DECEMBER 2019

The Accuracy of CBO's Baseline Estimates for Fiscal Year 2019

After each fiscal year has ended, the Congressional Budget Office reviews its baseline projections of federal revenues, outlays, and deficits and compares them with actual budgetary outcomes for that year. By assessing the quality of its projections and identifying the factors that might have led to under- or overestimates of federal revenues and outlays in particular categories, CBO seeks to improve the accuracy of its work.

This report reviews CBO's projections for fiscal year 2019 (specifically, those that were reported in what CBO calls its adjusted April 2018 baseline) and compares them with actual outcomes.[1] The differences between the projections and the outcomes for revenues, outlays, and the deficit were smaller than the mean absolute errors in projections for previous years.[2]

To make the comparison, CBO updated its projections to account for subsequently enacted legislation. CBO also removed outlays for Fannie Mae and Freddie Mac from both its projections and the actual outcomes because CBO and the Administration account differently for the transactions of those housing entities.[3] With those adjustments, the overall differences were as follows (see Table 1):

- **Revenues.** CBO's projection of $3.49 trillion for federal revenues in 2019 was too high—by $28 billion, or 0.8 percent. That difference was much smaller than the mean absolute error of 5.0 percent in revenue projections made for the years from 1983 to 2018.

- **Outlays.** CBO's projection of $4.46 trillion for federal outlays in 2019 was too low—by $3 billion, or 0.1 percent. That difference was likewise much smaller than the mean absolute error of 2.3 percent in outlay projections made for the years from 1993 to 2018.

- **The Deficit.** Those outlay and revenue differences resulted in a deficit projection for 2019 that was $31 billion less than the actual amount: $972 billion rather than $1,004 billion.[4] That difference was

1. For last year's edition of this report, see Congressional Budget Office, *The Accuracy of CBO's Baseline Estimates for Fiscal Year 2018* (December 2018), www.cbo.gov/publication/54872.

2. The mean absolute error is the arithmetic average of the projection errors without regard to whether they are positive or negative, so errors in different directions do not offset one another. CBO calculated projection errors by subtracting the actual amounts of outlays or revenues from the projections and dividing that difference by the actual outlay or revenue amounts. The mean absolute error in the deficit projections was expressed as a percentage of gross domestic product rather than as a percentage calculated from dollar values in order to account for years in which the actual deficit or surplus was small, causing relatively small projection errors (in dollar terms) to result in large percentage errors.

3. For more information about the differences, see Congressional Budget Office, *Accounting for Fannie Mae and Freddie Mac in the Federal Budget* (September 2018), www.cbo.gov/publication/54475.

4. Removing outlays for Fannie Mae and Freddie Mac reduced projected outlays by $2.5 billion and increased actual outlays by $19.2 billion. Without that adjustment, the 2019 deficit, as reported by the Treasury, totaled $984 billion.

Notes: Unless this report indicates otherwise, all years referred to are federal fiscal years, which run from October 1 to September 30 and are designated by the calendar year in which they end. Numbers in the text and tables may not add up to totals because of rounding.

Table 1.

CBO's Budget Projections for 2019, Compared With Actual Outcomes

Billions of Dollars

	Adjusted April 2018 Projections, Updated for Enacted Legislation[a]	2019 Actual[a]	Difference	Percentage Difference[b]	Mean Absolute Error of Past Budget-Year Projections (Percent)[c]
Revenues					
Individual income taxes	1,745	1,718	27	1.6	7.2
Payroll taxes	1,231	1,243	-12	-1.0	2.5
Corporate income taxes	276	230	46	20.0	17.4
Other	239	271	-33	-12.0	5.6
Total	**3,491**	**3,462**	**28**	**0.8**	**5.0**
Outlays					
Mandatory					
Social Security	1,043	1,038	5	0.5	0.8
Medicare[d]	641	644	-3	-0.4	3.1
Medicaid	402	409	-8	-1.9	4.1
Other	634	662	-28	-4.2	8.1
Subtotal	2,720	2,754	-34	-1.2	2.7
Discretionary					
Defense	663	676	-13	-1.9	1.5
Nondefense	690	660	30	4.6	2.5
Subtotal	1,354	1,336	17	1.3	1.5
Net Interest[e]	389	376	14	3.6	8.0
Total	**4,463**	**4,466**	**-3**	**-0.1**	**2.3**
Deficit	**-972**	**-1,004**	**31**	**-3.1**	**n.a.[f]**

Sources: Congressional Budget Office; Department of the Treasury.

