and illegal evasion. In principle, those responses could be so large that a tax increase would reduce revenue or a tax cut would increase revenue. In practice, however, these paradoxical effects are extremely rare. Cutting tax rates thus almost never pays for itself in full.

But cuts can and do pay for themselves in part. If a 10 percent reduction in a tax rate yields a 3 percent increase in taxable income, for example, revenues fall by only 7 percent. Taxpayer responses would thus pay for 30 percent of the tax cut. Real-world examples can be more complex; a change in income tax rates, for example, could affect both payroll and income tax receipts.

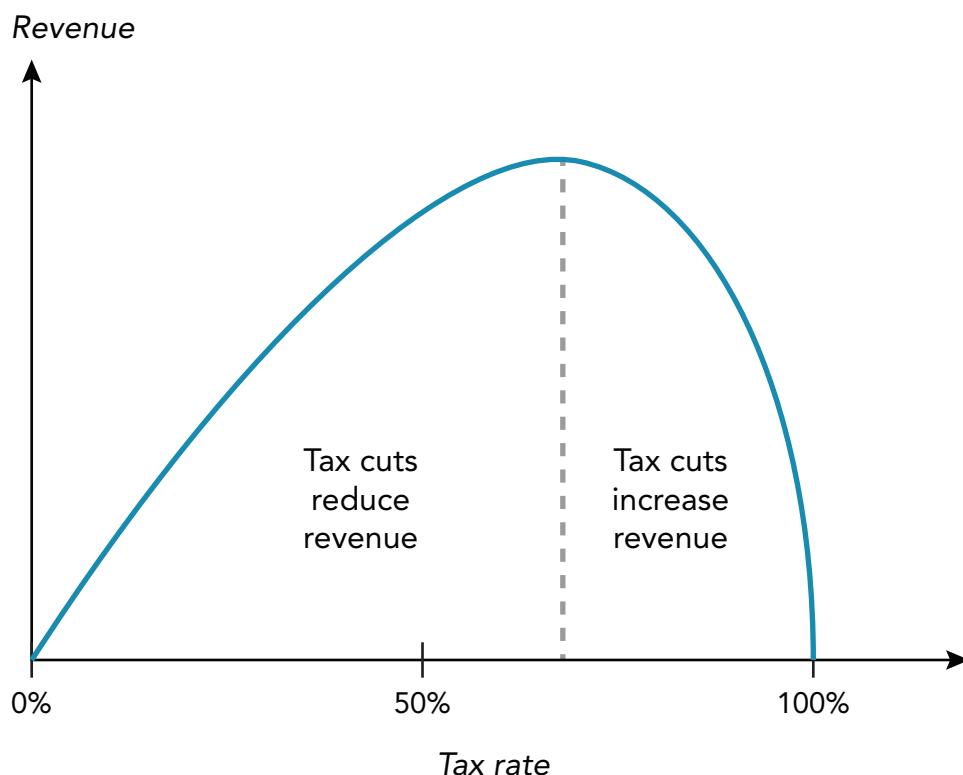
#### THE LAFFER CURVE

Economist Arthur Laffer helped popularize the idea that the revenue effects of tax changes depend on taxpayers' response. Figure 1 shows a hypothetical Laffer curve that tracks how revenues depend on the tax rate.

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Do tax cuts pay for themselves?

**FIGURE 1**  
A Hypothetical Laffer Curve



We should expect that revenues would be very low when tax rates are close to either zero (when no revenue is raised regardless of the size of the tax base) or 100 percent (when there is an extreme disincentive to earn or report taxable income). At some point in between—65 percent in this hypothetical—revenues peak.

That much is uncontroversial. Debates often arise, however, about the shape of the Laffer curve and where on the curve current tax rates fall.

### RESPONSIVENESS

A government's ability to raise revenues by raising tax rates is limited by how people respond. For example, a local government's ability to raise revenues by taxing hotel stays is limited by how easily potential hotel patrons can find accommodation in lower-tax communities. A state's ability to tax personal incomes, by the same token, is limited by taxpayers' willingness to move to lower-tax states to avoid the added levy. Likewise, the federal government's ability to tax corporations is limited by corporations' ability to move economic activity—in substance or merely in form—to lower-tax nations. And so on.

Responses depend on economic and policy conditions. A tax cut is a bigger deal, for example, when marginal tax rates are 70 percent than when they are 40 percent. Responsiveness also varies with the difficulty of changing behavior. Taxpayers can avoid capital gains taxes, for example, by holding appreciated stock and other assets until death or by donating them to charity. As a result, some analysts estimate that

## Background

### Do tax cuts pay for themselves?

the Laffer curve for capital gains taxes peaks around a 30 percent federal rate. If the government scaled back those tax-reduction opportunities, however, taxpayers would have less ability to defer or avoid capital gains taxes and the peak rate would be higher.

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## Background

On what do economists agree and disagree about the effects of taxes on economic growth?

TAXES AND THE ECONOMY

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### **Q. On what do economists agree and disagree about the effects of taxes on economic growth?**

**A. Economists generally agree that people and businesses respond to taxes and that large tax changes can move the economy. But economists have not (and probably cannot) pin down exactly how the economy works and how responsive people and businesses are to policy changes. As a result, economists often disagree about what models and parameters to use to analyze tax policies. Those scientific disagreements are sometimes amplified by value judgments about appropriate policy.**

#### **AREAS OF AGREEMENT**

Economists often agree about the general effects of tax policy. For example, they agree that people respond to incentives, taxes can change incentives, and therefore taxes can change behavior. A tax on cigarettes reduces smoking and shifts some purchases to untaxed markets. The Earned Income Tax Credit brings more low-wage single parents into the workforce. Investors are less likely to realize capital gains when tax rates are high. Businesses shift their legal structures, and sometimes the location of their activities, to lower tax burdens. When faced with a scheduled tax increase or decrease, people and businesses move income into the lower-taxed periods. And so on.

Economists also generally agree that large tax changes can move the economy. For example, tax cuts can temporarily stimulate economic activity by boosting demand. In the longer run, a tax system with low rates and a broad base is more likely to promote prosperity than one with high rates and a narrow base.

Within those broad areas of agreement, economists often disagree about the size and importance of potential effects.

#### **THE LIMITS OF ECONOMIC SCIENCE**

In practice, economics blends scientific rigor with value judgments. The science helps us understand how the economy works. The philosophy influences how we draw inferences about what better and worse policies may be.

The science part is incomplete. There is no consensus, for example, on what assumptions to use to analyze the macroeconomic effects of tax policy. The Congressional Budget Office (CBO) and the Joint Committee on Taxation, for example, each use multiple models with different assumptions of how forward-looking

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### On what do economists agree and disagree about the effects of taxes on economic growth?

people are (ranging from complete myopia to perfect foresight), how the United States connects to the global economy, and other dimensions.

Even within a single modeling framework, moreover, there is significant uncertainty about the size of potential effects. In modeling the short-run consequences of fiscal policy, for example, CBO estimates that the fiscal “multiplier” for a two-year tax cut to lower- and middle-income households is 0.3 to 1.5—a fivefold difference. Such wide ranges exist because the evidence is inadequate to pin down key parameters. And the resulting uncertainty is amplified because there are good reasons to believe that the economy has changed sufficiently to make the past an imperfect predictor of the future.

#### VALUE JUDGMENTS

For those reasons, there is substantial scope for scientific disagreement about the economic effects of tax policy. But that is not the only reason economists disagree. Value judgments can also color views about tax policy.

In an IGM Forum survey of leading economists, 90 percent either agreed or strongly agreed that one “reason why economists often give disparate advice on tax policy is because they hold differing views about choices between raising average prosperity and redistributing income.”

In principle, economists should be able to distinguish such value differences from objective analysis. In practice, however, the two blur. Opponents of redistributional policies often argue, for example, that the policies will have large negative side effects, while advocates often argue that those effects are small. Some of that difference is sincere. If you believe the negative side effects of a policy are large, it makes more sense to oppose it, and vice versa. However, the causality can also run the other way, with analysts emphasizing the estimates most consistent with their values.

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## Background

How might the TCJA affect economic growth?

TAXES AND THE ECONOMY

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### Q. How might the TCJA affect economic growth?

#### A. The Tax Cuts and Jobs Act will likely boost economic output modestly in both the short and the longer run, but not all those gains will flow to the incomes of Americans.

The Tax Cuts and Jobs Act (TCJA) reduced tax rates on both business and individual income, and enhanced incentives for investment by firms. Those features most likely will raise output in both the short run and the long run, but most analysts estimate the effects will be modest and will offset only a portion of revenue loss from the bill (table 1).

**TABLE 1**  
TCJA Growth Effects



	Effect on Size of GDP (%) <sup>a</sup>			Ten-year Dynamic Revenue Feedback (%)
	2018–20	2018–27	2027	
<b>TCJA as written</b>				
Barro and Furman (with crowd out)	-	-	0.2	16.7 <sup>b</sup>
Congressional Budget Office	0.6	0.7	0.6	31.0 <sup>c</sup>
International Monetary Fund	0.8	0.6	-0.1	-
Mertens	0.3–2.4	-	-	-
Moody's	0.4	0.3	0.4	-
Penn-Wharton Budget Model (low return)	-	-	0.6	7.7
Penn-Wharton Budget Model (high return)	-	-	1.1	19.1
Tax Foundation	0.9	2.1	2.9	69.5
Tax Policy Center	0.7	0.5	0	12.8
<b>TCJA extended</b>				
Barro and Furman (with crowd out)	-	-	1	20.5 <sup>b</sup>

**Sources:** Barro and Furman (2018); Congressional Budget Office (2018b); International Monetary Fund (2018); Mertens (2018); Zandi (2017); University of Pennsylvania (2017); Tax Foundation Staff (2017); Page et al. (2017).

(a) All figures are approximations

(b) Dynamic revenue effects do not incorporate crowd-out.

(c) Primary deficit effect.

## Background

### How might the TCJA affect economic growth?

Over the first year or two after enactment, the TCJA is likely to influence the economy primarily by raising demand for goods and services. Cuts to individual income taxes mean that most households will have more after-tax income, which they are likely to spend. In addition, provisions such as allowing the expensing of some capital investment are likely to increase investment spending by firms. As businesses see more of their goods being purchased, they will ramp up production, boosting economic output.

Those short-run effects are likely to be limited, however, for two main reasons. First, much of the tax cuts flow to higher-income households or to corporations, whose stock tends to be held by the wealthy. Higher-income households tend to spend less of their increases in after-tax income than lower-income households. Second, as of Fall 2018, unemployment is low and output is near its potential level. Therefore, any increase in demand will be offset by a tightening of monetary policy, as the Federal Reserve increases interest rates to avoid rising inflation.

In the longer run, the TCJA is likely to affect the economy primarily through increased incentives to work, save, and invest. Reductions in individual income tax rates mean that workers can keep more out of each additional dollar of wages and salary. That will encourage people to work more hours and draw some new entrants into the labor force. However, those reduced rates are scheduled to expire at the end of 2025; after that, there is little or no tax incentive to increase work.

Lower individual tax rates, a lower corporate tax rate, expensing of capital investment, and other reductions in business tax rates will increase the after-tax return to saving, encouraging households to save and reducing the cost of investment for firms. Those changes will lead to more investment, a larger capital stock, and higher output, by most estimates.

The increased investment must be financed by a combination of private saving, public saving (or government budget surpluses), and net lending from abroad (which could take the form of bond purchases, portfolio investment, or direct investment of physical capital). Most analysts, consistent with empirical research, estimate that private saving will rise only modestly in response to an increase in the after-tax rate of return. And the bill reduces public saving, by increasing the deficit. Therefore, much of any increase in investment from TCJA is likely to be financed by net foreign lending. That will increase the future interest and profit payments that flow to foreigners, reducing the resources available to Americans. For that reason, in examining the effects of TCJA it may be more illuminating to look at changes in gross national product (which subtracts that type of payment) rather than gross domestic product (which does not). For example, the Congressional Budget Office estimates that TCJA will boost GDP by 0.6 percent in 2027, but—taking account of increased payments to foreigners—GNP will be up by only 0.2 percent.

## Background

### How might the TCJA affect economic growth?

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## Background

What is the role of monetary policy in business cycles?

ECONOMIC STIMULUS

1/3

### **Q. What is the role of monetary policy in business cycles?**

#### **A. Economists view monetary policy as the first line of defense against economic slowdowns—the Federal Reserve can act faster than the president or Congress, and it is better equipped to judge the appropriate timing and magnitude of economic stimulus.**

Monetary policy—adjustments to interest rates and the money supply—can play an important role in combatting economic slowdowns. Such adjustments can be made quickly, and monetary authorities devote considerable resources to monitoring and analyzing the economy. Monetary policy can offset a downturn because lower interest rates reduce consumers' cost of borrowing to buy big-ticket items such as cars or houses. For firms, monetary policy can also reduce the cost of investment. For that reason, lower interest rates can increase spending by both households and firms, boosting the economy.

The Federal Reserve can adjust monetary policy more quickly than the president and Congress can adjust fiscal policy. Because most contractions in economic activity last for only a few quarters, a prompt policy response is crucial. Yet fiscal policy in practice responds slowly to changes in economic conditions: it takes time first to enact a stimulus bill and then to implement it, and time for the spending increases or tax reductions to reach consumers' pockets. As a result, the effect of fiscal stimulus on household and business spending may come too late.

Whether and how much stimulus is needed depends on present economic conditions, on projections of future conditions, and on possible risks to both economic activity and inflation. Forecasting economic conditions—or even determining the current state of the economy—is inherently difficult, given limitations in the data available and in economists' understanding of the world. But the Federal Reserve's large and sophisticated team of analysts is better positioned to accomplish this task than any other agency of the federal government. In addition, the Federal Reserve staff carries out this work independent of political considerations.

The potential of monetary policy to combat extreme events is limited, however, because its primary tool is the short-run interest rate, and that rate can't fall below zero. That means that in a particularly severe downturn such as the recent Great Recession, the Federal Reserve will reduce the short-run interest rate to zero, after which the Fed can employ only less effective and well-understood policies such as asset purchases. Under those conditions, fiscal policy may complement monetary policy in boosting the economy.

## Background

What is the role of monetary policy in business cycles?

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## Background

What are automatic stabilizers and how do they work?

ECONOMIC STIMULUS

2/3

### **Q. What are automatic stabilizers and how do they work?**

#### **A. Automatic stabilizers are features of the tax and transfer systems that temper the economy when it overheats and stimulate the economy when it slumps, without direct intervention by policymakers.**

Automatic stabilizers offset fluctuations in economic activity without direct intervention by policymakers. When incomes are high, tax liabilities rise and eligibility for government benefits falls, without any change in the tax code or other legislation. Conversely, when incomes slip, tax liabilities drop and more families become eligible for government transfer programs, such as food stamps and unemployment insurance, that help buttress their income.

Automatic stabilizers are quantitatively important at the federal level. A 2000 study estimated that reduced income and payroll tax collection offset about 8 percent of any decline in gross domestic product (GDP). Additional stabilization from unemployment insurance, although smaller than that from the tax system, is estimated to be eight times as effective per dollar of lost revenue because more of the money is spent rather than saved. Altogether, a 2016 study estimated that if transfer payments were reduced in size by 0.6 percent of GDP, US output and hours worked would be about 6 and 9 percent more volatile, respectively.

The Congressional Budget Office estimates that through increased transfer payments and reduced taxes, automatic stabilizers provided significant economic stimulus during and in the aftermath of the Great Recession of 2007–09, and thereby helped strengthen economic activity. That stimulus amounted to more than \$300 billion annually in 2009 through 2012, an amount equal to or exceeding 2.0 percent of potential GDP in each year. (Potential GDP measures the maximum sustainable output of the economy.)

Automatic stabilizers also arise in the tax and transfer systems of state and local governments. However, state constitutions generally require balanced budgets, which can force countervailing changes in outlays and tax rules. These requirements do not force complete balance annually: they generally focus on budget projections rather than realizations, so deficits can still occur when economic conditions are unexpectedly weak. In addition, many governments have “rainy day” funds they can draw down during periods of budget stringency. Even so, most state and local governments respond to an economic slowdown by legislating lower spending or higher taxes. These actions are contractionary, working at cross-purposes with automatic stabilizers.

## Background

What are automatic stabilizers and how do they work?

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## Background

What characteristics make fiscal stimulus most effective?

ECONOMIC STIMULUS

3/3

### Q. What characteristics make fiscal stimulus most effective?

#### A. Fiscal stimulus can raise output and incomes in the short run. To have the greatest impact with the least long-run cost, the stimulus should be timely, temporary, and targeted.

Fiscal stimulus, such as tax cuts or spending increases, can raise output and incomes in the short run by increasing overall demand. To have the greatest impact with the least long-run cost, the stimulus should be timely, temporary, and targeted. *Timely*, so that its effects are felt while economic activity is still below potential; when the economy has recovered, stimulus becomes counterproductive. *Temporary*, to avoid raising inflation and to minimize the adverse long-term effects of a larger budget deficit. And well *targeted*, to provide resources to the people who most need them and will spend them: for fiscal stimulus to work, it is essential that the funds be spent, not saved.

##### **TIMELY**

Making fiscal stimulus timely is especially challenging because it involves not just enacting tax cuts or spending but also implementing them. For example, even once enacted, increased government appropriations may not translate into actual spending for quite some time. Poorly timed fiscal policy can destabilize the economy, intensifying rather than damping the business cycle: If fiscal stimulus is enacted too slowly, it might fail to prevent a drop in output and incomes or arrive after recovery has begun, leading to overexpansion and higher inflation.

##### **TEMPORARY**

Fiscal stimulus should be temporary because, in the long run, the Federal Reserve generally keeps the economy operating close to full employment and full capacity through monetary policy. This means that, in the long run, fiscal stimulus would not increase output, but instead simply crowd out other economic activity or induce the Federal Reserve to tighten monetary policy to keep inflation down.

Over the long run, permanent tax cuts or increases in government spending that are not matched by changes on the other side of the ledger reduce national saving. The result is less investment or more foreign borrowing. This, in turn, diminishes economic growth and future national income. Also, larger expected budget deficits tend to push up long-run interest rates, which restrain investment and weaken net exports by pushing up the value of the dollar—effects that will undo part or all of the direct stimulative effects of lower taxes or higher government spending. Therefore, a temporary stimulus is likely to be more effective than a permanent policy change, and at a much lower long-run cost.

## Background

### What characteristics make fiscal stimulus most effective?

#### TARGETED

Fiscal stimulus should be well targeted in two ways. First, it should go to households or businesses most likely to raise spending in response to the stimulus and thus increase gross domestic product in the short run. Second, it should provide the greatest benefit to the people most adversely affected by the slowdown. These two aspects of targeting are complementary. Higher-income households can generally smooth their consumption over the business cycle by drawing down their savings or borrowing. Therefore directing resources to them will likely have little effect on consumer spending. In contrast, lower-income families are more likely to cut back their consumption in hard times. These families are likely to spend any additional money they receive from tax cuts or transfer payments, which helps protect them from the downturn while also boosting the economy.

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## Background

How are federal taxes distributed?

DISTRIBUTION OF TAX BURDENS

1/10

### Q. How are federal taxes distributed?

**A. Although enterprises (e.g., retailers, employers) are legally obligated to pay certain taxes, the burden of all taxes ultimately falls on households.**

Individuals, businesses, and other entities may have the legal obligation to pay certain taxes, but the economic burden (or incidence) of all taxes ultimately falls on households. Households may feel this burden through a reduction in their income or higher prices for goods and services.

The incidence of taxes has been studied for decades, and experts now broadly agree on how the burden is distributed across households. The Urban-Brookings Tax Policy Center (TPC), in preparing standard distribution tables, assumes the following about federal taxes:

#### INDIVIDUAL INCOME TAX

Taxpayers (who either pay the tax directly or receive a refundable credit) bear the entire burden of the individual income tax.

#### PAYROLL TAXES

Employees (or self-employed people who pay both shares of the tax) bear both the employer and the employee shares of the Social Security and Medicare payroll taxes in the form of lower take-home income.

#### CORPORATE INCOME TAX

The corporate income tax reduces both wages and returns to capital. The allocation between the two is uncertain and differs in the short and long terms. TPC assumes that in the long-term, income from capital (e.g., dividends, rents, interest, and capital gains) bears four-fifths of the burden, with wages and other sources of labor income bearing the remaining fifth. TPC assumes that corporate shareholders bear the entire burden of a short-term corporate income tax change before investors have a chance to react.

#### ESTATE TAX

Estate tax costs are borne entirely by decedents.

#### EXCISE TAXES

Excise taxes also are assumed to reduce wages and returns to capital. They also increase the relative price of taxed goods and services, so households that consume more of the taxed items bear a higher burden.

## Background

### How are federal taxes distributed?

The Joint Committee on Taxation (JCT), the US Department of Treasury's Office of Tax Analysis, and the Congressional Budget Office make similar incidence assumptions in their analyses, but with a few differences. For instance, JCT assumes that the tax on individual income that represents a return to capital from noncorporate businesses, like partnerships, is borne in the same manner as the corporate income tax. Moreover, each group follows slightly different incidence assumptions for the corporate income tax, reflecting the uncertainty over its incidence.

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## Background

Are federal taxes progressive?