The numbers presented here are CBO's adjusted April 2018 baseline budget projections, which were published in Congressional Budget Office, *An Analysis of the President's 2019 Budget* (May 2018), www.cbo.gov/publication/53884. For this analysis, CBO further updated those projections to account for the estimated budgetary effects of legislation that was subsequently enacted. For discretionary spending, the amounts reflect estimated outlays stemming from full-year appropriations provided for 2019. Those projections are generally consistent with the technical assessments (for example, about how quickly appropriations will be spent) and economic projections underlying the adjusted April 2018 baseline.

n.a. = not available.

a. Outlays related to the activities of Fannie Mae and Freddie Mac (which are classified as mandatory) are excluded from this table; the budget recorded $19.2 billion in offsetting receipts (that is, negative outlays) for those activities. Including those outlays, the 2019 budget deficit, as reported by the Treasury, totaled $984 billion.

b. The percentage difference is the projected amount minus the actual amount divided by the actual amount.

c. The mean absolute error is the arithmetic average of the projection errors without regard to whether they are positive or negative, so errors in different directions do not offset one another. CBO calculated projection errors by subtracting the actual amount of outlays or revenues from the projection and dividing that difference by the actual outlay or revenue amount. The budget year is the second year of the period covered by CBO's baseline projections; it usually begins several months after a spring baseline is released. The mean absolute errors for revenues are based on budget-year projections for 1983 to 2018; those for defense and nondefense discretionary spending are based on budget-year projections for 1999 to 2018; and those for all other spending categories are based on budget-year projections for 1993 to 2018. The data necessary to calculate the projection errors in earlier years are not available. For more information, see Congressional Budget Office, *An Evaluation of CBO's Past Outlay Projections* (November 2017), www.cbo.gov/publication/53328, and *CBO's Revenue Forecasting Record* (November 2015), www.cbo.gov/publication/50831.

d. Includes the effects of Medicare premiums and other offsetting receipts.

e. Includes the estimated effects on debt service of enacted legislation.

f. In Congressional Budget Office, *An Evaluation of CBO's Past Deficit and Debt Projections* (September 2019), www.cbo.gov/publication/55234, the mean absolute deficit error was expressed as a percentage of gross domestic product (GDP) rather than as a percentage calculated from dollar values in order to account for years in which the actual deficit or surplus was small, causing relatively small projection errors (in dollar terms) to result in large percentage errors. In that analysis, CBO found that the mean absolute error in budget-year deficit projections made between 1985 and 2018 was 1.0 percent of GDP. By comparison, the deficit error in 2019 equaled 0.1 percent of GDP.

equal to 0.1 percent of gross domestic product (GDP). By comparison, the mean absolute error in deficit projections made for 1985 to 2018 equaled 1.0 percent of GDP.

How CBO Conducted This Analysis

CBO regularly publishes baseline projections of federal revenues, outlays, and deficits for the current fiscal year and the ensuing decade. Those projections reflect the assumption that current laws governing taxes and spending will generally remain unchanged. This analysis focuses on the projections for 2019 in CBO's adjusted April 2018 baseline, primarily because the budgetary effects of legislation that the Congress has considered over the past year typically were measured against that baseline.[5]

Any comparison of CBO's projections with actual outcomes is complicated by legislation that was enacted after the projections were completed. CBO does not attempt to predict future legislative changes or their effects on revenues and outlays when it prepares its baseline budget projections, but actual revenues and outlays invariably differ from CBO's estimates as a result of such changes.

To account for those changes, CBO updated its projections to incorporate the estimated effects of subsequent legislation. In total, CBO increased the revenue projections for 2019 in the adjusted April 2018 baseline by $0.2 billion and increased the outlay projections by $2.4 billion.[6] Those amounts reflect the cost estimates that CBO and the staff of the Joint Committee on Taxation prepared when the legislation was enacted—rather than actual amounts, which cannot be identified in most cases. As a result, any errors in the initial cost estimates are included in the differences discussed in this analysis. The increase that CBO made in its outlay projections also includes the estimated increase in spending for interest on the federal debt that resulted from enacted legislation, although those effects were not included in the cost estimates.

How CBO's Adjusted April 2018 Projections Compare With Actual Outcomes

In its adjusted April 2018 baseline, CBO underestimated the federal deficit in 2019—the result of overestimating revenues and slightly underestimating outlays. (The amounts that follow reflect updates to account for subsequent legislation and to exclude the activities of Fannie Mae and Freddie Mac.)

Revenues

CBO's projection of revenues in 2019 was $3,491 billion, about $28 billion (or 0.8 percent) more than the actual amount (see Table 2). CBO overestimated individual and corporate income tax receipts and collections of fees and fines, but it underestimated receipts from payroll (social insurance) taxes, excise taxes, and customs duties. The underlying causes of the lower-than-anticipated individual and corporate income tax receipts will be better understood after detailed tax-return data for 2018 and 2019 become available over the next two years.

Individual Income Taxes. CBO's projection of receipts of individual income taxes in 2019 was $1,745 billion, about $27 billion (or 1.6 percent) more than the actual amount of $1,718 billion.

Revisions made by the Bureau of Economic Analysis (BEA) to the reported amount of income subject to tax do not appear to account for that overestimate. In late July 2019, BEA significantly revised data in the national income and product accounts (NIPAs) about income that was subject to the individual income tax for calendar years 2018 and 2019. But that income is now estimated to be generally *higher* than CBO expected when it published its projections, so the revisions do not explain CBO's overestimate of receipts.