DISTRIBUTION OF TAX BURDENS

2/10

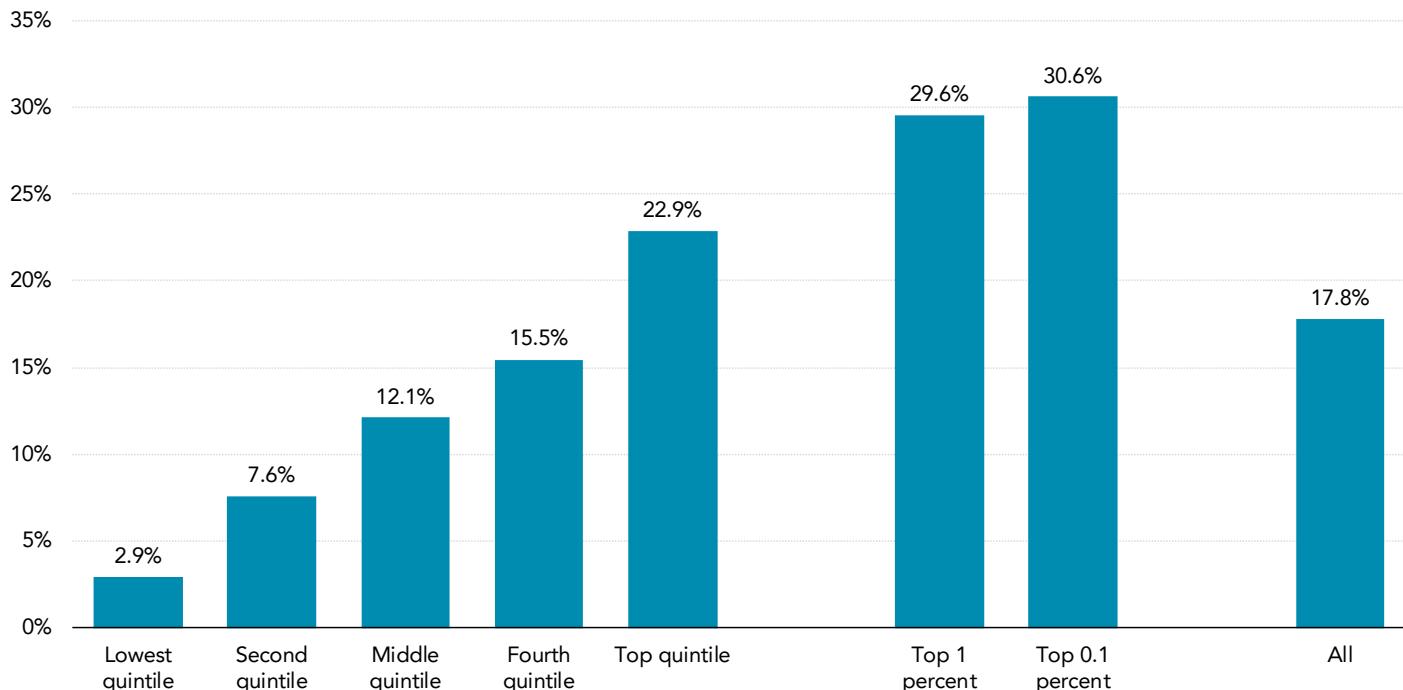
### Q. Are federal taxes progressive?

#### A. Overall, yes. But that's not the case for each tax.

The overall federal tax system is progressive, with total federal tax burdens a larger percentage of income for higher-income households than for lower-income households.

**FIGURE 1**

Average Effective Federal Tax Rates by Income Percentile  
All federal taxes, 2018



**Source:** Urban-Brookings Tax Policy Center. T18-0083. "Effective Federal Tax Rates—All Tax Units, by Expanded Cash Income Percentile, 2018."

**Notes:** Individual income, payroll, corporate income, estate, and excises taxes are included. The average effective federal tax rate is the sum of individual and corporate income tax, payroll taxes for Social Security and Medicare, the estate tax, and excise taxes as a percentage of expanded cash income. For a description of expanded cash income, see Urban-Brookings Tax Policy Center. "Income Measure Used in Distributional Analyses by the Tax Policy Center."

## Background

### Are federal taxes progressive?

Not all taxes within the federal system are equally progressive. Some federal taxes are actually regressive, as they make up a larger percentage of income for lower-income than for higher-income households.

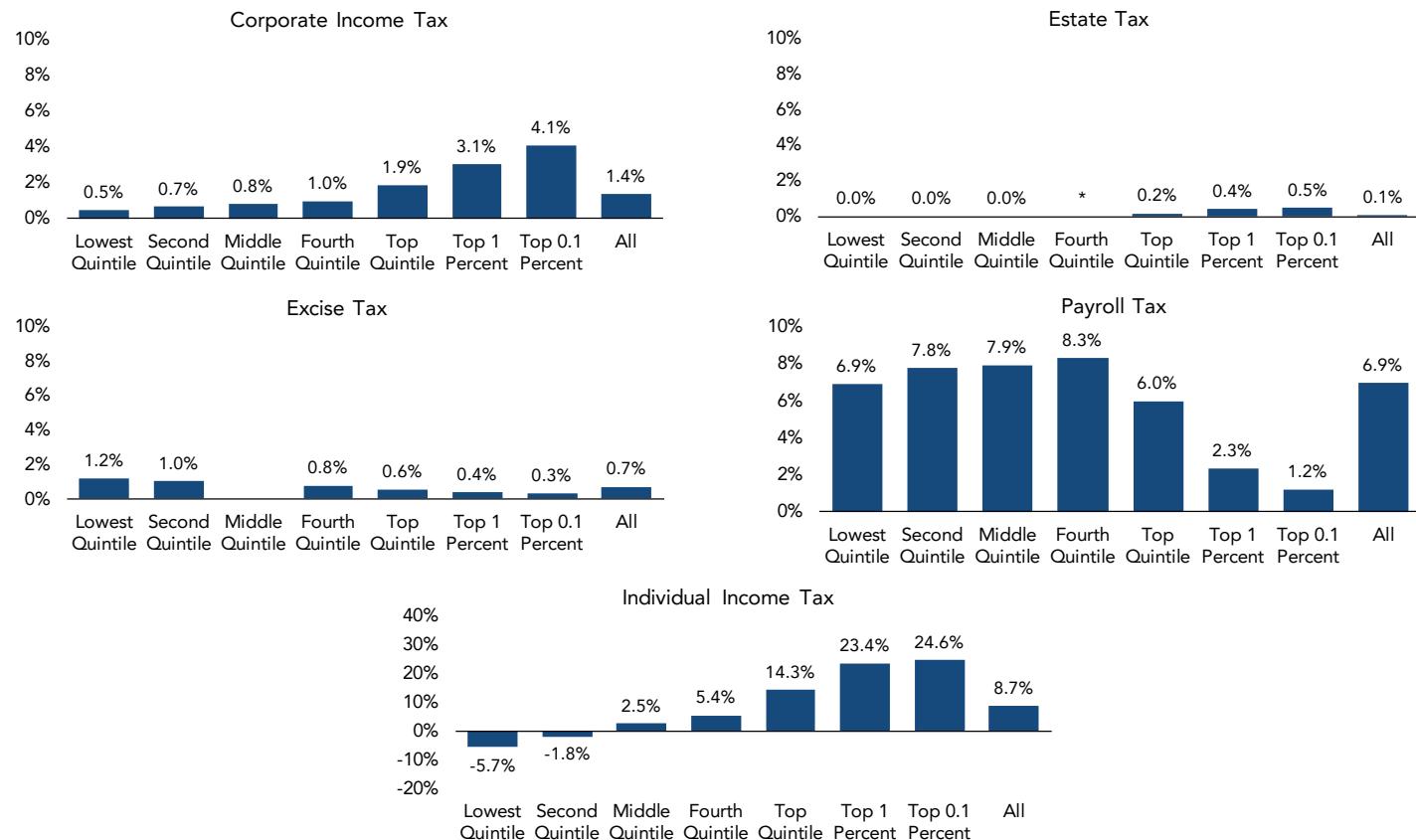
The individual and corporate income taxes and the estate tax are all progressive. By contrast, excise taxes are regressive, as are payroll taxes for Social Security and Medicare. Regressivity can be seen over some range of income (figure 2).

### INDIVIDUAL INCOME TAX

The individual income tax is progressive, thanks to the impact of refundable credits for lower-income households (average tax rates are negative for the two lowest income quintiles), the standard deduction (which exempts a minimum level of income from the tax), and a graduated rate structure (rates on ordinary income rise from 10 to 37 percent, with an additional 3.8 percent marginal tax on certain investment income of high-income households).

**FIGURE 2**

Average Effective Tax Rates by Type of Federal Tax  
By income percentile, 2018



**Source:** Urban-Brookings Tax Policy Center. T18-0083. "Effective Federal Tax Rates—All Tax Units, by Expanded Cash Income Percentile, 2018."

**Note:** For a description of expanded cash income, see Urban-Brookings Tax Policy Center. "Income Measure Used in Distributional Analyses by the Tax Policy Center."

\* = nonzero value rounded to zero

## Background

### Are federal taxes progressive?

#### CORPORATE INCOME TAX

The corporate income tax is progressive because most of its burden falls on income from dividends, capital gains, and other forms of capital income disproportionately received by high-income households.

#### ESTATE TAX

The estate tax is only imposed on households with high levels of wealth. Only wealth above an exemption amount is subject to the tax—that amount for those who die in 2018 is \$11.18 million, and it is effectively double for married couples. High wealth is almost always commensurate with high income, so, when households are classified by income, virtually the entire estate tax burden falls on the very highest income households.

#### PAYROLL TAXES

The regressive nature of payroll taxes stems from two factors. First, the Social Security portion of payroll taxes is subject to a cap: in 2018, individuals will pay the tax on only their first \$128,400 in earnings. Second, compared with lower-income households, higher-income households receive more of their income from sources other than wages, such as capital gains and dividends, which are not subject to the payroll tax. However, because wages rise as a share of income over the first four quintiles of the distribution, payroll taxes are slightly progressive until high income levels are reached.

#### EXCISE TAX

An excise tax increases the price of the taxed good or service relative to the prices of other goods and services. So households that consume more of the taxed good or service as a share of their total consumption face more of the tax burden from this change in relative prices. The regressivity of excise taxes is primarily the result of this relative price effect, because, on average, alcohol and tobacco represent a declining share of consumption as household income rises.

#### Data Sources

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## Background

How should progressivity be measured?

DISTRIBUTION OF TAX BURDENS

3/10

### **Q. How should progressivity be measured?**

**A. A broad definition of progressivity, that tax burdens rise with household income, masks a host of ambiguities in measuring the effect of a tax change. The percentage change in after-tax income is the most reliable measure of the progressivity of such a change.**

A tax is progressive if, on average, household tax burdens rise with incomes. This definition is generally considered too broad because “tax burden” can be defined in various ways. Table 1 helps illustrate the problem by analyzing a hypothetical proposal to reduce all individual income tax rates by 1 percentage point.

TABLE 1

Proposal to Reduce All Federal Individual Income Tax Rates by One Percentage Point  
2018



Expanded cash income percentile	Baseline Distribution of Income and Federal Taxes				Measures of Change Due to Proposal				
	Average pretax income (dollars)	Average federal tax burden (dollars)	Share of total federal tax burden (percentage)	Average federal tax rate (percentage)	Average change in federal tax burden (dollars)	Change in federal tax burden (percentage)	Change in share of federal taxes (percentage points)	Change in average federal tax rate (percentage points)	Change in after-tax income (percentage)
Lowest quintile	\$14,703	\$440	0.7%	3.0%	-\$7	-1.5%	0.0	0.0	0.1%
Second quintile	\$37,736	\$2,876	3.5%	7.6%	-\$89	-3.1%	0.0	-0.2	0.3%
Middle quintile	\$68,140	\$8,415	9.4%	12.4%	-\$296	-3.5%	-0.1	-0.4	0.5%
Fourth quintile	\$119,310	\$18,715	17.7%	15.7%	-\$674	-3.6%	-0.1	-0.6	0.7%
Top quintile	\$370,357	\$86,643	68.5%	23.4%	-\$2,280	-2.6%	0.2	-0.6	0.8%
All	\$98,272	\$17,879	100.0%	18.2%	-\$517	-2.9%	0.0	-0.5	0.6%
<b>Addendum</b>									
80–90	\$193,663	\$36,222	14.7%	18.7%	-\$1,229	-3.4%	-0.1	-0.6	0.8%
90–95	\$276,551	\$55,749	11.0%	20.2%	-\$1,805	-3.2%	0.0	-0.7	0.8%
95–99	\$474,518	\$107,309	16.1%	22.6%	-\$3,114	-2.9%	0.0	-0.7	0.9%
Top 1 percent	\$2,405,950	\$726,654	26.7%	30.2%	-\$13,051	-1.8%	0.3	-0.5	0.8%
Top 0.1 percent	\$11,814,173	\$3,699,217	13.8%	31.3%	-\$51,852	-1.4%	0.2	-0.4	0.6%

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0718-1).

Notes: The Proposal would reduce statutory individual income tax rates from 10, 12, 22, 24, 32, 35, and 37 percent to 9, 11, 21, 23, 31, 34, and 36 percent. The preferential rates on capital gains and dividends and the rates under the Alternative Minimum Tax would not be changed.

## Background

### How should progressivity be measured?

In this example, five possible measures of change in tax burdens might be used.

- 1. The average change in tax burden (column 5, figure 1).** This is the change in the average dollar amount of the taxes borne by households in each income group. Because tax reductions increase with income, the proposal would seem to reduce progressivity. But higher-income groups have higher tax burdens before the change, which means that they are not disproportionately better off than lower-income groups, even though they receive larger tax cuts under the proposal. Therefore, the average change in tax burden is an ambiguous measure of progressivity.
- 2. The percentage change in tax burden (column 6, figure 1).** This is the percentage change in the average dollar amount of the taxes borne by households in each income group. The lowest and highest income groups have the smallest percentage reduction in average tax burdens, implying that the proposal reduces progressivity at the low-income end and increases progressivity at the high-income end. But the burden that any dollar amount of taxes imposes on a household depends on the household's income; certainly, the burden of paying \$100 of tax is much greater on a household with \$10,000 of income than it is on a household with \$1 million. Therefore, the percentage change in tax burden is an inadequate measure of progressivity.
- 3. The change in share of federal taxes (column 7, figure 1).** This is the change in the percentage distribution of tax burdens across income groups. The change is zero for the "All" income group, because the percentage distributions under baseline (current) law and under the proposal both must add to 100 percent. For the proposal, this measure shows that the share of taxes paid by the top 1 percent of households would increase, while the share would decrease or remain unchanged for all other income groups, indicating that the proposal increases progressivity. But an increase in the share of tax burdens for high-income households does not necessarily indicate that high-income households have suffered disproportionately. Therefore, the change in percent of tax burden is not an unambiguous measure of progressivity, either.
- 4. The change in average tax rate (column 8, figure 1).** Changing tax burdens as a percentage of pretax income reduces average tax rates the least for the bottom three income quintiles and even more for the top two quintiles. This suggests that the proposal somewhat reduces progressivity, at least at lower income levels. But relative changes in pretax income do not indicate how much households' relative well-being—their ability to consume currently or in the future (using savings)—is affected. Therefore, the change in average tax rate is an inadequate indicator of progressivity.
- 5. The percentage change in after-tax income (column 9, figure 1).** This measure is the change in tax burdens as a percent of after-tax income (i.e., pretax income less current tax burdens). The proposal generally increases after-tax incomes by increasing percentages as income increases up to the top 1 percent of households (with the largest percentage increase for the 95th–99th percentiles), implying that the proposal reduces progressivity except at the very top of the income distribution. Because households' current and future consumption from current income can only be made from the amount left after paying taxes, the percentage change in after-tax income provides a direct measure of the effect of a tax proposal on households' welfare. It is therefore the most useful measure of progressivity.

## Background

How should progressivity be measured?

**FIGURE 1**

Proposal to Reduce All Federal Individual Income Tax Rates by One Percentage Point



**Source:** Urban-Brookings Tax Policy Center Microsimulation Model (version 0718-1).

## Background

How should progressivity be measured?

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### Data Source

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## Background

What is the difference between marginal and average tax rates?

DISTRIBUTION OF TAX BURDENS  
4/10

### Q. What is the difference between marginal and average tax rates?

#### A. Average tax rates measure tax burden, while marginal tax rates measure the impact of taxes on incentives to earn, save, invest, or spend.

The average tax rate is the total amount of tax divided by total income. For example, if a household has a total income of \$100,000 and pays taxes of \$15,000, the household's average tax rate is 15 percent. The *marginal* tax rate is the incremental tax paid on incremental income. If a household were to earn an additional \$10,000 in wages on which they paid \$1,530 of payroll tax and \$1,500 of income tax, the household's marginal tax rate would be 30.3 percent.

Average tax rates are a measure of a household's tax burden; that is, how taxes affect the household's ability to consume today or (through saving) in the future. Marginal rates measure the degree to which taxes affect household (or business) economic incentives such as whether to work more, save more, accept more risk in investment portfolios, or change what they buy. Higher marginal rates reduce incentives to engage in a particular activity (such as work) or (in the case of sales taxes) consume a particular item.

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## Background

What criticisms are levied against standard distributional analysis?

DISTRIBUTION OF TAX BURDENS  
5/10

### Q. What criticisms are levied against standard distributional analysis?

#### A. Economists disagree on which taxes to include, how to measure tax burdens, what to assume about tax incidence, how to measure income, what period of analysis to use, and whether to include outlays in the calculations.

Distributional analyses of tax burdens across income groups play an important role in debates over the tax system and how to reform it. Differences in the conceptual framework, underlying theoretical assumptions, and empirical implementation can all significantly affect the results of these analyses.

Here are some of the criticisms that have been levied against standard distributional analyses prepared by the Urban-Brookings Tax Policy Center (TPC), the Joint Committee on Taxation (JCT), Treasury's Office of Tax Analysis (OTA) and the Congressional Budget Office (CBO).

#### TAXES INCLUDED

Analyses often omit certain taxes. For example, TPC previously omitted excise taxes, and JCT and CBO omit estate and gift taxes. Many analyses make no provision for the impact of state and local taxes.

#### HOW TAX BURDEN ARE MEASURED

Households may adjust their behavior to avoid some of the burden of tax changes. JCT uses actual tax payments, which reflects avoidance behavior. But this measure understates the true tax burden because it ignores welfare loss. Conversely, TPC and OTA use a "static" (no behavior) assumption, which overstates true burdens. All groups use projected tax receipts to measure the burden of current-law taxes, and these receipts reflect households' behavioral responses, so these burdens are understated. Further, the inclusion of payroll taxes for Social Security and Medicare has been criticized on the grounds that the distributional impact of the associated benefits is omitted.

#### INCIDENCE ASSUMPTIONS

Uncertainty over the economic incidence of some taxes, especially the corporate income tax, leads some economists to criticize the specific assumptions made in distributional analyses.

#### INCOME MEASURE

Income is used in distributional analyses to rank households by their "ability to pay"; it is also used to provide measures of tax burdens such as taxes as a percent of income by income group. These methods are often criticized because different definitions and measurements of income can significantly affect distributional results.

## Background

### What criticisms are levied against standard distributional analysis?

In theory, a broad definition of income may appropriately rank families and measure tax burdens, but this definition can be too far removed from common understandings of income and difficult to employ because of gaps in available data.

Conversely, even a quite broad definition of income, such as TPC's "expanded cash income," can be criticized as being too narrow because it omits in-kind benefits such as Medicare, Medicaid, and housing assistance, which can significantly improve recipient households' well-being.

Some argue that consumption, rather than income, should be used to rank households and measure tax burdens. Income is either consumed currently or saved for future consumption. A household's current consumption measures current well-being. Savings, meanwhile, are included in the measure of future well-being, when the household withdraws savings to finance consumption. Focusing on current income overstates current savers' well-being of and understates the well-being of current dissavers.

### PERIOD OF ANALYSIS

Most distributional analyses focus on a single year, but some tax provisions have effects over multiple years. For example, contributions to a traditional individual retirement account (IRA) are deductible when made but taxable when withdrawn, and the earnings IRAs accrue are not taxed. An annual measure of tax burdens would only capture the effect of the contribution in one of these years, rather than measure the multiyear consequences of the IRA contribution. TPC and OTA use alternative annual measures for some multiyear provisions in their distributional analyses, but these measures rely on uncertain assumptions, such as when taxable withdrawals begin and the rate at which to discount taxes paid in the future.

In addition, a tax proposal may have provisions that phase in or phase out over time, or that are only temporary. Standard distribution tables have represented such temporal issues in various ways. Economists have prepared analyses for each year (or perhaps the beginning and end year) of a phase-in, phaseout, or temporary provision, or have developed methods that reflect the present value of the provision over the budget period. These approaches are all open to criticism.

All four groups use annual income measures, which can be problematic because income is volatile: some normally high-income households will be counted among low-income households in a particular year, while some normally low-income households will appear to have higher incomes. Further, income for most individuals follows a "life-cycle" pattern—generally rising through about age 50 and then declining—so in any particular year, the distribution will underestimate the welfare of the young and old and overestimate the welfare of the middle-aged.

### TAXES VERSUS SPENDING

The federal budget counts amounts paid as refundable credits on the expenditure side of the ledger, but all standard distributional analyses classify those amounts as (negative) taxes. Similarly, all analyses effectively reduce tax burdens by the special exemptions, deductions, tax rates, and credits that represent "tax expenditures," which arguably should be counted as budget outlays rather than as tax reductions. Including these outlays in the analyses understates the true burden of taxes.