Part of CBO's overestimate may be the result of allocations made by the Treasury that differed from CBO's expectations. The Treasury initially allocates withheld taxes to either income or payroll taxes on the basis of estimates and makes reallocations as more detailed information about tax returns becomes available. That process improves on estimates made for previous years, but the

5. In April 2018, CBO published baseline projections in Congressional Budget Office, *The Budget and Economic Outlook: 2018 to 2028* (April 2018), www.cbo.gov/publication/53651. The next month, CBO made relatively small changes to those projections, published the results in its annual analysis of the President's budget request, and called them the adjusted April 2018 baseline; see Congressional Budget Office, *An Analysis of the President's 2019 Budget* (May 2018), www.cbo.gov/publication/53884.

6. The estimated effects of legislation on outlays for 2019 may be revised when CBO updates its evaluation of the quality of its outlay projections. For the most recent evaluation, see Congressional Budget Office, *An Evaluation of CBO's Past Outlay Projections* (November 2017), www.cbo.gov/publication/53328.

Table 2.

CBO's Projections of Revenues for 2019, Compared With Actual Revenues

Billions of Dollars

	Adjusted April 2018 Projections, Updated for Enacted Legislation	2019 Actual	Difference	Percentage Difference[a]
Individual Income Taxes	1,745	1,718	27	1.6
Payroll Taxes	1,231	1,243	-12	-1.0
Corporate Income Taxes	276	230	46	20.0
Other Receipts				
Excise taxes	88	99	-11	-11.5
Estate and gift taxes	19	17	2	15.0
Customs duties	40	71	-30	-42.9
Miscellaneous receipts	91	85	7	8.0
Subtotal	239	271	-33	-12.0
Total	**3,491**	**3,462**	**28**	**0.8**

Sources: Congressional Budget Office; Department of the Treasury.

The numbers presented here are CBO's adjusted April 2018 baseline budget projections, which were published in Congressional Budget Office, *An Analysis of the President's 2019 Budget* (May 2018), www.cbo.gov/publication/53884. For this analysis, CBO further updated those projections to account for the estimated budgetary effects of legislation that was subsequently enacted.

a. The percentage difference is the projected amount minus the actual amount divided by the actual amount.

actual reallocations are made in the current fiscal year. Thus, differences between CBO's expected allocations for 2019 and those actually made by the Treasury may be related to activity either in 2019 or in previous years. An overestimate of income taxes for that reason would be reflected in a corresponding underestimate of payroll taxes, as this report discusses below.

Payroll Taxes. CBO's projection of receipts of payroll taxes in 2019 was $1,231 billion, about $12 billion (or 1.0 percent) less than the actual amount of $1,243 billion.

Part of that underestimate may be explained by currently available data about income that BEA has published in the NIPAs, including the significant revisions that it made in late July 2019. In those data, estimates of wages and salaries, the largest component of the tax base for payroll taxes, are about 0.5 percent higher for fiscal year 2019 than CBO expected when it published its projections. In addition, part of the underestimate in payroll tax receipts may be the result of reallocations made by the Treasury between income and payroll taxes that differed from CBO's expectations, as this report discusses above.

Corporate Income Taxes. CBO's projection of receipts of corporate income taxes in 2019 was $276 billion, about $46 billion (or 20.0 percent) more than the actual amount of $230 billion.

Part of the unexpected weakness in corporate income tax receipts may be explained by the currently available data about income published by BEA. In particular, domestic corporate profits for calendar year 2018 and the first half of 2019 are about 20 percent lower in the NIPAs than CBO expected when it published its projections. In addition, part of the weakness may reflect taxpayers' responses to the enactment of major tax legislation (Public Law 115-97) in December 2017 that differed from CBO's expectations. The timing of that legislation's effects on revenues remains uncertain.

Other Sources. CBO's projection of receipts from all other sources in 2019 was $239 billion, about $33 billion less than the actual amount. That underestimate reflects partially offsetting differences in several areas.

First, customs duties were underestimated by about $30 billion, largely because of new tariffs implemented by the Administration after CBO's projections were completed. They included tariffs on a range of products imported from China, the first of which took effect on

July 6, 2018. (Because the imposition of those tariffs did not require the enactment of new legislation, the resulting changes in revenues are not included in the adjustments that CBO has made to its projections to account for subsequently enacted legislation.)

Second, excise tax collections were underestimated by about $11 billion. Most of that underestimate was related to a tax on health insurance providers that was due on September 30, 2018, the last day of fiscal year 2018. Because that deadline fell on a Sunday, many of those payments were not received by the Treasury until the next business day, October 1—the first day of fiscal year 2019.

Third, miscellaneous receipts were overestimated by about $7 billion. Most of that overestimate involved a penalty that some employers had to pay if they had at least 50 full-time-equivalent employees and did not offer health insurance coverage that met certain standards. Although the penalty went into effect for coverage in 2015, it was not collected until 2019, and those collections have been lower so far than CBO anticipated.