Moreover, because standard distributional analyses omit the benefits from most government spending programs, these analyses do not reflect the overall effect of the federal budget on the well-being of

## Background

### What criticisms are levied against standard distributional analysis?

households.

#### EFFECTS ON THE DEFICIT AND SPENDING

All four groups ignore the effects of financing a tax cut, be it through reductions in current outlays, higher deficits, or higher debt (which eventually will require future tax increases or reductions in spending to repay). They also omit the opposite effects of a tax increase.

#### MACROECONOMIC EFFECTS

All four groups assume for purposes of distributional analyses that any tax change leaves economic aggregates (gross domestic product, employment, the price level, etc.) unchanged. Critics argue that tax reform could improve economic performance and thereby raise revenues while improving the well-being of many (if not all) households.

#### OTHER DIMENSIONS OF TAX POLICY

A frequent criticism of distributional analyses is that they focus on only one dimension of tax policy: vertical equity (fairness across income groups). Less attention is therefore paid to horizontal equity (fairness within income groups), simplification, economic efficiency, and how the tax system may finance worthy federal spending.

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## Background

How should distributional tables be interpreted?

DISTRIBUTION OF TAX BURDENS

6/10

### Q. How should distributional tables be interpreted?

**A. Distributional tables provide important and useful information, but keep six key questions in mind to correctly interpret the results.**

1. **What taxes or tax changes does the analysis include?** If the table covers taxes under current law, note which taxes are included and which aren't. If the table shows the distributional impact of a tax change, particularly an extensive reform proposal, be sure to note which provisions are included or omitted.
2. **What is the baseline for a tax change?** Ordinarily, the baseline is current law, but not always. With the current temporary provisions of the Tax Cuts and Jobs Act of 2017, economists are uncertain about what "current law" will look like in the future. As a result, some distribution tables use a "current policy" baseline, which assumes that Congress will extend certain tax provisions that are scheduled to expire (or sunset) under current law.
3. **What is the income measure?** Income is used in distributional tables to rank households by their "ability to pay"; it is also used to measure tax burdens, such as taxes as a percentage of income by income group. Definitions and measurements of income can significantly affect distributional results, so be sure to note which income measure the table uses. Also, income used to rank households may be adjusted for family size to better compare ability to pay across households.
4. **What are the household units?** Note whether the table includes households that do not file income tax returns. Some distributional tables that rank by quintiles of income typically place a fifth of all taxpaying households in each quintile. But some tables—including those produced by the Urban-Brookings Tax Policy Center—place a fifth of the population in each quintile, altering the count of household units in each quintile.
5. **What period is covered?** Standard distribution tables cover a single year. But some policy changes may have effects over multiple years, and some may be phased in or phased out over multiple years, or be only temporary. Note how the table represents any phase-ins, phaseouts, and temporary provisions.
6. **What measures of tax burdens are included?** Distribution tables typically show alternative measures of "tax burdens." However, only the percentage change in after-tax income directly measures the effect of a tax proposal on households' well-being and therefore is a reliable measure of progressivity.

## Background

How should distributional tables be interpreted?

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### Further Reading

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## Background

Who bears the burden of the corporate income tax?

DISTRIBUTION OF TAX BURDENS

7/10

### **Q. Who bears the burden of the corporate income tax?**

#### **A. The burden is shared among stockholders and, unintuitively, among a broader group of workers and investors.**

Shareholders bear some of the corporate income tax burden, but they aren't the only ones. Over time, others bear some of the burden because of a chain reaction that begins with the shareholders.

The corporate income tax reduces shareholders' after-tax returns, causing them to shift some of their investments out of the corporate sector. Shareholders will shift some investments to noncorporate ("pass-through") businesses and some to foreign businesses not subject to the US corporate income tax. The shift to these other sectors lowers the after-tax return on investments in these sectors. The shifting of investment out of the corporate sector continues until after-tax returns—adjusted for risk—are equalized in the corporate and noncorporate sectors. Thus, the corporate income tax reduces investment returns in all sectors.

Shifting investments to foreign businesses also reduces the amount of capital (machines, equipment, structures, etc.) complementing US workers, so their productivity, and therefore their wages and other compensation, fall.

In calculating distributional effects, the Urban-Brookings Tax Policy Center (TPC) assumes investment returns (dividends, interest, capital gains, etc.) bear 80 percent of the burden, with wages and other labor income carrying the remaining 20 percent. These assumptions reflect the full, long-term economic consequences of investors responding to changes in the corporate income tax, such as rate changes.

When analyzing the distributional effects of a short-term corporate income tax change before investors have a chance to react, TPC assumes that shareholders bear the entire burden. When analyzing corporate income tax changes that affect only the timing of payments, such as a change in depreciation allowances, TPC assumes that half the burden is on investment returns and half on wages and other labor income. The Joint Committee on Taxation, the US Department of the Treasury's Office of Tax Analysis, and the Congressional Budget Office use similar incidence assumptions.

## Background

Who bears the burden of the corporate income tax?

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## Background

Who bears the burden of the federal excise taxes?

DISTRIBUTION OF TAX BURDENS

8/10

### **Q. Who bears the burden of federal excise taxes?**

### **A. Workers, owners of capital, and households that consume a disproportionate amount of taxed items all bear the burden of federal excise taxes.**

Excise taxes create a wedge between the price the final consumer pays and what the producer receives. An excise can either raise the total price (inclusive of the excise tax) consumers pay or reduce the business revenue available to compensate workers and investors.

The burden of an excise can be separated into two pieces: (1) the reduction in real household income, which equals the gross revenue generated by the excise tax and (2) the increase in the price of the taxed good or service relative to the prices of other goods and services, which depends on the mix of consumption by each household and equals zero across all households. Importantly, the decline in real income is the same regardless of whether nominal incomes fall (holding the price level constant) or whether the price level rises (holding nominal incomes constant).

#### **REDUCTION IN REAL INCOME**

The reduction in real income is spread across wages, profits, and other returns to labor and capital. The reduction in wages, in turn, reduces both individual income taxes and payroll taxes. Likewise, the reduction in profits reduces corporate income taxes and individual income taxes on the profits of pass-through business (like partnerships) and other returns to capital. These “excise tax offsets” amount to about 22 percent of excise tax revenues and are considered in distributional analyses.

#### **CHANGE IN RELATIVE PRICES**

An excise tax also increases the price of the taxed good or service relative to the prices of all other goods and services. While the price of the taxed item rises, the prices of all other items may either remain unchanged as the overall price level rises or fall slightly if the price level remains unchanged.

Either way, this change in relative prices burdens households that consume a larger-than-average share of the taxed item. However, households that consume a smaller-than-average share of the taxed item, or do not consume it at all, benefit from this change in relative prices.

#### **TIMING OF THE TAX BURDEN**

This still leaves open the timing of the tax burden—that is, whether the burden is assigned when income is earned or when it is consumed. Some distributional analyses follow the latter approach and distribute excise taxes in proportion to current levels of consumption. Alternative analyses assign the burden based on current income. Under the income-based approach, one can think of excise taxes as a reduction in purchasing power

## Background

### Who bears the burden of the federal excise taxes?

at the point income is earned. Of course, if all households fully consumed their income in each year, the two methods would yield identical results.

The Urban-Brookings Tax Policy Center distributes the burden of an excise tax when income is earned, taking into account the “offset” and the relative price effect. The US Department of the Treasury’s Office of Tax Analysis, as described in Cronin (1999), distributes excise taxes in the same manner. The Joint Committee on Taxation and the Congressional Budget Office, however, distribute the entire burden of excises in proportion to consumption of the taxed goods and services.

### DISTRIBUTION OF FEDERAL EXCISE TAXES

While the share of federal excise tax paid rises with income, federal excises are regressive. That is, the average federal excise tax rate (the excise tax burden as a percentage of pretax income) declines as income rises. The average tax rate falls from 1.2 percent in the bottom quintile, to 0.6 in highest quintile, and to 0.4 percent of income in the top 1 percent (table 1). (Each quintile contains 20 percent of the population, ranked by income.)

Federal excise taxes also account for a larger share of the total federal tax burden (including individual and corporate income taxes, payroll taxes, the estate tax, and excise taxes) for lower-income groups than for higher-income groups. In the bottom two quintiles, excise taxes are the second-largest source of the total

TABLE 1

Distribution of Federal Excise Taxes, 2018



Expanded Cash Income Percentile	Share of Total Excise Tax Burden (%)	Average Federal Excise Tax Rate (%)	Average Total Federal Tax Rate (%)
Lowest quintile	6.8%	1.2%	2.9%
Second quintile	12.2%	1.0%	7.6%
Middle quintile	16.6%	0.8%	12.1%
Fourth quintile	22.3%	0.8%	15.5%
Top quintile	41.8%	0.6%	22.9%
All	100.0%	0.7%	17.8%
<b>Addendum (top quintile breakdown)</b>			
80–90	14.2%	0.7%	18.4%
90–95	8.8%	0.6%	19.9%
95–99	10.4%	0.6%	22.1%
Top 1 percent	8.5%	0.4%	29.6%
Top 0.1 percent	3.4%	0.3%	30.6%

**Source:** Urban-Brookings Tax Policy Center. “TPC Microsimulation Model, version 0718-1.”

## Background

### Who bears the burden of the federal excise taxes?

federal tax burden, well behind payroll taxes. Those income groups have negative average income tax rates resulting from refundable income tax credits.

Federal excise tax revenues will total about \$102 billion in fiscal year 2018, or 3 percent of federal tax revenues. Five categories of excise taxes—highway, tobacco, air travel, health, and alcohol—account for about 95 percent of total excise tax receipts.

The distributional burden varies somewhat across the different categories of excise taxes (table 2). The most noticeable is the tobacco excise tax, for which the share of tax paid varies the least across income quintiles. The bottom quintile pays 16 percent of tobacco taxes and 17 percent of penalties under the Affordable Care Act (ACA) (compared to 4 to 5 percent of other excises), while the top quintile pays 27 percent of tobacco taxes and 23 percent of ACA penalties (compared to about 45 to 50 percent of other excises). Tobacco taxes and ACA penalties are the most regressive of the major federal excise taxes. The remaining categories vary only modestly from each other. Excise taxes on air travel are tilted the most toward higher-income households, with 53 percent paid by households in the top income quintile.

TABLE 2

Distribution of Federal Excise Taxes  
by Category of Excise Tax, 2018



Expanded Cash Income Percentile	Share of Total Excise Tax Burden (%)						
	Highway	Tobacco	Air Travel	Health	ACA Penalties	Alcohol	Other
Lowest quintile	4.2%	15.8%	4.5%	3.7%	16.9%	3.6%	4.1%
Second quintile	10.6%	19.2%	7.0%	10.3%	23.4%	9.1%	9.6%
Middle quintile	16.9%	17.7%	13.9%	16.5%	17.4%	17.3%	15.7%
Fourth quintile	23.1%	20.7%	21.5%	23.4%	19.0%	23.4%	22.6%
Top quintile	44.6%	26.7%	52.6%	45.7%	22.9%	45.5%	47.8%
All	100%	100%	100%	100%	100%	100%	100%
<b>Addendum (top quintile breakdown)</b>							
80–90	14.8%	9.2%	16.6%	15.0%	11.6%	15.2%	15.3%
90–95	9.1%	4.5%	11.8%	9.7%	5.3%	10.2%	10.1%
95–99	11.2%	6.0%	13.9%	11.4%	4.8%	11.3%	12.0%
Top 1 percent	9.5%	7.0%	10.4%	9.6%	1.2%	8.7%	10.2%
Top 0.1 percent	3.8%	3.3%	3.9%	3.8%	0.1%	3.5%	4.0%
<b>Aggregate revenue (\$ billions)</b>	<b>\$39.7</b>	<b>\$13.5</b>	<b>\$16.3</b>	<b>\$16.3</b>	<b>\$11.8</b>	<b>\$8.7</b>	<b>\$5.5</b>

Source: Urban-Brookings Tax Policy Center. "TPC Microsimulation Model, version 0718-1."

## Background

### Who bears the burden of the federal excise taxes?

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## Background

How do financing methods affect the distributional analyses of tax cuts?

DISTRIBUTION OF TAX BURDENS  
9/10

### **Q. How do financing methods affect the distributional analyses of tax cuts?**

**A. Tax cuts are financed through reductions in current outlays or higher government debt that will eventually have to be repaid. Distributional analyses omit this information as well as the effects of tax increases on current outlays and debt.**

Distributional analyses omit the ways tax cuts and tax increases affect other government finances—through either lower (or higher) spending or higher (or lower) debt. These omissions implicitly assume that lost revenue from tax cuts is never paid and that additional revenue from tax increases simply disappears. No one believes these assumptions are realistic, but there is no generally accepted way to include these financing effects. Gale, Khitrakun, and Krupkin (2017) shows that the distributional effects of the 2017 Tax Cuts and Jobs Act tax cuts are significantly altered if alternative financing effects are considered.

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## Background

How do taxes affect income inequality?

DISTRIBUTION OF TAX BURDENS  
10/10

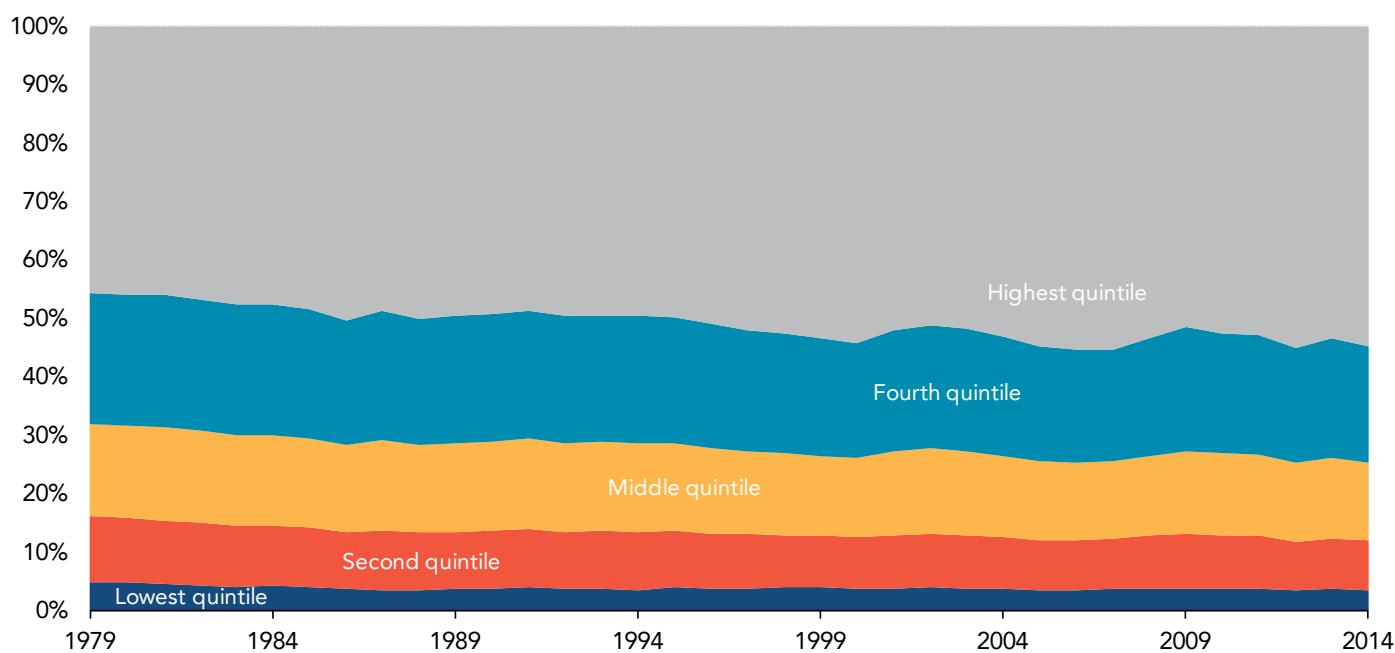
### Q. How do taxes affect income inequality?

**A. Because high-income households pay a larger share of their income in total federal taxes than low-income households, federal taxes reduce income inequality. But federal taxes have done little to offset increasing income inequality over the past 40 years.**

**FIGURE 1**  
Share of Before-Tax Income by Quintile  
1979-2014



Percentage



**Source:** Congressional Budget Office (2018).

## Background

### How do taxes affect income inequality?

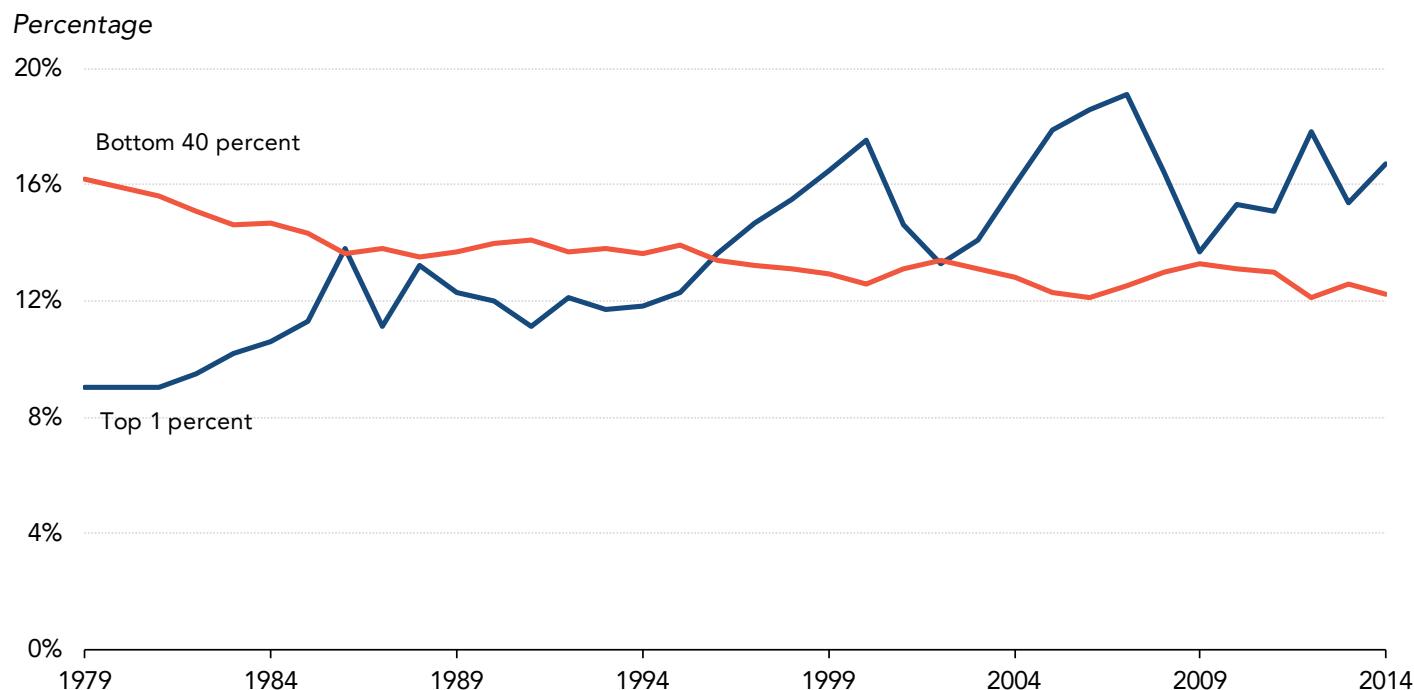
#### INCREASING INCOME INEQUALITY

Income inequality has increased sharply over the past 40 years. A simple way to measure inequality is by looking at the share of income received by the highest-income people. Using a broad measure that includes labor, business, and capital income; government cash payments (such as Social Security); and the value of in-kind benefits from government programs (such as Medicare and Medicaid), the Congressional Budget Office finds that the fifth of the population with the highest income saw their share rise from 46 to 55 percent between 1979 and 2014 (figure 1). This increase in income inequality came about despite the growth in Social Security, Medicare, and Medicaid, which boost before-tax income for low- and middle-income households.

Much of the gain in the top income share went to the top 1 percent of the population. In 1979, they received 9 percent of all income. By 2014, their share grew to 17 percent, more than all the income received by the bottom 40 percent (figure 2). The income measure used in figures 1 and 2 includes realized capital gains, which are sensitive to business cycle fluctuations and to changes in tax rates. Because realized capital gains are a significant component of income for the top 1 percent, their income share is more volatile than that of other groups.

**FIGURE 2**

Share of Before-Tax Income for Top 1 and Bottom 40 Percent Income Groups  
1979-2014



Source: Congressional Budget Office (2018).