Outlays

In its baseline projections, CBO divides federal outlays into three broad categories—mandatory, discretionary, and net interest.[7] (Because the Treasury does not report totals for those categories, CBO has estimated how the Office of Management and Budget will ultimately categorize outlays for 2019.) CBO's projection of outlays in 2019 was $4,463 billion, about $3 billion (or 0.1 percent) less than the actual amount. CBO underestimated mandatory outlays, but it overestimated discretionary outlays and net interest costs.

Mandatory Outlays. CBO's projection of mandatory outlays in 2019 was $2,720 billion, $34 billion (or 1.2 percent) less than the actual amount of $2,754 billion (see Table 3). Estimates of agriculture spending and accounting adjustments related to certain loans and loan guarantees made in previous years accounted for the largest differences.

Agriculture. CBO projected that outlays for agriculture programs would total $14 billion in 2019, about $18 billion less than actual outlays in that year. That difference was driven by two main factors. In July 2018 and May 2019, after CBO had completed its adjusted April 2018 baseline, the Department of Agriculture announced that it would use its existing authority to provide a total of $28 billion to farmers affected by trade disputes with foreign nations. In addition, outlays for crop insurance were much higher than CBO had estimated, primarily as a result of flooding in the Midwest in the spring of 2019.

Credit Subsidy Reestimates. Updated estimates by federal agencies (as reported in the President's budget request in March 2019) of the subsidy costs of certain federal loans and loan guarantees made in previous years boosted actual outlays, on net, by $10 billion in 2019.[8] That increase was primarily the result of a $28 billion increase in the estimated costs of past student loans made by the Department of Education, partially offset by a $14 billion decrease in the estimated costs of mortgage guarantees made by the Department of Housing and Urban Development in previous years. Those updated estimates were not available when CBO completed its adjusted April 2018 baseline projections, and CBO had no basis for predicting what revisions, if any, would be made in 2019 or in future years. Therefore, the agency did not include any such revisions in its adjusted April 2018 projections. If not for those updates to costs recorded in previous years, CBO's projection of mandatory outlays in 2019 would have been too low by $24 billion (or 0.9 percent).

7. Mandatory spending consists of outlays for some federal benefit programs, such as Social Security, Medicare, and Medicaid, and certain other payments to people, businesses, nonprofit institutions, and state and local governments. It is governed by statutory criteria and is not normally controlled by the annual appropriation process. Discretionary spending is controlled by annual appropriation acts that specify the amounts that are to be provided for a broad array of government activities, including, for example, defense, law enforcement, and transportation. Net interest outlays consist of the government's interest payments on debt held by the public minus interest income that the government receives.

8. Under the Federal Credit Reform Act of 1990, a program's subsidy costs are calculated by subtracting the present value of the government's projected receipts from the present value of its projected payments. The estimated subsidy costs can be increased or decreased in subsequent years to reflect updated assessments of the payments and receipts associated with the program. Present value is a single number that expresses a flow of current and future income (or payments) in terms of an equivalent lump sum received (or paid) at a specific time. The present value depends on the rate of interest (the discount rate) that is used to translate future cash flows into current dollars.

Table 3.

CBO's Projections of Mandatory Outlays Projected for 2019, Compared With Actual Outlays

Billions of Dollars

	Adjusted April 2018 Projections, Updated for Enacted Legislation[a]	2019 Actual[a]	Difference	Percentage Difference[b]
Social Security	1,043	1,038	5	0.5
Major Health Care Programs				
Medicare[c]	641	644	-3	-0.4
Medicaid	402	409	-8	-1.9
Health insurance subsidies and related spending	57	56	1	2.4
Children's Health Insurance Program	16	18	-2	-11.5
Subtotal	1,115	1,126	-11	-1.0
Income Security Programs	308	303	5	1.6
Federal Civilian and Military Retirement	169	170	-1	-0.3
Veterans' Programs[d]	116	119	-2	-2.1
Agriculture	14	32	-18	-55.6
Credit Subsidy Reestimates	0	10	-10	n.a.
Other	-46	-45	-1	2.4
Subtotal	562	589	-27	-4.6
Total	**2,720**	**2,754**	**-34**	**-1.2**

Sources: Congressional Budget Office; Department of the Treasury.

The numbers presented here are CBO's adjusted April 2018 baseline budget projections, which were published in Congressional Budget Office, *An Analysis of the President's 2019 Budget* (May 2018), www.cbo.gov/publication/53884. For this analysis, CBO further updated those projections to account for the estimated budgetary effects of legislation that was subsequently enacted.

n.a. = not applicable.

a. Outlays related to the activities of Fannie Mae and Freddie Mac (which are classified as mandatory) are excluded from this table.

b. The percentage difference is the projected amount minus the actual amount divided by the actual amount.

c. Includes the effects of Medicare premiums and other offsetting receipts.

d. Excludes the effects of updated estimates by the Department of Veterans Affairs of the subsidy costs of certain federal loans and loan guarantees made in previous years. Those effects are reflected in the "Other" line.