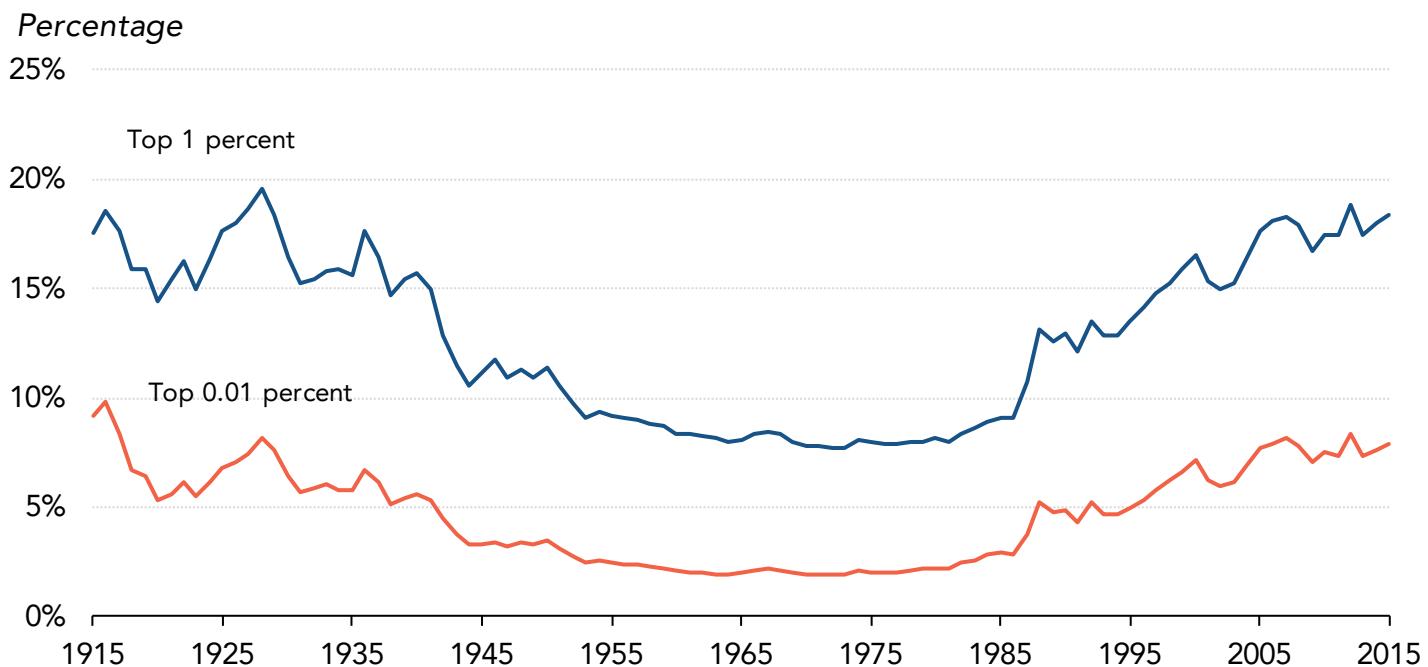
## Background

### How do taxes affect income inequality?

Top income shares have not reached these levels since the 1920s (figure 3). After falling precipitously during the Great Depression and World War II, the income share of the top 1 percent leveled off during the next three decades. It began climbing again in the 1980s, interrupted only by the 2001 and 2008–09 recessions. Since the stock market rebound, income shares for the top 1 percent have increased again.

**FIGURE 3**

### Top Income Shares in the United States 1915–2015



**Source:** Saez (2016).

**Note:** Income is annual gross income reported on individual tax returns, excluding capital gains and government transfers (such as Social Security, unemployment benefits, and welfare payments) and before individual income taxes and employees' payroll taxes.

## Background

### How do taxes affect income inequality?

#### A WORLDWIDE PHENOMENON

The United States is not the only country with increasing income inequality. Most member countries of the Organisation for Economic Co-operation and Development have experienced the same phenomenon, though to a lesser degree than the United States (figure 4).

#### THE ROLE OF TAXES

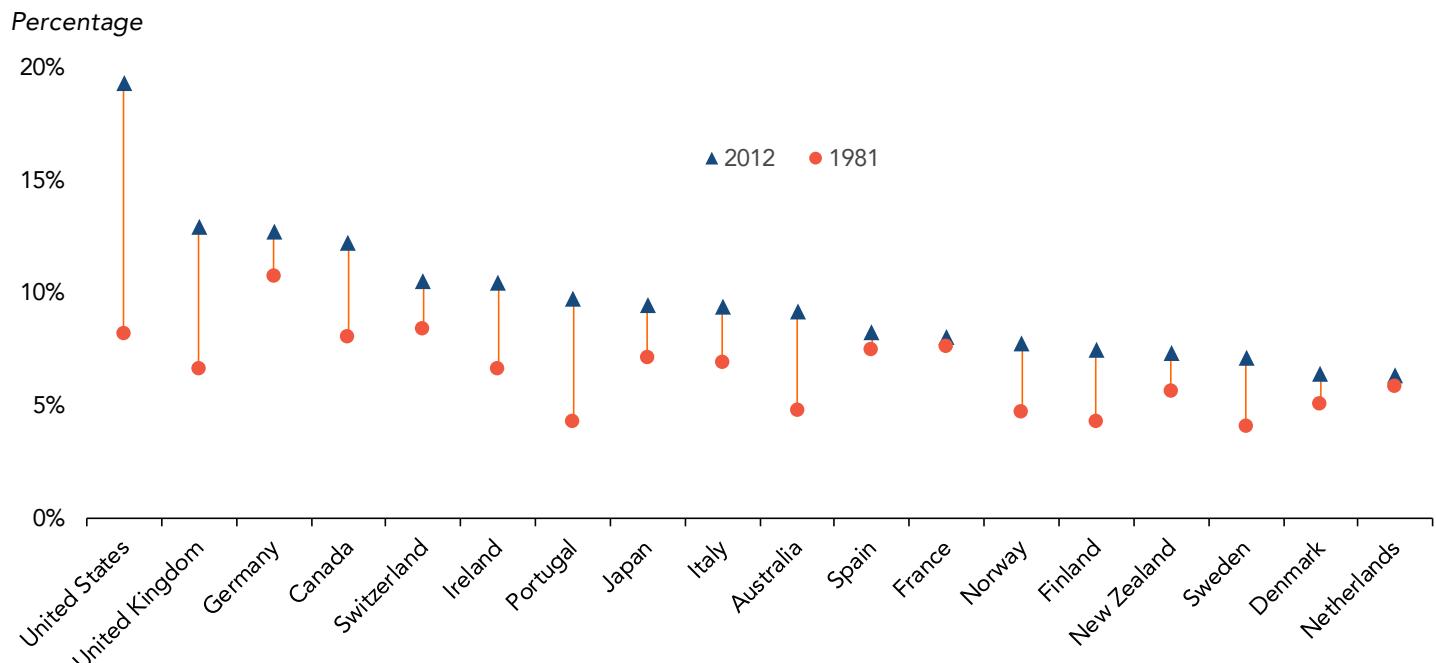
The figures so far only consider income before taxes. What happens after we account for taxes?

The US federal tax system is progressive. High-income households pay a larger share of their income in total federal taxes than low-income households (figure 5). State and local taxes, which are not included in this analysis, are much less progressive and some, such as sales taxes, are regressive (low-income households pay a higher share of their income in sales taxes than high-income households).

Because federal taxes are progressive, the distribution of after-tax income is more equal than income before taxes. High-income households have a slightly smaller share of total income after taxes than their share of income before taxes, while the reverse is true for other income groups (figure 6).

**FIGURE 4**

#### Share of Before-Tax Income for Top 1 Percent Income Group 1981-2012(or closest)



**Source:** Organisation for Economic Co-operation and Development (2014).

**Note:** Incomes refer to pretax incomes, excluding capital gains, except in Germany (which includes capital gains). Latest year refers to 2012 for the Netherlands, Sweden, and the United States; 2011 for Norway and the United Kingdom; 2009 for Finland, France, Italy, and Switzerland; 2007 for Germany; 2005 for Portugal; and 2010 for Australia, Canada, Ireland, Japan, New Zealand, and Spain.

## Background

### How do taxes affect income inequality?

**FIGURE 5**

#### Average Effective Federal Tax Rates by Income Percentile 2018



*Percentage*

35%

30%

25%

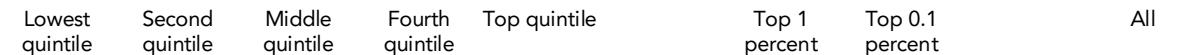
20%

15%

10%

5%

0%



**Source:** Urban-Brookings Tax Policy Center. 2018. T18-0083. "Average Effective Federal Tax Rates—All Tax Units, by Expanded Cash Income Percentile, 2018."

**Notes:** The average effective federal tax rate is the sum of individual and corporate income tax, payroll taxes for Social Security and Medicare, the estate tax, and excise taxes as a percentage of expanded cash income. For a description of expanded cash income, see Urban-Brookings Tax Policy Center. "Income Measure Used in Distributional Analyses by the Tax Policy Center."

**FIGURE 6**

#### Shares of Before-Tax and After-Tax Income by Quintile 2018



*Percentage*

60%

50%

40%

30%

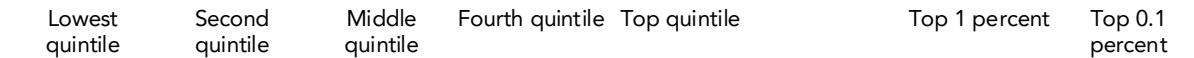
20%

10%

0%

■ Before-Tax Income

■ After-Tax Income



**Source:** Urban-Brookings Tax Policy Center. 2018. T18-0064. "Baseline Distribution of Income and Federal Taxes, All Tax Units, by Expanded Cash Income Percentile, 2018."

**Notes:** Before-tax income is measured as expanded cash income. For a description of expanded cash income, see Urban-Brookings Tax Policy Center. "Income Measure Used in Distributional Analyses by the Tax Policy Center." After-tax income is expanded cash income less individual income tax net of refundable credits, corporate income tax, payroll taxes (Social Security and Medicare), the estate tax, and excise taxes.

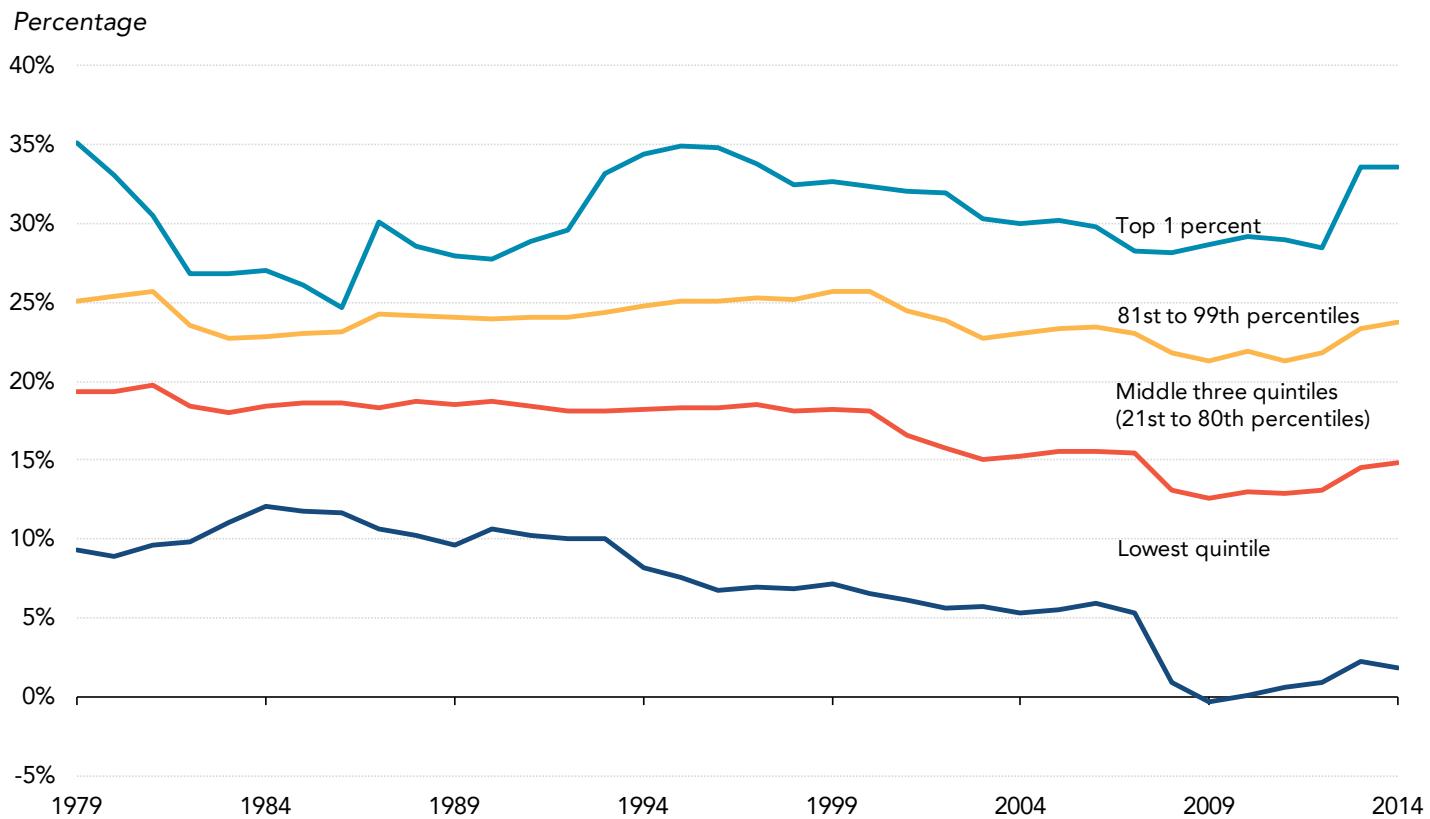
## Background

### How do taxes affect income inequality?

Federal taxes are more progressive than they were 35 years ago. Although the average tax rate for high-income households has varied, it is now nearly the same as at its peaks in 1977 and 1995. Meanwhile, the average tax rate for middle- and low-income groups dropped incrementally from the early 1980s through 2007 and then fell dramatically from 2007 through 2009 because of temporary tax cuts enacted in response to the Great Recession. Average rates rebounded as those tax cuts expired but, by 2014, rates remained well below their 1979 values for those groups (figure 7).

FIGURE 7

### Average Federal Tax Rates by Income Group 1979-2014



Source: Congressional Budget Office (2018).

## Background

### How do taxes affect income inequality?

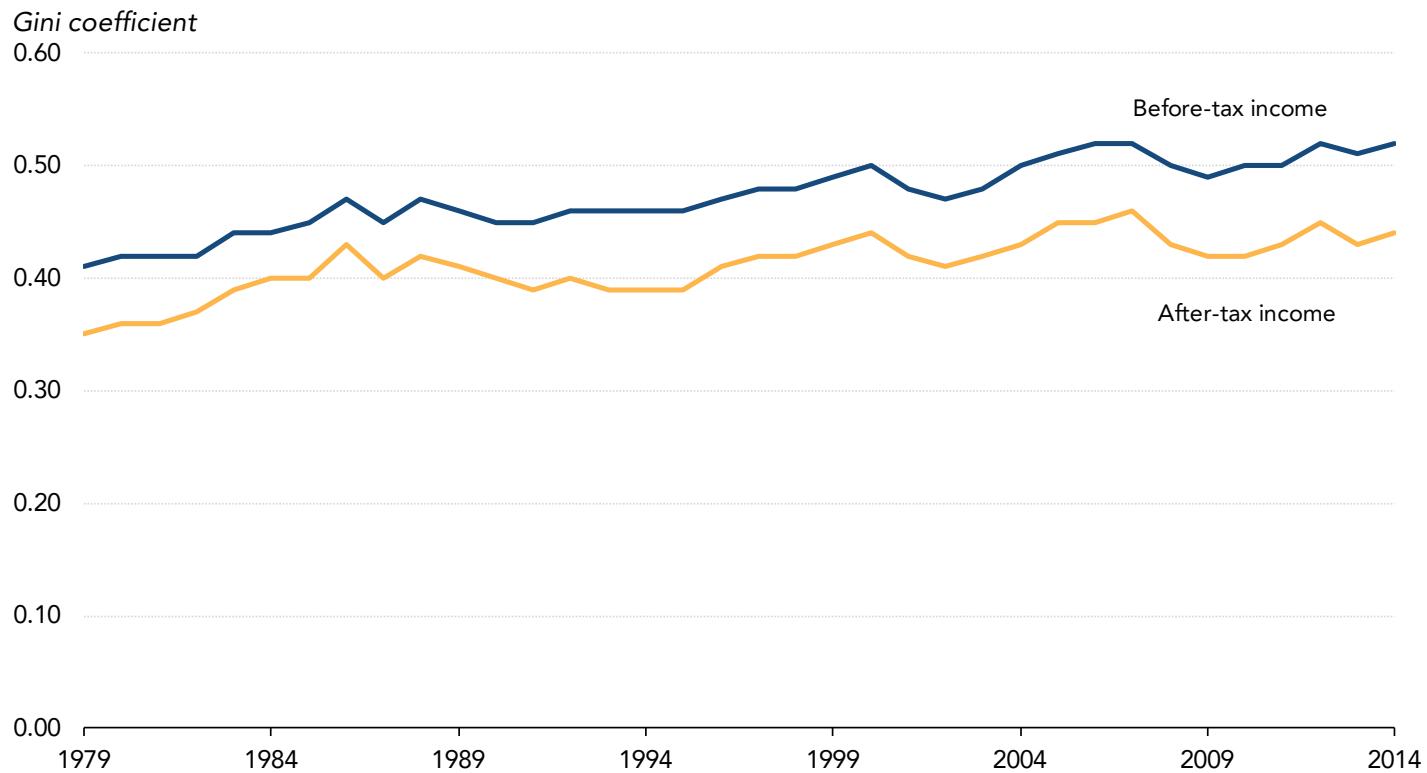
#### EFFECT OF TAXES ON INCOME INEQUALITY

A more progressive tax system would reduce income inequality if nothing else changes. But while federal taxes have become more progressive, they also began shrinking in 2001 relative to before-tax income, thanks to tax cuts during the George W. Bush and Barack Obama administrations. A lower average tax rate offset the equalizing effect of increased tax progressivity, leaving the effect of federal taxes on income inequality little changed.

A widely used measure of income inequality is the Gini index. The index has a value of zero when income is distributed equally across all income groups and a value of one when the highest income group receives all the income. By this measure, inequality has been consistently lower for after-tax income than for before-tax income (figure 8).

**FIGURE 8**

Inequality Index for Before-Tax and After-Tax Income  
1979-2014



**Source:** Congressional Budget Office (2018).

**Note:** The Gini index is a summary measure of income inequality based on the relationship between shares of income and shares of the population. It ranges in value from zero to one, with zero indicating complete equality (for example, if each fifth of the population received one-fifth of the income) and one indicating complete inequality (for example, if one household received all of the income).

## Background

### How do taxes affect income inequality?

The gap between the index for before-tax and after-tax incomes measures how much taxes reduce inequality. The bigger the difference, the more taxes equalize income. The gap narrowed during the 1980s as taxes relative to income fell more for high-income households than for low-income groups. But as federal taxes became more progressive starting in the 1980s, the gap between before-tax and after-tax income inequality widened. It remains at roughly the pre-1980 level.

The bottom line is that before-tax income inequality has risen since the 1970s, despite an increase in government transfer payments. Because high-income people pay higher average tax rates than others, federal taxes reduce inequality. But the mitigating effect of taxes is about the same today as before 1980. Thus, after-tax income inequality has increased about as much as before-tax inequality. Taxes have not exacerbated increasing income inequality, but have not done much to offset it.

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#### Data Source

Urban-Brookings Tax Policy Center. Table [T18-0064](#). "Baseline Distribution of Income and Federal Taxes, All Tax Units, by Expanded Cash Income Percentile, 2018."

\_\_\_\_\_. Table [T18-0083](#). "Average Effective Federal Tax Rates—All Tax Units, by Expanded Cash Income Percentile, 2018."

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Urban-Brookings Tax Policy Center. "[Income Measure Used in Distributional Analyses by the Tax Policy Center](#)."

## Background

What are tax expenditures and how are they structured?

TAX EXPENDITURES

1/5

### Q. What are tax expenditures and how are they structured?

**A. Tax expenditures are special provisions of the tax code such as exclusions, deductions, deferrals, credits, and tax rates that benefit specific activities or groups of taxpayers.**

The Congressional Budget and Impoundment Control Act of 1974 defines tax expenditures as "revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of tax liability." These provisions are meant to support favored activities or assist favored groups of taxpayers. Thus, tax expenditures often are alternatives to direct spending programs or regulations to accomplish the same goals. The Office of Management and Budget (OMB) and the Congressional Joint Committee on Taxation (JCT) each year publish lists of tax expenditures and estimates of their associated revenue losses. The US Department of the Treasury prepares the estimates for OMB.

The key word in the definition of tax expenditures is "special." OMB and JCT do not count all exemptions and deductions as tax expenditures. For example, the agencies do not count as tax expenditures deductions the tax law permits to measure income accurately, such as employers' deductions for employee compensation or interest expenses. Similarly, OMB and JCT do not count standard deductions that differ by filing status as tax expenditures on the theory that exempting a basic level of income from tax and adjusting for family composition are appropriate in measuring a taxpayer's ability to pay.

More generally, both the decision to count a provision as a tax expenditure and the measurement of its size require that OMB and JCT define a normative or baseline system against which some provisions are exceptions. Both agencies include in the baseline system provisions that allow tax rates to vary by income and that adjust for family size and composition in determining taxable income. OMB and JCT also allow for a separate tax on corporate income. The baselines of the two agencies do differ in some details, however, which contribute to modest differences in their lists of provisions and their estimates of revenue losses.

### TAX EXPENDITURES TAKE DIFFERENT FORMS

*Deductions and exclusions* reduce the amount of income subject to tax. Examples are the deduction for mortgage income on personal residences and the exclusion of interest on state and local bonds. Deductions and exclusions typically reduce tax liability more for higher-income taxpayers facing higher marginal income tax rates than for lower-income taxpayers in lower rate brackets, since a deduction is worth more at a higher rate and higher-income taxpayers often spend more on the subsidized item.

A special category of deductions, called *itemized deductions*, is valuable only to taxpayers whose sum of itemized deductions exceeds the standard deduction amounts available to all tax filers. The largest itemized

## Background

### What are tax expenditures and how are they structured?

deductions are those for home mortgage interest and charitable contributions. In 2017, only 26 percent of tax units (tax returns plus nonfiling units) claimed itemized deductions. Following the increase in the standard deduction and new limits on deductibility of state and local taxes in the Tax Cut and Jobs Act of 2017, only about 10 percent of tax units will claim itemized deductions in 2018. However, an itemized deduction claimed mostly by higher-income taxpayers is not necessarily unfair, if the standard deduction is worth more to lower-income taxpayers than claiming the deduction. Some itemized deductions may still be objectionable because they are inefficient or inappropriate as a matter of policy.

Credits reduce tax liability dollar for dollar by amount of credit. For example, the \$1,000 child tax credit (current value) reduces liability by \$2,000 per child for taxpayers eligible to use it fully. A special category of credits, called *refundable credits*, allows taxpayers to claim credits that exceed their positive income tax liability, thereby receiving a net refund from the Internal Revenue Service. The major refundable credits are the earned income tax credit and the health insurance premium assistance tax credit, which are fully refundable, and the child credit, which is refundable for those with earnings above a threshold amount.

Some forms of income benefit from *preferential rates*. For example, long-term capital gains and qualified dividends face a schedule of rates ranging from 0 to 20 percent, compared with rates on ordinary income, which range from 10 to 37 percent.

Finally, some provisions allow taxpayers to defer *tax liability*, thereby reducing the present value of taxes they pay, either because the taxes are paid later with no interest charge or because they are paid when the taxpayer is in a lower rate bracket. These provisions allow taxpayers to claim deductions for costs of earning income before the costs are incurred. Examples include provisions that allow immediate expensing or accelerated depreciation of certain capital investments and others that allow taxpayers to defer their tax liability, such as the deferral of recognition of income on contributions to and income accrued within qualified pensions and retirement plans.

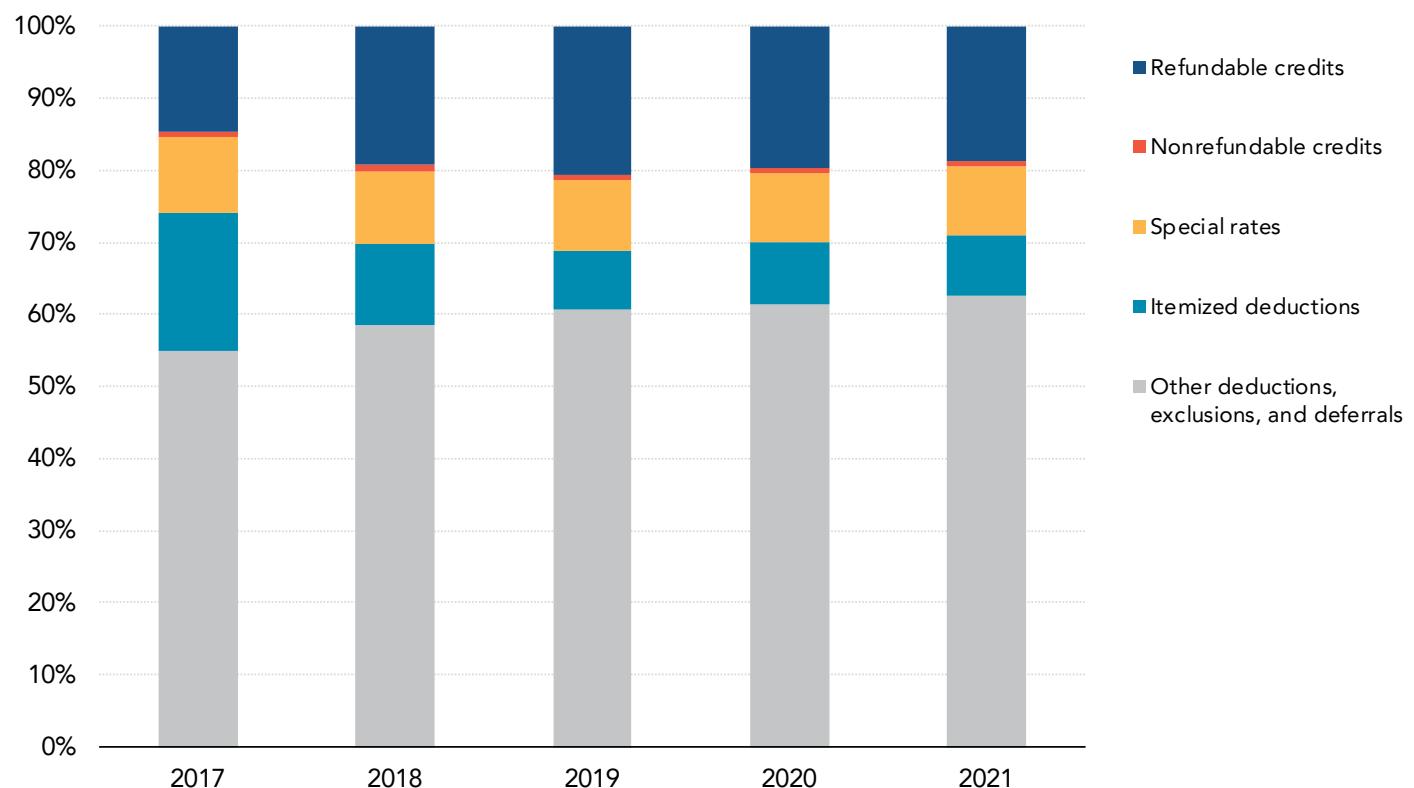
Exclusions, deductions, and deferrals of income recognition excluding itemized deductions will account for 61 percent of individual income tax expenditures in fiscal year 2019, refundable credits for 21 percent, special rates for 10 percent, itemized deductions for 8 percent, and nonrefundable credits for 1 percent. (figure 1).

## Background

What are tax expenditures and how are they structured?

**FIGURE 1**

### Shares of Individual Income Tax Expenditures 2017–21



**Source:** Joint Committee on Taxation (2018) and Tax Policy Center calculations.

#### Data Source

Joint Committee on Taxation. 2018. "[Estimates of Federal Tax Expenditures for Fiscal Years 2017–2021](#)." JCX-34-18. Washington, DC: Joint Committee on Taxation.

## Background

What is the tax expenditure budget?

TAX EXPENDITURES

2/5

### Q. What is the tax expenditure budget?

**A. The tax expenditure budget displays the estimated revenue losses from special exclusions, exemptions, deductions, credits, deferrals, and preferential tax rates in federal income tax law.**

Every year, the Office of Management and Budget (OMB) and the congressional Joint Committee on Taxation (JCT) publish lists of tax expenditures. These lists, sometimes called the Tax Expenditure Budgets, enumerate the estimated revenue losses attributable to preferences in the tax code the agencies describe as exceptions to “normal” or “reference” provisions of the income tax law (figure 1).

Tax expenditures reduce the income tax liabilities of individuals and businesses that undertake activities Congress specifically encourages. For example, the deduction for charitable contributions reduces tax liability for people who itemize on their tax returns rather than take a standard deduction and donate to qualifying charitable organizations. Tax expenditures can also reduce tax liability for individuals Congress wishes to assist. For example, a portion of Social Security benefits received by retired or disabled people is exempt from federal income tax.

The Congressional Budget and Impoundment Control Act of 1974 requires that the budget include estimates for tax expenditures, but only for provisions that affect the federal income taxes of individuals and corporations. The government could, but does not, provide lists of tax expenditures for payroll taxes, excise taxes, and other taxes, although OMB does estimate (in footnotes) the effects on payroll tax receipts of income tax expenditures. At one time, an estate tax expenditure budget was produced by the US Department of the Treasury and published by OMB.

Both the Office of Tax Analysis in the Treasury and the JCT estimate tax expenditures annually. The items included in each, along with their estimated values, are generally similar but do not always match. OMB publishes the Office of Tax Analysis’s estimates in its Analytical Perspectives volume that accompanies each year’s Budget of the US Government.

The budget generally treats tax expenditures as revenue losses instead of as spending. Accordingly, only the portion of refundable tax credits, such as the earned income tax credit, that offsets individuals’ positive income tax liabilities are shown in OMB’s tables as tax expenditures, while the portion that is refundable and exceeds tax liabilities is counted in spending. On the other hand, JCT’s tables include both the revenue loss and outlay effects of refundable credits. Both OMB and JCT display the outlay effects in footnotes.

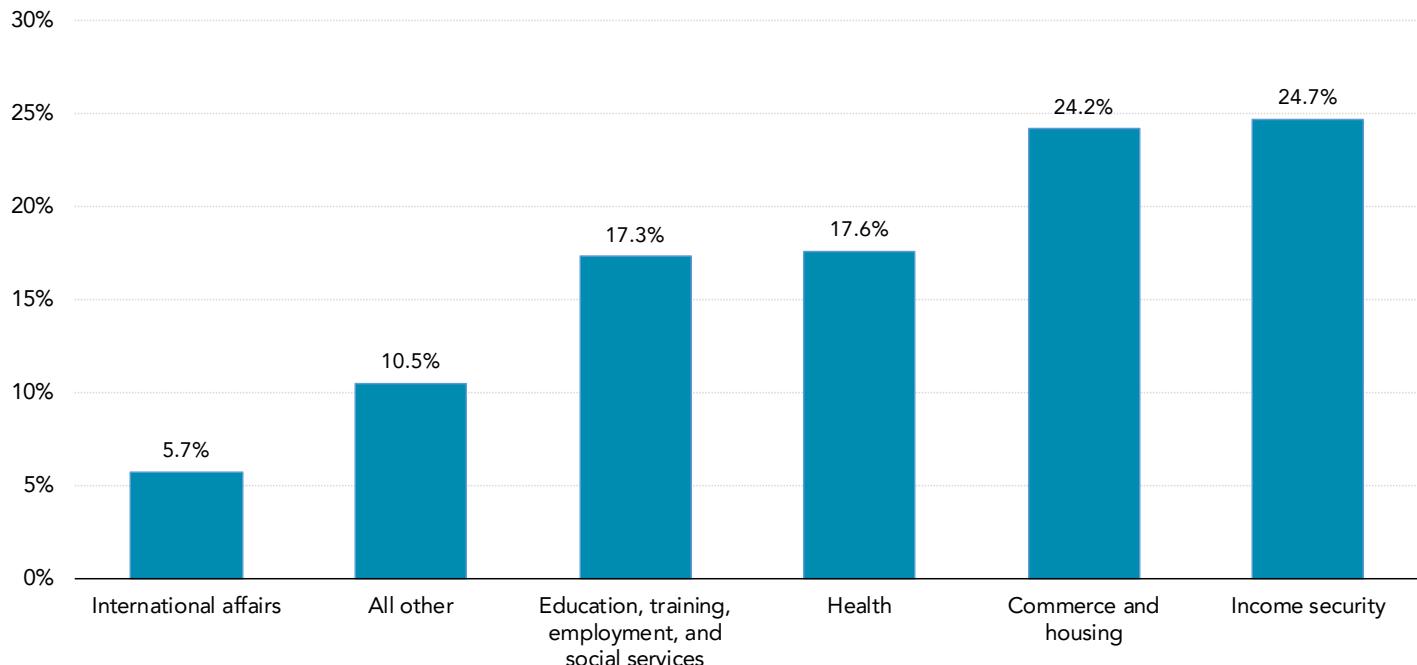
JCT’s tax expenditures for fiscal 2019 (including outlay effects) added up to just under \$1.5 trillion. The combined revenue loss for all provisions does not equal the sum of the losses for each provision because of how the provisions interact. For example, eliminating one exemption from taxable income would push

## Background

### What is the tax expenditure budget?

FIGURE 1

Shares of Tax Expenditure Budget  
Fiscal year 2019



**Source:** Joint Committee on Taxation (2018).

**Note:** The "all other" category includes the following: general purpose, fiscal assistance, social security, general science, space and technology, national defense, veterans benefits and services, energy, transportation, community and regional development, agriculture, natural resources, and interest.

taxpayers into higher-rate brackets, thereby increasing the revenue loss from remaining exemptions. Toder, Berger, and Zhang (2016) estimated that the actual combined revenue loss from all individual tax expenditures in 2015 was about 6 percent larger than the amount computed by summing individual tax expenditures—though for one subcategory, itemized deductions, the total revenue loss is less than the sum of losses from the separate deductions.

Some tax expenditures effectively function like direct expenditures even though they appear as tax breaks, because programs with similar effects could be structured as outlays (Burman and Phaup 2011). An example is the tax credit for renewable energy investment, which could be structured as grants from the Department of Energy. Other expenditures have no direct spending analogy, but can instead be viewed as departures from an income tax with a comprehensive base. Marron and Toder (2013) estimate that provisions that could be viewed as spending substitutes have recently amounted to over 4 percent of gross domestic product.

Complicating matters is that the ideal administrative agency for a tax subsidy might or might not be the Internal Revenue Service (IRS), regardless of classification. Because the earned income credit is based largely on wage reporting, the IRS might serve appropriately as the administrative agency. Yet all the

## Background

### What is the tax expenditure budget?

subsidy, including the portion of the credit used to reduce tax payments, could still be classified as a direct expenditure.

Like most mandatory programs (or entitlements) on the spending side of the budget, most tax expenditures do not go through a direct appropriation process each year and are available with no budget ceiling to all who qualify. Expenditure costs change with the growth of the economy, changes in the quantities and prices of subsidized activities, and—for some provisions—changes in marginal tax rates applied to individual and corporate income. For example, the cost of the mortgage interest deduction varies with the volume of home mortgage debt outstanding, the level of interest rates, and marginal tax rates applied to the taxable income of borrowers.

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#### Data Source

Joint Committee on Taxation. 2018. "[Estimates of Federal Tax Expenditures For Fiscal Years 2017–2021](#)." JCX-34-18. Washington, DC: Joint Committee on Taxation.

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## Background

Why are tax expenditures controversial?

TAX EXPENDITURES

3/5

### Q. Why are tax expenditures controversial?

**A. To some, tax expenditures are spending items that do not belong in the tax code. To others, they are merely a way of reducing taxes, and repealing them would amount to a tax increase.**

Most tax expenditures perform very much like spending programs, which means they may serve or harm the public depending on whether they serve a legitimate public purpose in the most efficient manner possible. But the identification and measurement of tax expenditures are controversial.

Subsidies and expenditures in the form of tax breaks reduce the measure of net tax revenue instead of increasing measured spending. Thus, they give the appearance of reducing government's size. For this reason, tax subsidies have strong political appeal. In fact, tax expenditures are an alternative way for government to intervene in the economy and, like direct spending, must be financed through higher taxes or reduced spending elsewhere.

Imagine, for instance, a new government program that provides tax credits for energy production at a cost of \$5 billion per year, and finances it by raising income tax rates. To pay for the energy tax credit, the government would have to raise tax rates enough to collect an additional \$5 billion—no different than what it would need to do if the subsidies for energy production were provided by a US Department of Energy grant instead of by tax credits.

Here's the conceptually tricky part: tax expenditures are defined as deviations from a baseline tax system. In the example above, it is straightforward to see the equivalence between an energy tax credit and a spending program. Often, however, the definition and estimated magnitude of tax expenditures are a matter of judgment because what belongs in the baseline tax system itself reflects the judgment of analysts.

Since the government began regular reporting of tax expenditures in the 1970s, the baseline against which tax expenditures are measured generally has been a version of a comprehensive income tax. But there have always been exceptions, often for income that is difficult to assess. For example, income often, but not always, has been counted only when realized, so that the deferral or exclusion from tax for unrealized capital gains is not counted, as a tax expenditure but some forms of deferral of receipts by business are. Also, the US Department of the Treasury, but not the congressional Joint Committee on Taxation (JCT), includes net imputed rental income from homeownership in its baseline used for estimating tax expenditures.

If the current income tax were replaced wholly or partly by a consumption tax, as some economists and political leaders favor, some provisions now classified as tax expenditures would no longer be regarded as such. For example, under a comprehensive consumption tax system, the tax base would be consumption, not income. Thus, the deferral of earnings contributed to retirement savings accounts and the exemption

## Background

### Why are tax expenditures controversial?

of income earned within those accounts would not be considered tax expenditures. Most other tax expenditures, however, including the deductibility of home mortgage interest, charitable contributions, and state and local taxes, as well as the exemption of employer contributions to health insurance plans, would still be so classified.

In other cases, estimating the size of a tax expenditure requires some judgment. For example, under an income tax, firms can recover the costs of capital investment over time with depreciation deductions that reflect the decline in the value of their assets. But what is the right measure of depreciation in an inflationary economy? For these and other items, the JCT and the Treasury use different definitions of what would be included in a normal or comprehensive income tax. Therefore their classification and measurement of some tax expenditures differ.

In addition, estimates by the Office of Management and Budget and the JCT can differ from each other depending upon when the two estimates were prepared. A special case occurred in 2018, when the JCT estimates (published in May 2018) included the effects of the 2017 Tax Cuts and Jobs Act, while the Office of Management and Budget estimates (published in February 2018, but based on Treasury estimates first released in October 2017) did not include changes from the act.

### Data Source

Office of Management and Budget. 2018. Analytical Perspectives, Tax Expenditures. Table 13-1. "[Estimates of Total Income Tax Expenditures for Fiscal Years 2017–2027](#)."

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## Background

What are the largest tax expenditures?

TAX EXPENDITURES

4/5

### **Q. What are the largest tax expenditures?**

**A. Tax expenditures make up a substantial part of the federal budget. Some of them are larger than the entire budgets of the programs or departments that spend money for the same or related purposes. For example, the value of the tax breaks for homeownership, although reduced by the latest tax bill, still exceeds total spending by the US Department of Housing and Urban Development.**

Table 1 ranks the top 13 US tax expenditures, based on the 2018 estimates by the Joint Committee on Taxation (JCT). The Office of Management and Budget also publishes lists of tax expenditures based on estimates by the US Department of the Treasury, but the 2018 estimates were prepared before passage of The Tax Cuts and Jobs Act (TCJA) late in 2017.

The largest tax expenditure (an estimated \$172.8 billion in fiscal year 2019) is the exclusion of employers' contributions for employees' medical insurance premiums and medical care. Under this provision of the tax code, contributions are excluded from an employee's gross income, while an employer may deduct the cost as a business expense.

The next-largest tax expenditure on the JCT list is the preferential rate structure for capital gains and dividends (\$127.0 billion in 2019), which are taxed at rates ranging from 0 to 20 percent, as compared with individual income tax rates that range from 10 to 37 percent. Capital gains also benefit from the step up in basis at death (\$34.0 billion in 2019), which permanently exempts all unrealized capital gains accrued during an individual's lifetime on assets that are passed on at death.

The third-largest tax expenditure is the credit for children and other dependents (\$121.7 billion in 2019, up from \$54.1 billion in 2017). TCJA doubled the child credit to \$2,000 per qualifying child, increased the maximum refundable credit amount to \$1,400, raised the income at which the credit begins to phase out to \$400,000 for joint returns (\$200,000 for single), and introduced a new \$500 credit for nonchild dependents. At the same time, TCJA eliminated personal exemptions for taxpayers and dependents. JCT and Treasury, perhaps inconsistently, did not count the dependent exemption as a tax expenditure, so the tax expenditure budget accounts imply a greater increase in child benefits from the switchover than taxpayers realized on net.

The fourth- and fifth-largest tax expenditures are the benefits for tax-qualified retirement saving accounts. The tax on contributions, as well as the income earned within the accounts, is deferred until withdrawal begins at retirement. At that point, in addition to the benefits of the deferral, many taxpayers are in a lower bracket. Alternatively, some Roth retirement saving gets no deferral of tax on deposit, but complete

## Background

What are the largest tax expenditures?

**TABLE 1**

### Largest Tax Expenditures Fiscal year 2019



Rank	Tax expenditure	Billions (\$)
1	Tax exclusion for employer-sponsored health insurance	172.8
2	Reduced rates of tax on dividends and long-term capital gains	127.0
3	Credit for children and other dependents <sup>a</sup>	121.7
4	Tax benefits for employer defined contribution plans	121.5
5	Tax benefits for defined benefit plans	90.7
6	Earned income credit <sup>b</sup>	72.6
7	Reduced tax rate on active income of controlled foreign corporations	68.0
8	Depreciation of equipment in excess of alternative depreciation system	63.0
9	Subsidies for insurance purchased through health benefit exchanges	51.3
10	20 percent deduction for qualified business income	50.2
11	Exclusion of untaxed Social Security and railroad retirement benefits	37.0
12	Exclusion of capital gains on sales of principal residences	36.3
13	Exclusion of benefits provided under cafeteria plans	35.0

**Source:** Joint Committee on Taxation. 2018. "Estimates of Federal Tax Expenditures for Fiscal Years 2017–2021." JCX-34-18. Washington, DC: Joint Committee on Taxation.