Social Security and Medicare. CBO's projections for the two largest mandatory programs, Social Security and Medicare, were very close to the actual amounts in 2019. The agency overestimated Social Security outlays by $5 billion (or 0.5 percent) and underestimated Medicare outlays by $3 billion (or 0.4 percent).

Medicaid. CBO's projection of federal Medicaid spending in 2019 was $8 billion (or 1.9 percent) below the actual amount. Outlays for the program grew at a modest rate in 2018, and CBO projected that they would grow only slightly more quickly in 2019, but the actual growth proved faster than CBO had anticipated.

Income Security Programs. CBO's projection of outlays in 2019 for income security programs (which make payments to certain people and government entities to assist the poor, the unemployed, and others in need) was higher, on net, than the actual amount by $5 billion (or 1.6 percent). The largest difference was in CBO's projection of outlays for the Supplemental Nutrition Assistance Program; that projection was too high by $3 billion (or 4.7 percent).

Health Insurance Subsidies and Related Spending. CBO's projection of subsidies for health insurance purchased through the marketplaces established by the Affordable Care Act and related spending in 2019 was $1 billion (or 2.4 percent) higher than the actual amount. That difference was much smaller than it had been in recent years. It was the net result of an overestimate of outlays for subsidies for marketplace coverage and an underestimate of outlays for the risk-adjustment program (which makes payments to insurance plans that attract less healthy enrollees).

Other Mandatory Programs. Projected outlays for the Children's Health Insurance Program, for federal civilian and military retirement, and for veterans' programs (not including credit subsidy reestimates) were all within $2.5 billion of the actual amounts. CBO's projection of all other mandatory outlays in 2019 was $1 billion (or 2.4 percent) less than the actual amount.

Discretionary Outlays. To evaluate its projections of discretionary outlays, CBO updated the funding amounts in its adjusted April 2018 baseline to reflect the full-year appropriations provided for 2019 in appropriation bills, which were enacted over the first several months of the fiscal year. CBO generally applied the technical assessments (such as how quickly appropriations would be spent) and economic projections underlying the adjusted April 2018 baseline to those updated amounts of funding. After those adjustments were made, CBO's projection of discretionary outlays in 2019 was $1,354 billion, $17 billion (or 1.3 percent) more than the actual amount of $1,336 billion. CBO underestimated defense spending by $13 billion but overestimated nondefense spending by $30 billion.

The shutdown of some federal agencies for several weeks in fiscal year 2019 and the late enactment of the full-year appropriations for those agencies probably contributed to the overestimate of nondefense spending, because those agencies had significantly less than a full year to spend the funding provided in the appropriations.

CBO's projections of discretionary outlays for most agencies were within $3 billion of the actual amounts in 2019 (see Table 4). The largest differences were the following:

- The projection of spending by the Department of Housing and Urban Development was $7 billion (or 14.9 percent) higher than the actual amount. Most of that difference was attributable to a $6 billion overestimate of outlays for the Community Development Block Grant program, which was the result of slower-than-anticipated spending on disaster relief after Hurricanes Harvey, Irma, and Maria.

- The projection of spending by the Department of Agriculture exceeded the actual amount by about $6 billion (or 26.3 percent). Slower-than-anticipated spending on disaster relief accounted for about half of that difference.

- The projection of spending by the Department of Health and Human Services exceeded the actual amount by $4 billion (or 4.6 percent). The largest part of that difference was a $1 billion overestimate of outlays for substance abuse and mental health services.

- In the other direction, the projection of spending for military programs of the Department of Defense was $13 billion (or 2.1 percent) less than the actual amount. CBO underestimated spending for operation and maintenance by $5 billion, for research and development by $4 billion, and for revolving and management funds by $4 billion.

Net Interest. Net outlays for interest consist of the government's interest payments on debt held by the public minus interest income that the government receives. CBO's projection of those outlays in 2019 was $389 billion, $14 billion (or 3.6 percent) more than the actual amount of $376 billion (see Table 1 on page 2).

Most of the difference is attributable to economic factors. In particular, CBO overestimated interest rates for 2019. For example, in the economic forecast underlying the agency's adjusted April 2018 baseline, CBO projected that between the end of fiscal year 2017 and the end of fiscal year 2019, the interest rate on 10-year Treasury notes would increase from 2.2 percent to 3.8 percent. But by the end of 2019, that rate had fallen to 1.8 percent.

How the Accuracy of CBO's Adjusted April 2018 Projections Compares With the Accuracy of Its Past Budget Projections

The errors in CBO's projections of the deficit, revenues, and outlays in 2019 were smaller than the mean absolute errors in the agency's projections for previous years.[9]

9. For more detailed discussions of the quality of CBO's projections, see Congressional Budget Office, *An Evaluation of CBO's Past Deficit and Debt Projections* (September 2019), www.cbo.gov/publication/55234, *An Evaluation of CBO's Past Outlay Projections* (November 2017), www.cbo.gov/publication/53328, and *CBO's Revenue Forecasting Record* (November 2015), www.cbo.gov/publication/50831.

Table 4.

CBO's Projections of Discretionary Outlays for 2019, Compared With Actual Outlays

Billions of Dollars

	Adjusted April 2018 Projections, Updated for Enacted Legislation	2019 Actual	Difference	Percentage Difference[a]
Department of Housing and Urban Development	51	44	7	14.9
Department of Agriculture	31	24	6	26.3
Department of Health and Human Services	100	95	4	4.6
Department of Commerce	12	10	3	25.7
Department of Education	71	69	2	3.4
Department of Energy	34	32	2	5.4
Corps of Engineers	9	7	2	25.3
Department of Homeland Security	60	59	2	3.0
Department of Transportation	82	80	2	2.1
Department of the Interior	14	13	1	7.0
National Aeronautics and Space Administration	21	20	1	4.2
Department of Justice	30	30	1	2.8
Department of Labor	12	11	1	6.0
Social Security Administration	11	10	*	2.9
Environmental Protection Agency	8	8	*	0.7
International Assistance Programs	23	23	*	0.2
Department of the Treasury	13	13	*	-2.0
Department of State	26	27	-1	-2.5
Department of Veterans Affairs	82	85	-3	-3.1
Department of Defense—Military	633	647	-13	-2.1
Other Agencies	31	30	1	4.5
Total	**1,354**	**1,336**	**17**	**1.3**

Sources: Congressional Budget Office; Department of the Treasury.

The numbers presented here are CBO's adjusted April 2018 baseline budget projections, which were published in Congressional Budget Office, *An Analysis of the President's 2019 Budget* (May 2018), www.cbo.gov/publication/53884. For this analysis, CBO further updated those projections to account for the estimated budgetary effects of legislation that was subsequently enacted. The amounts reflect estimated outlays stemming from full-year appropriations provided for 2019. Those projections are generally consistent with the technical assessments (for example, about how quickly appropriations will be spent) and economic projections underlying the adjusted April 2018 baseline.

* = between -$500 million and $500 million.

a. The percentage difference is the projected amount minus the actual amount divided by the actual amount.

The Deficit

In projections that CBO made for 1985 to 2018, the agency overestimated the deficit in the budget year roughly two-thirds of the time, and the mean absolute error in the deficit projections equaled 1.0 percent of GDP.[10] In its adjusted April 2018 baseline (updated to account for the effects of subsequent legislation), CBO underestimated the deficit in the budget year (that is, 2019) by $31 billion, or by 0.1 percent of GDP.

10. The budget year is the second year of the period covered by CBO's baseline projections; it usually begins several months after a spring baseline is released.