**Notes:** JCT regards the exclusion of net imputed rental income as an administrative necessity, and does not classify it as a tax expenditure. However, it is included by the Treasury; in October 2017, before TCJA tax changes, the Treasury estimated that total income tax expenditures from the exclusion of net imputed rental income is \$131.1 billion for FY2019 (US Department of the Treasury 2017).

(a) includes outlays of \$48.5 billion.

(b) includes outlays of \$64.9 billion.

## Background

### What are the largest tax expenditures?

exemption from tax of all investment returns on the saving. The revenue losses from retirement saving accounts in 2019, measured on a cash flow basis, are estimated to total \$121.5 billion for employer-sponsored “defined-contribution” plans such 401(k) plans and \$90.7 billion for traditional defined-benefit plans. There are additional losses from deductible individual retirement accounts (\$17.7 billion), back-loaded (Roth) accounts (\$7.7 billion), and plans for the self-employed (\$14.7 billion).

The sixth-largest tax expenditure, the earned income credit (\$72.6 billion in 2019), mainly benefits low-income families with children. The credit increases with family size and is phased out as income rises above a threshold amount. Most of the credit’s budgetary cost comes from the portion that exceeds income tax liability and is therefore counted as outlays, rather than as a tax expenditure, in the Office of Management and Budget estimates.

In general, tax expenditures for individuals are larger than tax expenditures for businesses. Only two business tax expenditures made it into the list of the top 13: the reduced tax rate on active income of controlled foreign corporations (\$68.0 billion in 2019) and accelerated depreciation of equipment in excess of the alternative depreciation system (\$63.0 billion in 2019).

The seventh largest, the reduced tax rate on foreign income, replaces pre-TCJA rules that allowed companies to defer tax on most income accrued within controlled foreign corporations. The eighth largest, the tax subsidy for investment in equipment, was increased by a TCJA provision that allows firms to deduct purchases of qualifying equipment immediately (bonus depreciation) through 2022. Beginning in 2023, however, bonus depreciation is scheduled to phase out at a rate of 20 percent per year, reaching zero in 2027.

The ninth-largest tax expenditure is the subsidy for health insurance purchased through health benefit exchanges under the Affordable Care Act (\$51.3 billion). A TCJA provision reduces this subsidy by eliminating a penalty tax on individuals who lack insurance coverage, effectively reducing the number of people who purchase subsidized insurance coverage. The JCT projects that the cost of the tax subsidy will decline to \$44.3 billion by 2021.

The tenth-largest subsidy is the 20 percent deduction for qualified business income (\$50.2 billion in 2019). This deduction, made newly available by the TCJA for tax years beginning in 2018, is available to individuals with income from self-employment and ownership of shares in pass-through businesses (partnerships and subchapter S corporations) but is partially limited for high-income individuals according to complex criteria based on the types of activities from which they earn income, the wages they pay to their employees, and the amount of capital they own.

The eleventh-largest tax expenditure is the exclusion of untaxed Social Security and railroad benefits (\$37.0 billion). These benefits are partially or fully excluded from adjusted gross income for taxpayers whose incomes fall below threshold amounts.

The twelfth-largest tax expenditure is the exclusion of the first \$250,000 of gains (\$500,000 for joint filers) on sales of a principal residence (\$36.3 billion). Homeowners also benefit from the home mortgage interest deduction (\$33.9 billion in 2019). TCJA substantially reduced the benefit of the mortgage interest deduction by raising the standard deduction and setting a \$10,000 limit on state and local income and property tax

## Background

### What are the largest tax expenditures?

deductions, so that many fewer taxpayers claim the remaining itemized deductions and many of those who do claim them receive much smaller benefits than before.

The thirteenth-largest tax expenditure is the exclusion of benefits under cafeteria plans (\$35.0 billion in 2019). These are plans in which employers allow employees to set aside funds to purchase certain goods and services from pretax dollars. The biggest uses of cafeteria plans are for out-of-pocket health expenses (including the employee share of health insurance premiums) and dependent care expenses.

Two itemized deductions from earlier years have dropped off the top 10 list. The cost of the deduction of state and local income, sales, and property taxes will decline from \$100.9 billion in 2017 to only \$21.2 billion in 2019 because of the increase in the standard deduction and because the tax deduction is now limited to no more than \$10,000 per tax return.

The cost of the charitable deduction will also decline, but the charitable deduction, although substantially reduced after TCJA, would have just made the top 13 list if JCT considered it a single tax expenditure item. Instead, JCT reports separate estimates for the charitable deduction for education (\$7.3 billion), the charitable deduction for health (\$3.3 billion), and the charitable deduction except for education and health (31.3 billion).

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#### Data Source

Joint Committee on Taxation. 2018. "[Estimates of Federal Tax Expenditures for Fiscal Years 2017–2021](#)." JCX-34-18. Washington, DC: Joint Committee on Taxation.

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## Background

How did the TCJA affect tax expenditures?

TAX EXPENDITURES

5/5

### Q. How did the TCJA affect tax expenditures?

**A. The TCJA reduced some tax expenditure provisions, eliminated others, and introduced and expanded still others. In addition to these direct changes in tax expenditure provisions, an increase in the standard deduction and lower individual and corporate tax rates reduced the number of taxpayers using tax expenditure provisions and the value of the tax benefits they receive.**

While the Tax Cuts and Jobs Act (TCJA) reduced overall federal receipts by about \$1.5 trillion over 10 years, it did modestly reduce the net revenue cost of tax expenditures. Comparing the most recent Joint Committee on Taxation (JCT) tax expenditure estimates to its last pre-TCJA estimates, the sum of the revenue losses for all tax expenditures for fiscal years 2018–20 (the years for which both JCT studies provide estimates) declined from \$5.0 trillion to \$4.5 trillion. (The total revenue losses from tax expenditures do not exactly equal the sum of losses from each provision because of interactions among the provisions, but studies by the Urban-Brookings Tax Policy Center have shown that the simple sum of revenue losses from separate provisions is a reasonably good approximation of the revenue loss of tax expenditures including these interactions.)

The TCJA eliminated and reduced some tax expenditures while introducing some new ones and increasing some existing ones. In addition, interactions between tax expenditures and changes in the law affected the number of taxpayers who benefit from tax expenditure provisions and the value of benefits they receive. The most important of these indirect effects comes from lower individual and corporate income tax rates, which reduce the value of many tax expenditures, and the increase in the standard deduction which reduces tax benefits from itemized deductions.

The tax expenditures that decline the most in fiscal years 2018–20 are the deduction of nonbusiness state and local income and property taxes, replacement of deferral by a reduced tax rate on the active income of controlled foreign corporations, deductions for mortgage interest on owner-occupied residences, subsidies for insurance purchased through health benefit exchanges, expensing of business depreciable property for small businesses under section 179, and the deduction for income attributable to domestic production activities (table 1).

The existing tax expenditures that increase the most are the credit for children and other dependents and depreciation of equipment in excess of the alternative depreciation system. The largest new tax expenditure is a 20 percent deduction for qualified business income (table 1).

## Background

How did the TCJA affect tax expenditures?

**TABLE 1**

### Largest Changes in Tax Expenditures Fiscal years 2018-2020



Tax Expenditure Reductions	Total Change in Billions (\$)
Deduction of nonbusiness state and local government taxes	-267.3
Reduced tax rate on active income of controlled foreign corporations (formerly deferral)	-147.2
Deduction for mortgage interest on owner-occupied residences	-123.0
Subsidies for insurance purchased through health benefit exchanges	-80.0
Expensing under section 179 of depreciable business property	-60.7
Deduction for income attributable to domestic production activities	-57.5
New and Increased Tax Expenditures	Total Change in Billions (\$)
Credit for children and other dependents	187.4
Depreciation of equipment in excess of alternative depreciation system	175.5
20 percent deduction for qualified business income	142.6

**Source:** Joint Committee on Taxation, "Estimates of Federal Tax Expenditures for Fiscal Years 2017-21", JCX-34-18, and "Estimates of Federal Tax Expenditures for Fiscal Years 2016-20. JCX-3-17."

#### DIRECT CHANGES IN TAX EXPENDITURES

Most of the tax expenditures eliminated by TCJA were small. The principal exception is the deduction attributable to domestic production activities (\$62 billion in 2018–20), which was 9 percent of taxable business income. (For large corporations, this was equivalent to a cut in the tax rate on profits from domestic production from 35 to 31.9 percent.) With the lower corporate tax rate, Congress believed this deduction was no longer needed to reduce the tax burden on domestic manufacturing.

TCJA raised much more revenue from reducing several large tax expenditures instead of eliminating them. It reduced the value of the nonbusiness state and local income, sales, and property tax deductions in fiscal years 2018–20 to less than one-quarter its former cost. This resulted from a combination of changes: a

## Background

### How did the TCJA affect tax expenditures?

\$10,000 cap on the amount of taxes taxpayers could claim as a deduction; an increase in the standard deduction and reductions in other itemized deductions, which reduced the number of taxpayers claiming the deduction; and modestly lower individual income tax rates, which reduced the tax saving for taxpayers who claim it.

International provisions in the TCJA also reduced tax expenditures. The replacement of deferral of the profits of controlled foreign corporations until repatriation with a reduced tax rate on intangible profits accrued in low-tax countries will reduce tax expenditures in 2018–20 by \$147 billion. JCT previously scored deferral as costing \$365 billion over the three-year period, while the estimated revenue loss from the reduced tax rate on accrued profits (10.5 percent instead of 21 percent) is \$218 billion.

The largest expansions were for the child credit and depreciation of equipment by businesses. The child tax credit was roughly doubled from a bit more than \$1,000 to \$2,000 per child. TCJA introduced a new \$500 credit for dependents and other children receiving the regular child tax credit, it increased the income levels at which the credit phases out, and it increased the amount of the credit that could be refunded. These changes raised the 2018–20 revenue loss from the child credit by \$187 billion.

The largest new tax expenditure, the 20 percent deduction for qualified business income received by owners of pass-through businesses (sole proprietorships, partnerships, limited liability companies, and subchapter S corporations), effectively reduces the top rate on qualified business income from 37 percent to 29.8 percent. On the business side, the largest change was the enactment of 100 percent bonus depreciation for five years beginning in 2018 (and then phasing out at 20 percent per year beginning in 2023). Bonus depreciation raised the cost of depreciation of equipment in excess of the alternative depreciation system (JCT's view of depreciation rules under the baseline income tax) by \$174 billion between 2018 and 2020.

### INDIRECT EFFECTS ON THE COST OF TAX EXPENDITURES

Lower marginal tax rates reduce the cost of tax expenditures that take the form of exclusions and deductions, because reducing taxable income provides smaller tax benefits at lower rates. TCJA modestly reduced the value of many individual tax expenditures by reducing the individual rate schedule from rates ranging from 10 to 39.6 percent to rates ranging from 10 to 37 percent.

The decline in the top corporate tax rate from 35 to 21 percent was much larger than the cut in the marginal individual rates. Most corporate tax expenditures are small, however, so the corporate rate cut per se did not change their total cost very much. Changes in what were the three largest corporate tax expenditures before the TCJA (deferral of income accrued in controlled foreign corporations, depreciation in excess of the alternative depreciation system, and the domestic manufacturing deduction) were largely or wholly the result of other changes in the legislation (replacement of deferral with a minimum tax on intangible income in low tax-countries, expensing of investment in equipment, and elimination of the domestic manufacturing deduction).

Other provisions of the legislation also had significant indirect effects on selected tax expenditures. The increase in the standard deduction significantly reduced the value of itemized deductions, which benefit taxpayers only to the extent that their sum exceeds the standard deduction. And the cap on the state and local deduction reduced the value of other itemized deductions, by also reducing the amount by which itemized deductions exceed the standard deduction.

## Background

### How did the TCJA affect tax expenditures?

For example, the cost of the mortgage interest deduction declined from \$234 billion to \$112 billion. Only a small portion of this decline came from the direct provisions affecting mortgage interest—the reduced ceiling on the size of new mortgages eligible for the deduction from \$1 million to \$750,000 and elimination of the deduction for up to \$100,000 of home equity loans. Most of the saving is instead an indirect effect of the increase in the standard deduction, the \$10,000 cap on state and local tax deductions, and lower marginal tax rates. The same indirect effects will reduce the cost of charitable deductions (other than for education and health) from \$142 billion to \$110 billion.

Indirect effects also reduced other tax expenditures. The Congressional Budget Office estimates that the elimination of the penalty tax on individuals without health insurance coverage will reduce the take-up rate for health insurance plans under the Affordable Care Act exchanges. The resulting reduction in coverage will reduce tax subsidies paid out by the exchanges by about \$80 billion between 2018 and 2020. On the business side, the tax expenditure for small business expensing under section 179 will decline from about \$100 billion to about \$40 billion between 2018 and 2020, even though the amount of deductions taken was made more generous. The tax expenditure declines because with bonus depreciation in place, the additional benefit of allowing expensing under section 179 is much less than it would have been without bonus depreciation.

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## Background

### What is the tax gap?

TAX GAP AND TAX SHELTERS

1/3

#### **Q. What is the tax gap?**

#### **A. The gross tax gap is the difference between total taxes owed and taxes paid on time.**

The Internal Revenue Service (IRS) estimates that over the past 30 years, the tax gap has fluctuated in a narrow range—15 to 18 percent of total tax liability. Some view the tax gap as a possible major revenue source that could be used to close the federal budget deficit without raising taxes. In practice, though, the potential revenue gains from proposals to improve enforcement are quite limited.

The latest IRS tax gap report was prepared in 2016 and covered tax years 2008–10 (IRS Research, Analysis, and Statistics 2016). For those years, the IRS reported an average annual gross tax gap of \$458 billion (slightly over 18 percent of tax liability). Of this, the IRS eventually recovered \$52 billion through voluntary late payments and enforcement activities. That left a net tax gap of about \$406 billion.

Failure to file a tax return (nonfiling) and underpayment of reported taxes account for just over 15 percent of the gross tax gap (figure 1). Underreporting on timely filed tax returns makes up the bulk of it: \$387 billion, or 85 percent of the gross tax gap.

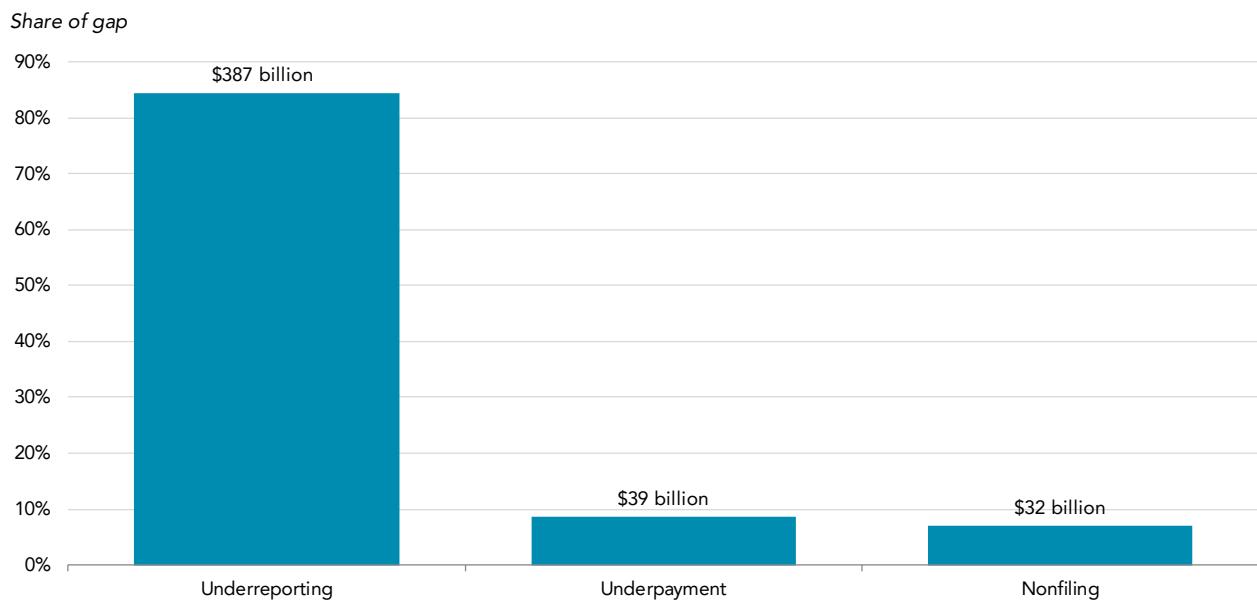
Underreporting on individual income tax returns alone (including self-employment tax) was \$329 billion (figure 2), about 85 percent of the underreporting tax gap in 2008–10. Almost 60 percent of the underreported individual income tax is owed on business and self-employment income, which the IRS has no easy way to verify independently. About 11 percent of the underreporting gap is attributable to corporate income tax, and only 0.3 percent to the estate tax.

Individual taxpayers fail to report about 63 percent of income from sources for which there is no information reporting, such as sole proprietorships. In contrast, only 7 percent of income from easily verified sources—interest, dividends, and pensions—goes unreported. When income is subject to both information returns and tax withholding, as with wages, only about 1 percent goes unreported.

## Background

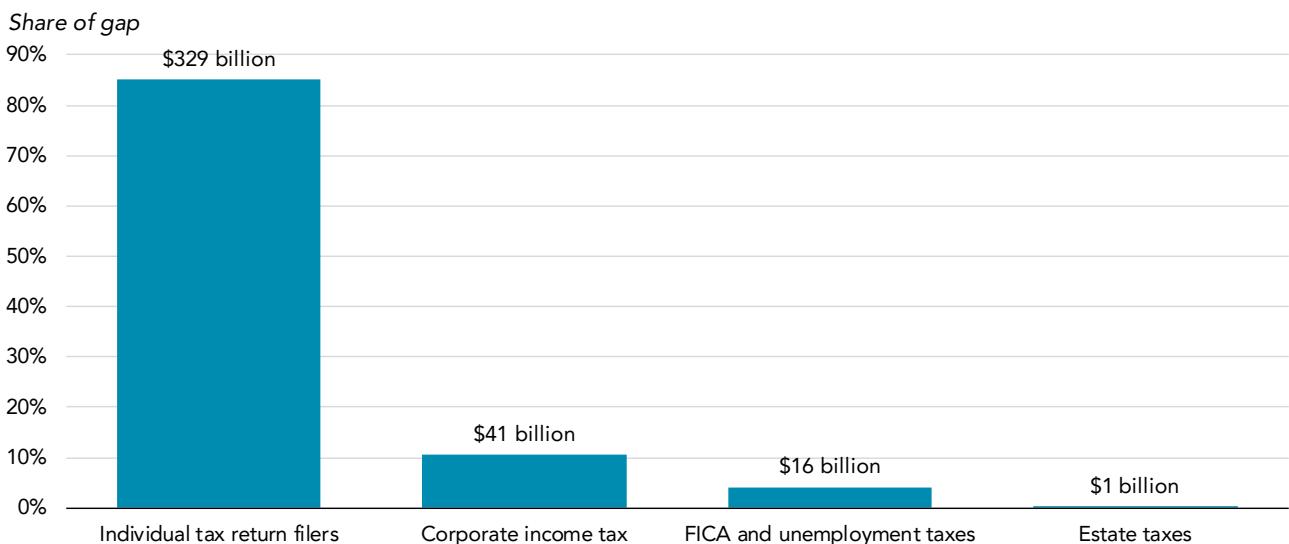
### What is the tax gap?

**FIGURE 1**  
Components of the \$458 Billion Gross Tax Gap  
2008–10



**Source:** Internal Revenue Service, Research, Analysis and Statistics (2016).

**FIGURE 2**  
Components of the \$387 Billion Underreporting Gap  
2008–10



**Source:** Internal Revenue Service, Research, Analysis and Statistics (2016).  
FICA = Federal Insurance Contributions Act

## Background

### What is the tax gap?

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## Background

What does the IRS do and how might it be improved?

TAX GAP AND TAX SHELTERS

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### **Q. What does the IRS do and how might it be improved?**

#### **A. The IRS administers the federal tax laws that the Congress enacts.**

The Internal Revenue Service (IRS) administers the federal tax laws that Congress enacts. IRS performs three main functions—tax return processing, enforcement, and taxpayer service. In addition, the IRS conducts criminal investigations and oversees tax-exempt organizations and qualified retirement plans. The IRS budget and workforce have been shrinking, even as the tax law has become more complex and the agency has taken on new tasks.

#### **IRS ACTIVITIES**

Slightly over 40 percent of the IRS's \$11.5 billion budget in 2017 went to enforcement (figure 1). About 84 percent of the enforcement budget was for examinations of taxpayer returns (audits) and collections. IRS spent the remainder on criminal investigations and regulatory activities, including monitoring tax-exempt organizations and qualified retirement plans.

About 36 percent of the budget funded operations support, including information technology, services, facilities, and organizational support. Another 21 percent supports taxpayer services, including prefilling taxpayer assistance and education and filing and account services. Finally, another 3 percent went to business systems modernization to upgrade information and technology services. These percentages have remained roughly stable in recent years.

#### **THE DECLINE IN SPENDING AND WORKFORCE AND WHY IT IS A PROBLEM**

The total IRS budget has been shrinking in real terms in recent years. Between 2010 and 2017, spending on the IRS declined by 15 percent from \$13.6 billion to \$11.5 billion in 2017 dollars. Over a longer time frame, IRS employment dropped by over 30 percent, from 112,000 full-time equivalents in 1995 to less than 77,000 in 2017 (figure 2).

While IRS resources have shrunk, the agency's workload has increased. With the taxpayer population increasing, the IRS must process more returns, administer more deposits and refunds, and expend more resources to keep taxpayers compliant. Changes in the economy and society have created other challenges for tax enforcement and compliance. These include the globalization of corporate activity, an increase in the share of income taxed through partnerships and other pass-through entities, and changes in family structure. The latter changes have made it harder for IRS to determine whether taxpayers are entitled to tax benefits based on complex criteria, including household living arrangements, family relationships, and support tests.

A major source of increased workload has been the IRS's expanded role in administering social programs. The IRS today manages a wide range of benefits for low- and middle-income families and families with children. These include the earned income credit, the child credit, the child and dependent care credit, tax subsidies

## Background

### What does the IRS do and how might it be improved?

for higher education, and premium subsidies under the Affordable Care Act. When Congress creates new programs for the IRS to administer, it often does not provide additional funding to administer them.

The 2017 Tax Cuts and Jobs Act presents the IRS with new challenges. IRS will need to write new regulations to administer provisions that are ambiguous and sometimes contradictory. Some provisions that appear to be especially difficult are the new 20 percent deduction for income from pass-through businesses and the complex new international tax provisions. Congress is considering a supplemental appropriation to help IRS administer the new tax law, but that additional funding will not reverse the long-term decline in the IRS budget.

**FIGURE 1**  
**IRS Budget Shares by Activity**  
Fiscal year 2017



**Source:** Internal Revenue Service, Statistics of Income Division. Data Book, 2017. Table 28. "Costs Incurred by Budget Activity, Fiscal Years 2016 and 2017."

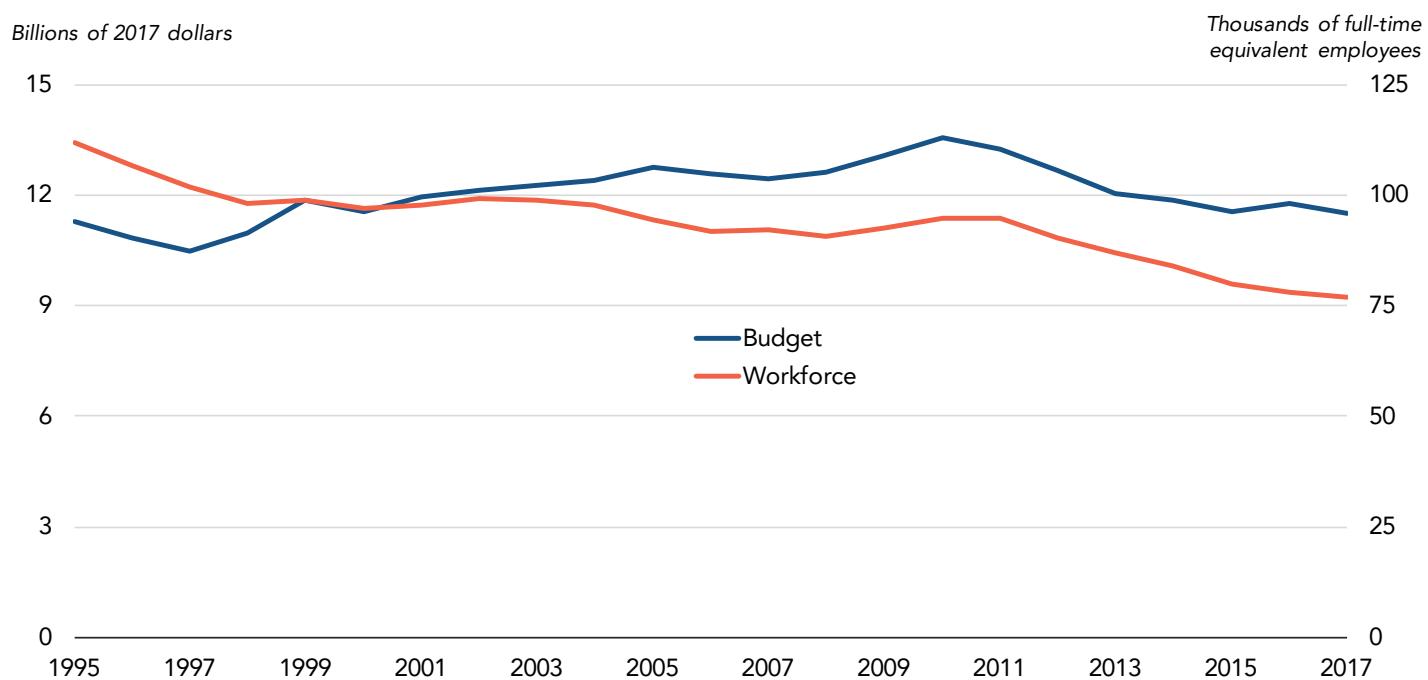
## Background

### What does the IRS do and how might it be improved?

#### WHAT CAN BE DONE?

The IRS is a complex and unwieldy bureaucracy that cannot easily transform into a modern high-tech organization. Some measures, however, could improve tax administration. Congress could enact legislation to simplify the tax law, as the National Taxpayer Advocate and some reform commissions have proposed. Congress could increase funding to reverse recent budget cuts and prevent a steep drop in the agency's enforcement presence. More funds for enforcement could more than pay for themselves in increased revenue collections. Congress could also give the agency more flexibility in personnel management and additional resources to help modernize their information technology, including relaxing existing pay ceilings for top technology personnel.

**FIGURE 2**  
**IRS Budget and Workforce**  
Fiscal year 1995–2017



**Source:** Internal Revenue Service, Statistics of Income Division. Data Book, 2017. Table 29. "Collections, Costs, Personnel, and US Population, Fiscal Years 1988–2017."

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## Background

What is a tax shelter?

TAX GAP AND TAX SHELTERS

1/1

### Q. What is a tax shelter?

**A. Tax shelters are ways individuals and corporations reduce their tax liability. Shelters range from employer-sponsored 401(k) programs to overseas bank accounts.**

The phrase “tax shelter” is often used as a pejorative term, but a tax shelter can be a legal way to reduce tax liabilities. Someone who thinks a feature of the tax code giving taxpayers the ability to reduce taxes is not a good idea might label it a shelter. Someone else might call that feature of the tax code an incentive. And as the esteemed jurist, Learned Hand, explained: “Anyone may arrange his affairs so that his taxes shall be as low as possible; he is not bound to choose that pattern which best pays the treasury.”

Individuals and corporations can reduce their final tax liabilities by allocating some portion of their incomes to tax shelters. Although they are classically associated with wealthy households and corporations who use anonymous Swiss bank accounts, tax shelters are more accessible and widespread than the usual association may suggest. For example, employer-sponsored 401(k) programs and individual retirement accounts are widespread and accessible ways individuals can “shelter” some of their income from taxation.

### ABUSIVE TAX SHELTERING

But a tax shelter also may be defined narrowly, as a transaction or strategy that generates tax benefits unintended by the Congress or the IRS. Often a tax shelter relies on a literal interpretation of a statute to achieve a result that is “too good to be true.” Professor Michael Graetz once defined a tax shelter as “a deal done by very smart people that, absent tax considerations, would be very stupid.”

The Internal Revenue Service makes a distinction between tax sheltering (which encompasses legal forms of reducing tax liability, like retirement plans) and “abusive” tax sheltering (including tax evasion, which is illegal). One example of an abusive tax-sheltering scheme is the use of trusts to reduce tax liability by overclaiming deductions or even by hiding income and assets from taxation.

### EFFECTS

Tax shelters are generally beneficial if considered from the individual or firm perspective. And tax shelters may also be desirable from an overall societal perspective. That is because the erosion of the tax base may be an acceptable loss for largely beneficial tax shelters (such as charitable contributions). Of course, some tax shelters have little to no social benefits or are even harmful.

## Background

### What is a tax shelter?

#### TAX HAVENS

"Tax havens" are a specific means of tax sheltering. A tax haven is a locality—be it a state, country, or region—that often has a lower corporate or personal income tax rate. Tax havens may also have other properties that make storing assets or income there desirable, such as bank secrecy laws, or ease of incorporation (for forming shell companies), or lack of transparency for business operations.

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## Background

What did the 2008–10 tax stimulus acts do?

HISTORY OF THE TAX CODE

1/4

### Q. What did the 2008–10 tax stimulus acts do?

**A. The 2008 and 2009 tax acts provided large temporary tax cuts to most households, with the goal of helping the economy recover from the Great Recession. The 2010 tax act extended specific provisions of the 2009 act through 2012, along with most of the 2001 and 2003 income tax cuts. It also replaced the Making Work Pay credit with a 2 percentage point reduction in the 2011 payroll tax rate for workers.**

#### ECONOMIC STIMULUS ACT OF 2008

The Economic Stimulus Act of 2008 had three main parts: an individual income tax rebate sent in mid-2008 and two business provisions to encourage investment during 2008.

##### Tax Credits for Individuals

People who filed tax returns for either 2007 or 2008 could qualify for “recovery rebates.” In total, the rebates lowered federal taxes by about 5 percent in 2008, reducing the estimated average effective federal tax rate from 19.6 percent to 18.6 percent and cutting federal revenue by nearly \$120 billion in fiscal years 2008 and 2009.

Most tax filers received a basic credit of \$600—or \$1,200 for joint filers—up to their income tax liability before subtraction of child and earned income credits. Tax filers who qualified for less than \$300 of the full basic credit (\$600 for joint filers) could get \$300 (\$600 for joint filers) if they had either (1) at least \$3,000 in earnings, Social Security benefits, and veteran’s payments or (2) net income tax liability of at least \$1 and gross income above specified thresholds.

Those thresholds equaled the sum of the applicable basic standard deduction plus one personal exemption (two personal exemptions for a joint return). That value was \$8,750 in 2007 (\$17,500 for joint filers and \$11,250 for heads of household) and \$8,950 in 2008 (\$17,900 for joint filers and \$11,500 for heads of household).

People who qualified for a basic credit could also receive an extra \$300 credit for each child eligible for the regular child credit. The act also reduced the sum of the basic and child credits by 5 percent of the tax filer’s adjusted gross income over \$75,000 (\$150,000 for joint filers).

## Background

### What did the 2008–10 tax stimulus acts do?

#### **Investment Incentives for Businesses**

Two provisions were designed to help businesses:

1. A one-year doubling of the limitation on expensing depreciable business assets (that is, deducting their full cost in the year the investment was made). This allowed firms to write off up to \$250,000, reduced by the amount of qualifying investment over \$800,000. After 2008 the limit reverted to \$125,000 (indexed from 1997), reduced by the amount of qualifying investment over \$500,000 (also indexed from 1997).
2. A “special depreciation allowance for certain property” allowed firms to claim an additional first-year depreciation of 50 percent of the cost of qualifying investments contracted for and placed in service during 2008 (in addition to the amount of investment firms could expense).

The estimated cost of the two provisions over 10 years: \$7.5 billion. Specifically, the Joint Committee on Taxation estimated that revenues would drop \$51 billion in fiscal 2008 and 2009, offset by \$43.5 billion of additional revenue in subsequent years because firms would be unable to depreciate previously expensed investments.

#### **AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009**

The American Recovery and Reinvestment Act reduced federal taxes by an estimated \$287 billion over 10 years. Over 80 percent of the tax cuts—\$232 billion—were for individuals; smaller cuts subsidized investment in renewable energy and a handful of provisions for businesses. The Urban-Brookings Tax Policy Center (2009) evaluated each of the act’s major provisions, grading them on how large and quick a boost they would give the economy. Provisions that increased households’ after-tax income quickly—and thus were most likely to increase spending quickly—received the highest grades. But no provision earned an A.

#### **The “Making Work Pay” Tax Credit**

Effective for 2009 and 2010, the Making Work Pay (MWP) tax credit accounted for half of individual tax cuts. The credit equaled 6.2 percent of earned income up to a maximum of \$400 (\$800 per couple) and phased out at 2 percent of income over \$75,000 (\$150,000 for couples). As a result, individuals with earnings between about \$6,450 and \$75,000 (between about \$12,900 and \$150,000 for couples) could get the maximum credit. Those with incomes exceeding \$95,000 (\$190,000 for couples) received no credit (Urban-Brookings Tax Policy Center 2009).

A nontax provision extended “economic recovery payments” to certain individuals who did not qualify for the MWP credit. Payments totaling an estimated \$14.2 billion went to recipients of Social Security, supplemental security income, railroad retirement benefits, and veterans’ disability compensation or pension benefits (Urban-Brookings Tax Policy Center 2009).

#### **The Alternative Minimum Tax Patch**

A one-year extension of the alternative minimum tax (AMT) “patch” temporarily raised the AMT exemption. The cost: about \$70 billion over 10 years. The patch saved affected taxpayers an estimated average of about \$2,400. Under permanent AMT law, roughly 30 million taxpayers would have owed the additional levy (Urban-Brookings Tax Policy Center 2009).

## Background

### What did the 2008–10 tax stimulus acts do?

#### Other Individual Tax Provisions

Other major provisions in the American Recovery and Reinvestment Act replaced the HOPE education credit with the more generous and more refundable American opportunity credit (at a 10-year cost of \$14.8 billion), increased the refundability of the child credit (\$13.9 billion), boosted the earned income tax credit (EITC—\$4.7 billion), and temporarily suspended taxation of the first \$2,400 of unemployment benefits (\$4.7 billion). All gave taxpayers more money to spend and thus help boost the economy. Two other provisions—the automobile sales tax credit (\$1.7 billion) and the homeownership tax credit (\$6.6 billion)—subsidized the purchase of cars along with homes for first-time buyers, thus targeting benefits for two industries hit hard by the Great Recession (Urban-Brookings Tax Policy Center 2009).

#### Business Tax Provisions

A broad range of provisions included incentives for the production of “clean” energy (\$20 billion), funding to finance infrastructure development (\$19.6 billion), tax benefits for business investment (\$8 billion), and other economic recovery tools (\$6.5 billion). The largest single provision extended tax incentives to produce electricity from renewable fuels for three years at an estimated cost of \$13 billion. Among a variety of infrastructure development tools, school construction bonds (\$10 billion), Build America bonds (\$4.3 billion), and help for financial institutions (\$3.2 billion) provided the most assistance. Special allowances for business investment in 2009 (\$6 billion) and provisions related to net operating losses (\$3.2 billion) gave additional assistance to firms.

#### TAX RELIEF UNEMPLOYMENT INSURANCE REAUTHORIZATION AND JOB CREATION ACT OF 2010

Faced with the scheduled sunset of all provisions of the 2001 and 2003 Bush tax cuts and the 2009 stimulus act (as well as several other tax laws), and unable to agree on permanent changes, Congress temporarily extended many provisions in the Tax Relief Unemployment Insurance Reauthorization and Job Creation Act of 2010. The law had diverse effects on the tax code:

- It extended all of the 2001 and 2003 individual income tax cuts for two years through 2012.
- It extended selected provisions of the 2009 act for two years through 2012, including
  - the higher EITC phaseout threshold for married couples filing jointly (\$5,000 above the threshold for single filers, indexed for inflation);
  - the 45 percent EITC phase-in rate for families with three or more children;
  - the \$3,000 threshold (unindexed) for refundability of the child tax credit; and
  - the American Opportunity Tax Credit for higher education.
- It set an effective exemption of \$5 million and a 35 percent tax rate for the estate tax for 2011 and 2012, and replaced the state death tax credit with a deduction.
- It reduced the Social Security tax rate on employees to 4.2 percent for 2011 and the self-employment tax rate by 2 percentage points for 2011. (However, the act did not reduce the amount of self-employment tax that taxpayers could deduct on their income tax returns.)
- It raised the AMT exemption to \$47,450 for single filers and \$72,450 for married couples filing jointly for 2010 and to \$48,450 and \$74,450, respectively, for 2011.
- It extended other expiring tax provisions, including the deduction for state and local general sales taxes, the above-the-line deduction for education expenses, and the educator expense deduction, through 2011.

## Background

### What did the 2008–10 tax stimulus acts do?

The temporary reduction in the Social Security tax effectively replaced the MWP credit from the 2009 stimulus. That swap reduced the tax savings for low-income workers—single people with earnings under \$20,000 and couples with earnings under \$40,000—and provided large new tax breaks for high earners. Recall that single workers with income over \$95,000 and couples with income over \$190,000 got no MWP credit. In contrast, the cut in the Social Security tax rate saved high earners—those with earnings at or above the \$106,800 cap on earnings subject to the tax in 2011—\$2,136 in payroll taxes and double that for high-earning couples.

A Tax Policy Center analysis showed that, while about two-thirds of households in the lowest income quintile (income under about \$18,000) would have gotten either credit, their average MWP credit would have been twice their payroll tax savings—\$371 versus \$178. Meanwhile, nearly 90 percent of households in the top quintile (income over about \$105,000) got an average payroll tax cut of about \$2,250, compared with just 60 percent who would have gotten MWP credits averaging about \$650.

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## Background

What did the American Taxpayer Relief Act of 2012 do?

HISTORY OF THE TAX CODE

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### Q. What did the American Taxpayer Relief Act of 2012 do?

#### A. The American Taxpayer Relief Act of 2012 made permanent most of the income tax cuts enacted between 2001 and 2010 and extended other temporary tax provisions for between one and five years.

Numerous tax cuts enacted between 2001 and 2010 were scheduled to expire after 2012, part of the “fiscal cliff” that threatened to cut short nascent recovery from the Great Recession. The expirations involved four tax acts:

- The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) phased in income tax cuts for most taxpayers but scheduled all of the cuts to expire after 2010 to avoid conflict with Senate rules (Joint Committee on Taxation 2001).
- The Jobs and Growth Tax Relief Reconciliation Act of 2003 accelerated the phase-in of some EGTRRA provisions, but retained their expiration dates and lowered tax rates on capital gains and qualifying dividends, also with sunset dates (Joint Committee on Taxation 2003).
- The American Recovery and Reinvestment Tax Act of 2009 (Division B, Title I of the American Recovery and Reinvestment Act, or ARRA) provided a number of temporary tax cuts designed to stimulate the economy, all of which were to sunset by the end of 2010 (Altshuler et al. 2009).
- The Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 extended most provisions of those three acts through 2012 (Urban-Brookings Tax Policy Center 2010).

(Another tax law, the Temporary Payroll Tax Cut Continuation Act of 2011, extended through 2012 a cut in employees’ share of the payroll tax funding Social Security, from 6.2 percent to 4.2 percent. The American Taxpayer Relief Act did not extend that provision.)

The Tax Policy Center’s analysis of the scheduled expirations found that failure to extend them (including the temporary payroll tax cut) would have raised taxes by more than \$500 billion in 2013—an average of almost \$3,500 per household. Roughly 90 percent of Americans would have seen their tax bills rise (Williams et al. 2012).

Congress passed the American Taxpayer Relief Act of 2012 (ATRA) early on January 1, 2013, to prevent most of the sunsetting tax cuts from expiring. Most 2001 and 2003 income tax cuts were made permanent for all but the highest-income taxpayers. ATRA extended three ARRA provisions through 2017, while permanent changes to the estate tax and the alternative minimum tax reduced the number of people affected and indexed those provisions for inflation.

## Background

### What did the American Taxpayer Relief Act of 2012 do?

#### TAX PROVISIONS MADE PERMANENT

##### Income Tax Provisions

- **Tax Rates:** ATRA maintained the basic marginal tax rate structure of 10, 15, 25, 28, 33, and 35 percent for taxable income under \$400,000 (\$450,000 for married taxpayers filing jointly); the thresholds were indexed for inflation after 2013. Taxpayers with taxable income above the thresholds face a 39.6 percent marginal tax rate.
- **Pease and PEP:** The limitation on itemized deductions (Pease) and the personal exemption phaseout (PEP) applies only to taxpayers with adjusted gross incomes of \$250,000 or more (\$300,000 for married taxpayers filing jointly); the thresholds are indexed for inflation after 2013.
- **Child Credits:** The child tax credit equals \$1,000 per child and is refundable up to 15 percent of earnings above \$10,000 (indexed for inflation after 2001). Another ATRA provision temporarily reduced the refundability threshold to \$3,000. The child and dependent tax care credit rate begins at 35 percent on eligible expenses up to \$3,000 per child (to a maximum of \$6,000) and phases down to 20 percent between adjusted gross incomes of \$15,000 and \$43,000.
- **Marriage Penalty:** The standard deduction and the 10 percent and 15 percent brackets for joint filers equal twice those for single filers. (ATRA also temporarily extended the higher earned income tax credit phaseout threshold for joint filers.)
- **Education Tax:** ATRA maintained higher annual contribution limits for Coverdell education savings accounts and higher phaseout ranges for the student loan interest deduction.
- **Capital Gains and Dividends:** ATRA retained 15 percent tax rates on long-term capital gains and qualified dividends (0 percent for those who would otherwise be in the bottom two tax brackets) for taxpayers in all but the top income tax bracket; the law also sets a 20 percent rate for those in the top bracket.
- **Alternative Minimum Tax:** ATRA set the 2012 alternative minimum tax exemption at \$50,600 (\$78,750 for married taxpayers filing jointly) and indexes the exemption amount, the exemption phaseout threshold, and the future tax brackets for inflation.