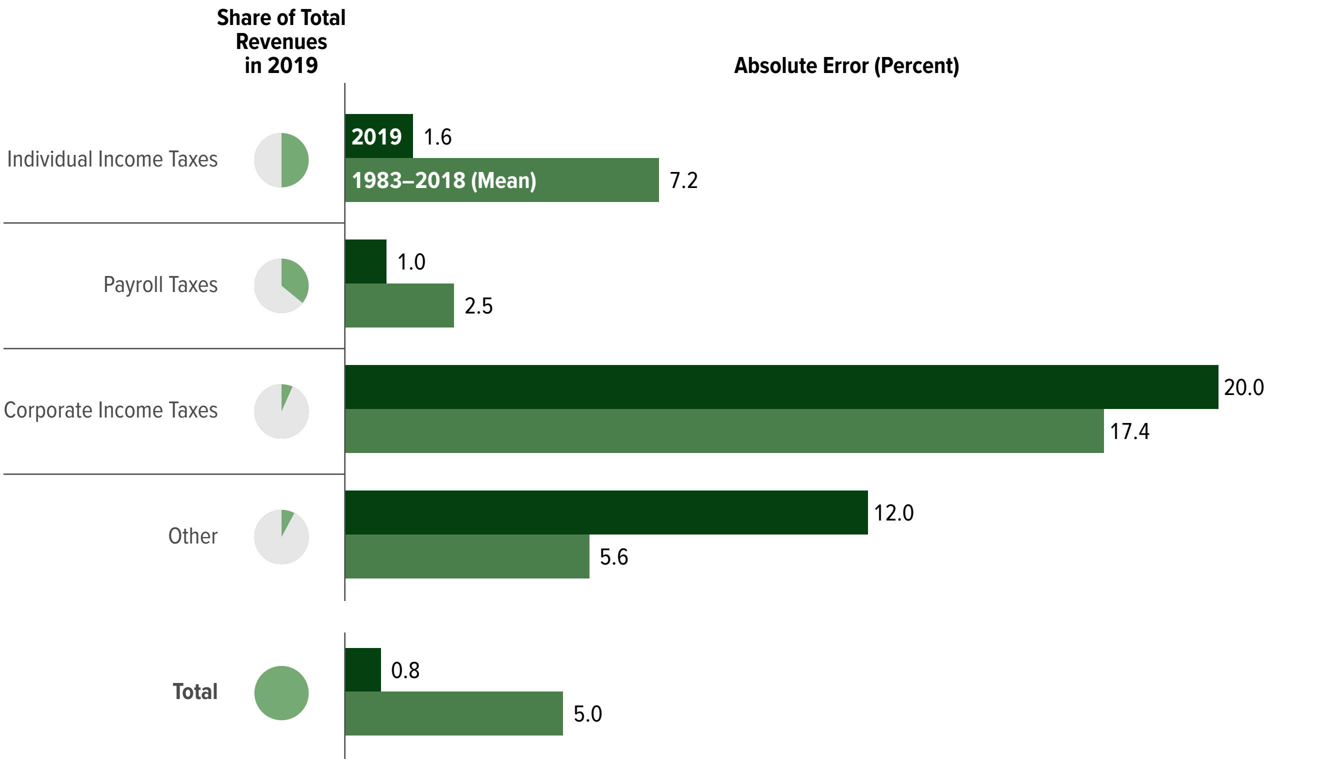
Revenues

Between 1983 and 2018, CBO overestimated total revenues in the budget year about as often as it underestimated them, and the mean absolute error in the revenue projections was 5.0 percent. In the adjusted April 2018 baseline, the agency's estimate for 2019 exceeded the actual amount by just 0.8 percent (see Figure 1).

CBO overestimated individual income tax revenues in 2019 by 1.6 percent, less than the mean absolute error of 7.2 percent recorded over the 1983–2018 period. CBO's projection of payroll tax revenues in 2019 was

Figure 1.

Projection Errors for Revenues



Source: Congressional Budget Office.

The mean absolute error is the arithmetic average of the projection errors without regard to whether they are positive or negative, so errors in different directions do not offset one another. CBO calculated projection errors by subtracting the actual outlay amount from the projection and dividing that difference by the actual outlay amount.

The 2019 projection shown here was in CBO's adjusted April 2018 baseline budget projections, which were published in Congressional Budget Office, *An Analysis of the President's 2019 Budget* (May 2018), www.cbo.gov/publication/53884. For this analysis, CBO further updated those projections to account for the estimated budgetary effects of legislation that was subsequently enacted.

The mean absolute errors are based on budget-year projections for 1983 to 2018. The budget year is the second year of the period covered by CBO's baseline projections; it usually begins several months after a spring baseline is released. The estimated budgetary effects of legislation enacted after the projections were produced are excluded from the errors.

1.0 percent below the actual amount, also less than the mean absolute error of 2.5 percent between 1983 and 2018.

Corporate income taxes are often the most difficult major source of revenues to project, and that was the case again in 2019. CBO overestimated those revenues in 2019 by 20.0 percent, more than the mean absolute error of 17.4 percent in past projections. The agency's estimate of revenues from all other sources, on net, was 12.0 percent less than the actual amounts—also a larger difference than the mean absolute error of 5.6 percent recorded over the 1983–2018 period.

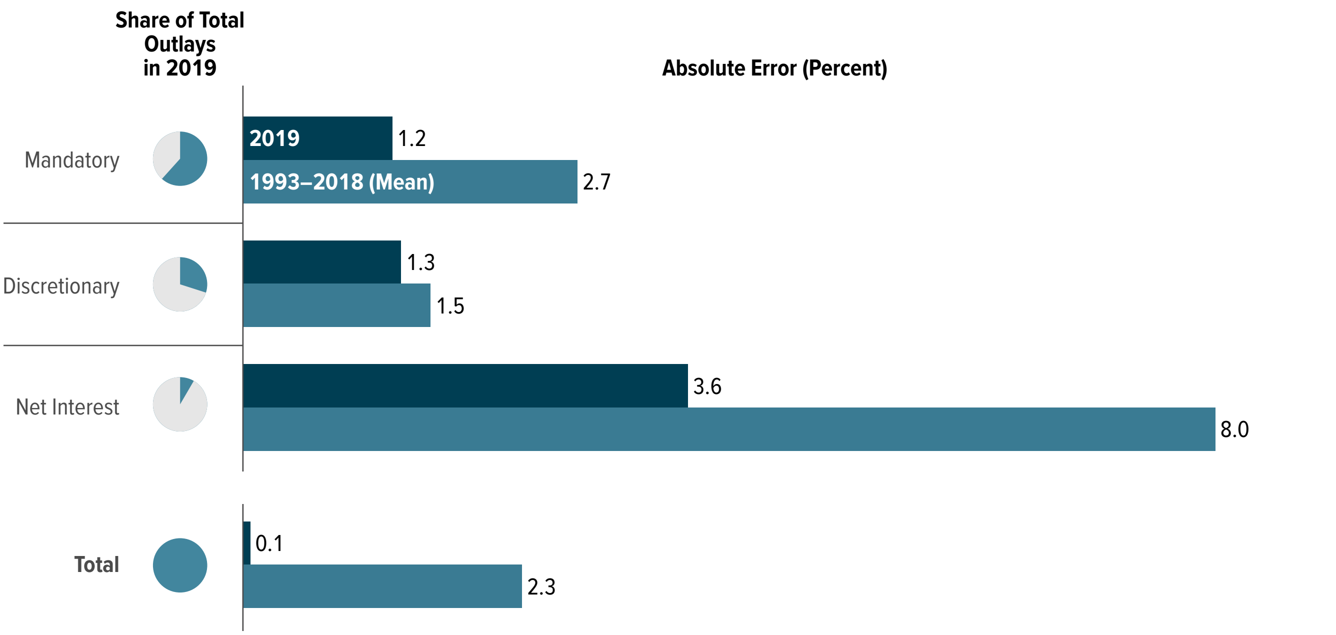
Outlays

Between 1993 and 2018, CBO overestimated total outlays in the budget year more often than it underestimated them, and the mean absolute error in the outlay projections was 2.3 percent. In its adjusted April 2018 baseline, the agency slightly underestimated total outlays in the budget year. CBO's estimate of total outlays in 2019 was 0.1 percent less than the actual amount (see Figure 2).

In its adjusted April 2018 projections, CBO underestimated mandatory outlays in 2019 by 1.2 percent. Between 1993 and 2018, the mean absolute error in projections of mandatory spending was larger—2.7 percent.

Figure 2.

Projection Errors for Outlays



Source: Congressional Budget Office.

The mean absolute error is the arithmetic average of the projection errors without regard to whether they are positive or negative, so errors in different directions do not offset one another. CBO calculated projection errors by subtracting the actual outlay amount from the projection and dividing that difference by the actual outlay amount.

The 2019 projection shown here was in CBO's adjusted April 2018 baseline budget projections, which were published in Congressional Budget Office, *An Analysis of the President's 2019 Budget* (May 2018), www.cbo.gov/publication/53884. For this analysis, CBO further updated those projections to account for the estimated budgetary effects of legislation that was subsequently enacted.

The mean absolute errors are based on budget-year projections for 1993 to 2018. The budget year is the second year of the period covered by CBO's baseline projections; it usually begins several months after a spring baseline is released. The estimated budgetary effects of legislation enacted after the projections were produced, and outlays related to the activities of Fannie Mae and Freddie Mac (which are classified as mandatory), are excluded from the errors.

The errors for 2019 in projections of all four categories of mandatory spending shown in Table 1 on page 2—Social Security, Medicare, Medicaid, and "Other"—were likewise smaller than the mean absolute error in projections of those programs for 1993 to 2018.

CBO overestimated discretionary spending in 2019 by 1.3 percent; the mean absolute error recorded over the 1993–2018 period was 1.5 percent. CBO has often overestimated outlays for net interest, and the agency did so again in its adjusted April 2018 projections for 2019, by 3.6 percent. By comparison, the mean absolute error in CBO's projections of net interest outlays between 1993 and 2018 was 8.0 percent.

How CBO's More Recent Projections Compared With Actual Outcomes in 2019

CBO's most recent projections for fiscal year 2019 were published in May 2019 and August 2019.[11] To compare those projections with actual outcomes, CBO updated them to account for the enactment of subsequent legislation and excluded spending for Fannie Mae and Freddie Mac. In the May projections as updated, CBO's deficit estimate was too low by $75 billion, or 0.4 percent of GDP. That difference stemmed from a $49 billion overestimate of revenues and a $26 billion underestimate of outlays. CBO's deficit estimate in August 2019 was closer, within $18 billion (or 0.1 percent of GDP) of the actual amount.

11. See Congressional Budget Office, *Updated Budget Projections: 2019 to 2029* (May 2019), www.cbo.gov/publication/55151, and *An Update to the Budget and Economic Outlook: 2019 to 2029* (August 2019), www.cbo.gov/publication/55551.

In response to requests from the House and Senate Committees on the Budget, the Congressional Budget Office periodically reports on the accuracy of its baseline spending and revenue projections by comparing them with actual outcomes. Such evaluations help guide CBO's efforts to improve the quality of its projections, and they are offered as background information to assist Members of Congress in their use of the agency's estimates. Earlier editions of this report are available at https://go.usa.gov/xEcj2. In keeping with CBO's mandate to provide objective, impartial analysis, the report makes no recommendations.

Barry Blom prepared the report, with contributions from many members of CBO's Budget Analysis and Tax Analysis Divisions and with guidance from Christina Hawley Anthony, Theresa Gullo, John McClelland, and Joshua Shakin. Robert Sunshine reviewed the report. The editor was Benjamin Plotinsky, and the graphics editor was Casey Labrack. The report is available on CBO's website (www.cbo.gov/publication/55927).

CBO seeks feedback to make its work as useful as possible. Please send comments to communications@cbo.gov.

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