##### Estate and Gift Taxes

ATRA sets a \$5 million effective estate and gift tax exemption (indexed for inflation from 2011) and a top estate tax rate of 40 percent. A surviving spouse may claim any exemption not previously used by the deceased, a feature termed “portability.”

#### EXTENSIONS OF TEMPORARY TAX PROVISIONS

##### Tax Extenders

Congress regularly renews a few dozen temporary tax provisions, known as extenders, for one or two years at a time. ATRA extended that group of tax provisions through 2013. Most extenders had expired at the beginning of 2012; their ATRA extensions were retroactive, making them effective for 2012.

##### Extension Through 2017 of Certain 2009 Tax Cuts

- The American opportunity tax credit, which replaced the HOPE education credit in 2009.
- The child tax credit is refundable up to 15 percent of earnings above \$3,000 (not indexed for inflation), which is reduced from earnings above \$10,000 (indexed for inflation from 2001).
- The earned income tax credit threshold for couples filing jointly is set at \$5,000 (indexed from 2008) above the phaseout for single filers. The phase-in rate for families with three or more children is raised to 45 percent.

## Background

### What did the American Taxpayer Relief Act of 2012 do?

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## Background

How did the Tax Cuts and Jobs Act change personal taxes?

HISTORY OF THE TAX CODE

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### Q. How did the Tax Cuts and Jobs Act change personal taxes?

**A. The Tax Cuts and Jobs Act made significant changes to individual income taxes and the estate tax. Almost all these provisions expire after 2025, while most business provisions are permanent.**

The new tax law made substantial changes to the tax rates and the tax base for the individual income tax. The major provisions follow, excluding those that only affect business income.

#### TAX RATES AND TAX BRACKETS

The Tax Cut and Jobs Act (TCJA) reduced statutory tax rates at almost all levels of taxable income and shifted the thresholds for several income tax brackets (table 1). As under prior law, the tax brackets are indexed for inflation but using a different inflation index (see below).

**TABLE 1**  
Individual Income Tax Brackets and Rates  
2018



Prior Law					Tax Cuts and Jobs Act				
Single Filers		Married Couples Filing Jointly		Tax Rate (percent)	Single Filers		Married Couples Filing Jointly		Tax Rate (percent)
Over	But not over	Over	But not over		Over	But not over	Over	But not over	
0	9,525	0	19,050	10	0	9,525	0	19,050	10
9,525	38,700	19,050	77,400	15	9,525	38,700	19,050	77,400	12
38,700	93,700	77,400	156,150	25	38,700	82,500	77,400	165,000	22
93,700	195,450	156,150	237,950	28	82,500	157,500	165,000	315,000	24
195,450	424,950	237,950	424,950	33	157,500	200,000	315,000	400,000	32
424,950	426,700	424,950	480,050	35	200,000	500,000	400,000	600,000	35
426,700	and over	480,050	and over	39.6	500,000	and over	600,000	and over	37

Source: Gale et al. (2018)

## Background

### How did the Tax Cuts and Jobs Act change personal taxes?

#### FAMILY BENEFITS (PERSONAL EXEMPTIONS, CHILD CREDIT)

TCJA repealed personal and dependent exemptions. In place of personal exemptions, TCJA increased the standard deduction, discussed below. In place of dependent exemptions, TCJA increased the child tax credit (CTC) and created a new \$500 tax credit for dependents not eligible for the child tax credit (table 2).

TCJA expanded the CTC in several ways. It doubled the maximum per child credit amount from \$1,000 to \$2,000 starting in 2018. It also increased the refundable portion of the credit but limited the maximum refundable credit to \$1,400 per child in 2018. The maximum refundable amount limit is indexed for inflation but the maximum total credit amount is not. Unlike prior law, TCJA limited eligibility for the credit to children who have a valid social security number.

TCJA extended the CTC to higher-income families by substantially increasing the income thresholds at which the credit phases out. As under prior law, the income phaseout thresholds are not indexed for inflation.

TCJA created a new nonrefundable \$500 credit for other dependents, including children who are too old to be eligible for the CTC, full-time college students, other adult members of the household for whom the taxpayer provides significant financial support, and children who would otherwise be eligible for the \$2,000 child tax credit but lack a valid social security number. The \$500 amount is also not indexed for inflation.

#### STANDARD AND ITEMIZED DEDUCTIONS

TCJA nearly doubled the standard deduction (table 3). As before, the standard deduction amounts are indexed for inflation. The larger standard deductions will substantially reduce the number of taxpayers choosing to itemize their deductions.

**TABLE 2**  
Family Benefits



Prior Law	Tax Cuts and Jobs Act
<b>Personal and dependent exemptions</b> \$4,150; indexed for inflation	Repealed
<b>Child tax credit</b>  \$1,000 per qualifying child under 17; phases out at AGI above \$75,000 (single), \$110,000 (joint); refundable portion equals 15 percent of earnings in excess of \$3,000	\$2,000 per qualifying child under 17, \$500 for other dependents; phases out at AGI above \$200,000 (single), \$400,000 (joint); refundable portion equals 15 percent of earnings in excess of \$2,500 up to a maximum credit of \$1,400 per qualifying child; maximum refundable portion indexed for inflation; requires valid social security number

Source: Gale et al. (2018)

AGI = adjusted gross income

## Background

### How did the Tax Cuts and Jobs Act change personal taxes?

TCJA changed the structure of several major itemized deductions. Under prior law, itemizers could claim deductions for all state and local property taxes and the greater of income or sales taxes (subject to overall limits on itemized deductions). TCJA limited the itemized deduction for total state and local taxes to \$10,000 annually, for both single and joint filers, and did not index that limit for inflation. As under prior law, taxpayers cannot claim a deduction for state and local taxes against the alternative minimum tax (AMT).

Under prior law, taxpayers could deduct interest on mortgage payments associated with the first \$1 million of principal paid on debt incurred to purchase (or substantially renovate) a primary and secondary residence plus the first \$100,000 in home equity debt. For taxpayers taking new mortgages after the effective date, TCJA limited the deductibility to the interest on the first \$750,000 of loan principal and eliminated the deductibility of interest for home equity debt.

Previously, taxpayers could deduct out-of-pocket medical expenses (including costs for health insurance) above 10 percent of adjusted gross income (AGI). For 2017 and 2018, TCJA allowed deductions for out-of-pocket medical expenses above 7.5 percent of AGI. After 2018, the prior law 10 percent of AGI threshold applies.

TCJA repealed the phase-down of the amount of allowable itemized deductions (sometimes called the Pease provision). This limitation took effect at AGI above \$266,700 for single filers and \$320,000 for taxpayers filing joint returns.

### CAPITAL GAINS, DIVIDENDS, AND THE ALTERNATIVE MINIMUM TAX

TCJA retained the preferential tax rates on long-term capital gains and qualified dividends and the 3.8 percent net investment income tax (NIIT). The NIIT applies to interest, dividends, short- and long-term capital gains, rents and royalties, and passive business income. TCJA separated the tax-rate thresholds for capital gains and dividend income from the tax brackets for ordinary income for taxpayers with higher incomes (table 4).

TCJA retained the individual AMT but raised the exemption levels and raised the income threshold at which the AMT exemption phases out, which will significantly reduce the number of taxpayers subject to the AMT. The exemption amounts and phaseout thresholds continue to be indexed for inflation.

### ESTATE TAX

TCJA doubled the estate tax exemption to \$11.2 million for single filers and to \$22.4 million for couples, and continued to index the exemption levels for inflation (table 5). The top estate tax rate remains at 40 percent.

### AFFORDABLE CARE ACT (ACA) PENALTY TAX

Starting in 2019, TCJA set the Affordable Care Act's (ACA's) individual mandate penalty tax to zero. Previously, households without qualifying health insurance were required to pay a penalty equal to the lesser of 2.5 percent of household income or \$695 per adult and \$347.50 per child, up to a maximum of \$2,085. Under the new law, individuals who do not enroll in adequate health insurance plans will not face a penalty starting in 2019. Because fewer people will obtain free or subsidized coverage in the absence of the penalty tax, and the reduced costs of ACA premium tax credits and other subsidies and Medicaid benefits will far exceed the lost revenue from setting the penalty tax rate to zero, the net effect will be to reduce the federal budget deficit. This provision does not sunset.

## Background

### How did the Tax Cuts and Jobs Act change personal taxes?

#### INFLATION INDEXING

TCJA changed the measure used for inflation indexing, from the Consumer Price Index for All Urban Consumers (CPI-U) to the chained CPI-U. The chained CPI-U more accurately measures changes in consumer welfare resulting from price changes because it accounts for people finding substitutes for goods whose prices increase faster than others. The chained CPI-U thus generally increases at a slower rate than the traditional CPI-U, implying that individuals will end up in higher tax brackets and that indexed tax credits (like the earned income tax credit) will increase at slower rates than they would have under the old indexing system. The change in indexing is permanent.

**TABLE 3**

#### Standard and Itemized Deductions



Prior Law	Tax Cuts and Jobs Act
<b>Standard deduction</b>  \$6,500 (single), \$13,000 (joint), \$9,550 (head of household); indexed for inflation	\$12,000 (single), \$24,000 (joint), \$18,000 (head of household); indexed for inflation
<b>State and local tax deduction</b>  Real estate, personal property, and either income or sales taxes are deductible	Real estate, personal property, and either income or sales taxes are deductible; total deduction capped at \$10,000
<b>Mortgage interest deduction</b>  Interest payments on up to \$1.1 million of debt (including \$100,000 of home equity debt) are deductible; applicable to principal and one other residence	Interest payments on up to \$750,000 of new acquisition debt are deductible; applicable to principal and one other residence
<b>Medical expense deduction</b>  Out-of-pocket medical expenses in excess of 10 percent of AGI are deductible	Out-of-pocket medical expenses in excess of 7.5 percent of AGI are deductible in 2017 and 2018; reverts to 10 percent of AGI in 2019
<b>Overall limit on itemized deductions</b>  Itemized deduction phases out at AGI above \$266,700 (single), \$320,000 (joint); amounts indexed for inflation	Repealed

Source: Gale et al. (2018)

AGI = adjusted gross income

## Background

### How did the Tax Cuts and Jobs Act change personal taxes?

#### SUNSETS

A notable feature of the individual tax and the estate tax provisions is that all of them expire after 2025, except the reduction of the ACA penalty tax, the change in inflation indexing, and several changes in the tax base for business income. Some provisions expire sooner (for example the increased deductibility of medical expenses applies only to tax years 2017 and 2018). In contrast, many of the business tax provisions do not sunset. Congress chose to make the individual provisions temporary to limit the revenue cost of the TCJA to a level consistent with the overall constraint on the 10-year revenue loss in the Congressional Budget Resolution and to comply with Senate budget rules under the process used to pass the tax act that require no increase in the federal budget deficit after the tenth year.

**TABLE 4**

### Capital Gains, Dividends, and the Alternative Minimum Tax



Prior Law	Tax Cuts and Jobs Act
<b>Tax rate on capital gains and qualified dividends</b>	
Zero rate for taxpayers below the 25 percent tax bracket; 15 percent rate for taxpayers in the 25 to 35 tax brackets; 20 percent rate for taxpayers above the 35 percent tax bracket; 3.8 percent NIIT at AGI above \$200,000 (single), \$250,000 (joint)	Zero rate if taxable income is below \$38,600 (single), \$77,200 (joint); 15 percent rate if taxable income is between \$38,600 and \$425,800 (single) \$77,200 and \$479,000 (joint); indexed for inflation; 3.8 percent NIIT at AGI above \$200,000 (single), \$250,000 (joint)
<b>Individual Alternative Minimum Tax</b>	
AMT exemption equal to \$55,400 (single), \$86,200 (joint); phases out at AGI above \$123,100 (single), \$164,100 (joint); indexed for inflation	AMT exemption equal to \$70,300 (single), \$109,400 (joint); phases out at AGI above \$500,000 (single), \$1,000,000 (joint); indexed for inflation

**Source:** Gale et al. (2018)

AGI = adjusted gross income, AMT = alternative minimum tax, NIIT = net investment income tax

**TABLE 5**

### Estate Tax



Prior Law	Tax Cuts and Jobs Act
Top rate of 40 percent on estates above \$5.6 million (single), \$11.2 million (joint); indexed for inflation	Top rate or 40 percent on estates above \$11.2 million (single), \$22.4 million (joint); indexed for inflation

**Source:** Gale et al. (2018)

## Background

How did the Tax Cuts and Jobs Act change personal taxes?

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### Data Sources

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## Background

How did the Tax Cuts and Jobs Act change business taxes?

HISTORY OF THE TAX CODE

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### **Q. How did the Tax Cuts and Jobs Act change business taxes?**

**A. The Tax Cut and Jobs Act made significant changes to the corporate income tax and taxes on pass-through businesses. Unlike almost all personal tax provisions, which expire after 2025, most corporate tax provisions are permanent.**

#### **CORPORATE TAX RATE AND CORPORATE ALTERNATIVE MINIMUM TAX**

The Tax Cut and Jobs Act (TCJA) reduced the top corporate income tax rate from 35 percent to 21 percent, bringing the US rate below the average for most other Organisation for Economic Co-operation and Development countries, and eliminated the graduated corporate rate schedule (table 1). TCJA also repealed the corporate alternative minimum tax.

#### **TAX BASE FOR CORPORATIONS AND OTHER BUSINESSES**

TCJA allowed businesses to deduct the full cost of qualified new investments in the year those investments are made (referred to as 100 percent bonus depreciation or “full expensing”) for five years. Bonus depreciation then phases down in 20 percentage point increments beginning in 2023, and is fully eliminated after 2026. Prior law allowed 50 percent bonus depreciation in 2017, decreasing the percentage in subsequent years and fully eliminating it after 2020.

TCJA doubled the Section 179 expensing limit for investments by small businesses from \$500,000 to \$1,000,000 for qualified property (sometimes called “small business expensing”). It also simplified accounting rules for smaller firms.

TCJA limited the amount of net business interest (interest paid less interest received) that businesses can deduct to 30 percent of business income before interest, depreciation, and amortization. Starting in 2022, the adjustment for amortization and depreciation will be removed from the limitation. Businesses with gross receipts below \$25 million are exempt from the limitation. Previously, interest paid was generally fully deductible in computing taxable income for all businesses.

TCJA limited the deduction for net operating losses to 80 percent of taxable income. It also repeals carrybacks of losses, except for certain businesses, but allows taxpayers to carry forward losses indefinitely. Under prior law, net operating losses could offset 100 percent of taxable income and businesses could carry back unused losses for two years or carry them forward for 20 years.

The new law also eliminated the domestic production activities deduction (Section 199) and modified other smaller provisions such as the orphan drug credit, the deduction for Federal Deposit Insurance Corporation premiums, and the computations for life insurance reserves. In addition, starting in 2022, expenditures

## Background

### How did the Tax Cuts and Jobs Act change business taxes?

for research and experimentation must be amortized over five years (15 years for offshore research and experimentation expenses) instead of being immediately deductible.

#### PASS-THROUGH BUSINESS INCOME DEDUCTION

Unlike C-corporations, pass-through firms such as sole proprietorships, partnerships, and S-corporations are not subject to the corporate income tax. Instead the owners include their share of profits as taxable income under the individual income tax.

In general, TCJA's changes to the business income tax base, including the limits on interest deductions and net operating losses, apply to pass-through businesses as well as to business subject to the corporate income tax. However, TCJA included changes specific to pass-through businesses (table 2). The pass-through businesses specific provisions are scheduled to expire after 2025.

**TABLE 1**

#### Corporate and Other Business Tax Changes



Prior Law	Tax Cuts and Jobs Act
<b>Top corporate income tax rate</b>	
35 percent	21 percent
<b>Corporate Alternative Minimum Tax</b>	
Yes	Repealed
<b>New investment purchases</b>	
2018: 40 percent bonus depreciation for qualified property; 2019: 30 percent bonus depreciation for qualified property; 2020: 20 percent bonus depreciation for qualified property; small business (section 179) expensing up to \$500,000	2018-22: 100 percent bonus depreciation for qualified property; 2023: 80 percent bonus depreciation for qualified property; 2024: 60 percent bonus depreciation for qualified property; 2025: 40 percent bonus depreciation for qualified property; 2026: 20 percent bonus depreciation for qualified property; small business (section 179) expensing up to \$1,000,000
<b>Business interest deduction</b>	
Fully deductible (generally)	Disallowable for net interest in excess of 30 percent of business income (excluding depreciation after 2022); exemption for businesses with gross receipts of \$25 million or less
<b>Net operating losses</b>	
Fully deductible; unused losses can be carried back for 2 years or carried forward for 20 years	Deduction limited to 80 percent of taxable income; unused losses cannot be carried back but can be carried forward indefinitely

**Source:** Gale et al. (2018).

## Background

### How did the Tax Cuts and Jobs Act change business taxes?

TCJA introduced a complex new deduction for income from pass-through businesses. Under the new law, joint tax filers with taxable income below \$315,000 (\$157,500 for other filers) can deduct 20 percent of their qualified business income (QBI). The 20 percent deduction lowers the effective top individual income tax rate on business income from 37 to 29.6 percent.

If taxable income exceeds those thresholds, however, the deduction can be reduced depending upon the type of business, the wages paid, and the investment property owned by the business. For personal service businesses (such as law firms, medical practices, consulting firms, or professional athletes), QBI phases down on a pro rata basis. Once taxable income reaches \$415,000 for joint filers (\$207,500 for other filers), QBI is zero and there is no longer any deduction.

For all pass-through businesses, whether they are personal service firms or not, an additional two-part formula limits the deduction once taxable income exceeds the \$315,000/\$157,000 thresholds. Under the formula, the deduction is limited to the greater of either 50 percent of the wages the business pays its employees or 25 percent of wages plus 2.5 percent of the basis of the business' qualified property. Business owners compare those calculations to 20 percent of their QBI and may deduct only the smaller amount. The limit on the deduction phases in over the same income range as above.

### LIMIT ON PASS-THROUGH BUSINESS LOSSES

A major advantage of organizing as a pass-through business rather than as a C-corporation is that pass-through business owners can use business losses to offset taxable income from other sources. TCJA limits the amount of active pass-through business losses that business owners can deduct against other income to \$500,000 for joint filers (\$250,000 for other filers). Unused losses, however, can be carried forward and used in future years (table 2).

**TABLE 2**

### Tax Changes Specific to Pass-Through Businesses



Prior Law	Tax Cuts and Jobs Act
<b>Income from pass-through businesses</b>	
Taxed at ordinary income rates (maximum rate of 39.6 percent)	Provides 20 percent deduction for qualified business income (maximum rate of 29.6 percent); deduction limited for taxable income above \$157,500 (single), \$315,000 (joint)
<b>Pass-through business losses</b>	
Active losses fully deductible from other income	Deductible losses limited to \$250,000 (single), \$500,000 (joint); unused losses can be carried forward

Source: Gale et al. (2018).

## Background

### How did the Tax Cuts and Jobs Act change business taxes?

#### INTERNATIONAL ISSUES

The TCJA made sweeping changes to the treatment of foreign source income and international financial flows. Under prior law, the United States taxed the income of multinational firms on a worldwide basis, meaning that all income was taxed, regardless of where it was earned, less a credit for foreign taxes paid. However, the tax due on active foreign-source income of foreign subsidiaries of US multinationals was deferred until the income was made available to the US parent company.

The TCJA created a modified territorial tax system. US corporations continue to owe US taxes on the profits they earn in the United States. But TCJA exempted from taxation the dividends that domestic corporations receive from foreign corporations in which they own at least a 10 percent stake.

Under a pure territorial system, firms would have a strong incentive to shift real investment and reported income to low-tax jurisdictions overseas and to shift deductions into the United States. Several provisions were created as guardrails to reduce the extent to which companies take those actions.

The minimum tax on global intangible low-taxed income (GILTI) imposed a 10.5 percent minimum tax without deferral on profits earned abroad that exceed a firm's "normal" return (defined in the law as 10 percent on the adjusted basis in tangible property held abroad). Companies can use 80 percent of their foreign tax credits, calculated on a worldwide basis, to offset this minimum tax.

Whereas GILTI acts as a "stick" to prevent companies from making investments in intangible assets overseas, a deduction for foreign-derived intangible income (FDII) acts as a "carrot" to provide an incentive for firms to hold intangible assets in their US affiliates. FDII is income received from exporting products whose intangible assets are held in the United States. For example, a pharmaceutical company will be able to deduct some income from overseas drug sales if the patent on the drug is held in its US parent company.

TCJA also created a new base erosion and antiabuse tax (BEAT), which—not surprisingly, given the acronym—is another "stick." BEAT imposes a minimum tax on otherwise deductible payments between a US corporation and a related foreign subsidiary.

To transition to the new system, TCJA created a new deemed repatriation tax for previously accumulated and untaxed earnings of foreign subsidiaries of US firms equal to 15.5 percent for cash and 8 percent for illiquid assets. In 2015, it was estimated that US companies held more than \$2.6 trillion in untaxed income in their foreign affiliates (Barthold 2016). Companies have eight years to pay the tax, with a back-loaded minimum payment schedule specified in the law.

## Background

How did the Tax Cuts and Jobs Act change business taxes?

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### Data Sources

Congressional Budget Office, "[Cost Estimate for the Conference Agreement on H.R. 1, a Bill to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018](#)," memo, December 15, 2017.

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