APPENDIX

A

Changes to CBO's Baseline Since March 2016

If no new laws affecting this year's spending and revenues are enacted, the budget deficit for fiscal year 2016 will total $590 billion, the Congressional Budget Office estimates. That amount is $56 billion higher than CBO projected in March 2016, when the agency last updated its baseline (see Table A-1).[1] CBO now estimates that both revenues and outlays for the year will be lower than it projected in March—revenues by $87 billion (or 3 percent) and outlays by $31 billion (or 1 percent).

The cumulative deficit in CBO's baseline for the 2017–2026 period is now $8.6 trillion, or $712 billion less than the $9.3 trillion the agency projected previously. CBO estimates that, under current law, outlays for the period will be lower than the amount projected in March by $1,143 billion (or 2 percent) and revenues will be lower by $431 billion (or 1 percent).

Projected deficits for 2016 and 2017 are now larger than previously estimated—each by 0.3 percent of gross domestic product (GDP). But the projected deficits for 2018 through 2026 are smaller—by 0.3 percent or 0.4 percent of GDP in most years. All told, projected deficits in the new baseline average 3.8 percent of GDP from 2017 through 2026; in the March baseline, they averaged 4.0 percent of GDP.

Updates to CBO's economic forecast (most notably, reductions in the projections of interest rates and GDP) produced the largest changes over the 2017–2026 period, reducing both projected outlays and revenues. However, technical changes to revenue and outlay projections (changes attributable to neither newly enacted legislation nor a revised economic forecast) offset a small portion of those economic changes.

Since CBO prepared its March baseline projections, a number of pieces of legislation that affect the budget have been enacted, but the budgetary effects of those new laws are expected to be very small—less than $1 billion over the 2017–2026 period.

1. See Congressional Budget Office, *Updated Budget Projections: 2016 to 2026* (March 2016), www.cbo.gov/publication/51384.

Economic Changes

CBO's revised economic forecast incorporates updated projections of interest rates, inflation, GDP, the unemployment rate, and other economic variables that affect federal outlays and revenues (see "Comparison With CBO's January 2016 Projections" in Chapter 2). In light of those updates, CBO boosted its estimate of the deficit for 2016 by $20 billion and decreased its projection of the cumulative deficit for the 2017–2026 period by $736 billion, primarily because a significant reduction in projected interest rates led the agency to project lower outlays over that period. (The effect on the deficit of the lower interest rates was partially offset by a reduction in CBO's revenue projections that stemmed from the slower economic growth that the agency now anticipates.)

Changes to Projections of Outlays

On the basis of its updated economic projections, CBO reduced its estimate of outlays for 2016 by $4 billion and its projection for the 2017–2026 period by $1.2 trillion. A $998 billion reduction in estimated net interest costs—primarily the result of the agency's expectation of lower interest rates throughout the period—accounts for most of that 10-year change.

Net Interest. As a result of the marked reduction in interest rates in CBO's updated forecast, the agency decreased its estimate of net interest costs for 2016 by $4 billion and its projection of those costs for the 2017–2026 period by $905 billion.[2]

2. Although nearly all of that $905 billion decrease in net interest costs is attributable to the reduction in interest rates, a very small portion arises from a reduction in CBO's forecast of inflation over the baseline period and a corresponding decrease in its estimate of interest costs associated with Treasury inflation-protected securities and savings bonds, which are tied to the rate of inflation.

Table A-1.

Changes in CBO's Baseline Projections of the Deficit Since March 2016

Billions of Dollars

												Total	
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2017-2021	2017-2026
Deficit in CBO's March 2016 Baseline	-534	-550	-549	-710	-798	-890	-1,043	-1,080	-1,094	-1,226	-1,343	-3,497	-9,283
Legislative Changes													
Changes in Revenues	0	*	*	*	*	*	*	*	*	*	*	*	1
Changes in Outlays	0	*	*	*	*	*	*	*	*	*	*	*	*
Increase (-) or Decrease in the Deficit From Legislative Changes	**0**	*	*	*	*	*	*	*	*	*	*	*	**1**
Economic Changes													
Changes in Revenues													
Individual income taxes	-16	-31	-22	-13	-10	-12	-15	-19	-24	-28	-32	-88	-206
Corporate income taxes	-12	-17	-21	-22	-25	-28	-30	-29	-27	-25	-23	-112	-247
Payroll taxes	-1	-1	-2	-4	-6	-8	-10	-12	-16	-20	-24	-22	-104
Federal Reserve remittances	5	22	32	27	17	11	9	9	8	8	8	109	151
Other	-1	-2	-2	-2	-2	-2	-2	-2	-2	-3	-3	-11	-23
All Changes in Revenues	-24	-29	-17	-14	-25	-39	-47	-54	-61	-68	-74	-124	-428
Changes in Outlays													
Mandatory outlays													
Social Security	0	-1	-2	-3	-5	-5	-6	-6	-6	-8	-9	-16	-50
Medicare	0	-1	-2	-2	-4	-3	-4	-5	-4	-6	-6	-12	-38
Higher education	2	-5	-5	-4	-4	-3	-3	-2	-2	-2	-2	-21	-33
Other	-1	-1	-1	-2	-3	-4	-5	-5	-6	-6	-6	-12	-40
Subtotal, mandatory	1	-9	-11	-12	-15	-15	-17	-18	-18	-22	-24	-62	-161
Discretionary outlays	0	*	*	*	*	-1	-1	-1	-1	-1	-1	-2	-5
Net interest outlays													
Effect of rates and inflation	-4	-36	-65	-88	-95	-98	-100	-102	-104	-106	-110	-383	-905
Debt service	*	*	*	-2	-5	-8	-10	-13	-16	-18	-21	-15	-93
Subtotal, net interest	-4	-36	-66	-91	-100	-106	-110	-115	-119	-124	-131	-398	-998
All Changes in Outlays	-4	-45	-77	-102	-116	-122	-128	-134	-138	-147	-156	-461	-1,164
Increase (-) or Decrease in the Deficit From Economic Changes	**-20**	**16**	**60**	**88**	**90**	**82**	**80**	**80**	**77**	**79**	**82**	**337**	**736**

Continued

For every year of the baseline period, CBO expects the interest rates on all Treasury securities to be significantly lower than those used in the March baseline. The decrease is more pronounced in the near term. In CBO's August baseline, the interest rate on 3-month Treasury bills grows from an average of 0.6 percent in fiscal year 2017 to 2.8 percent in 2026; in the March baseline, the 3-month rate averaged 1.4 percent in 2017 and 3.2 percent in 2026. Similarly, CBO significantly lowered its estimates of the interest rate on 10-year Treasury notes. Whereas in March the 10-year rate was projected to average 3.3 percent in fiscal year 2017 and 4.1 percent in 2026, it is now projected to average 2.2 percent in 2017 and 3.6 percent in 2026.

Because the updated economic forecast reduced federal deficits and thus federal borrowing in CBO's baseline, the agency lowered its projections of debt-service costs accordingly. Those lower debt-service costs account for an additional $93 billion reduction in interest costs.

Mandatory Spending. CBO's projections of mandatory spending for 2017 to 2026 are now $161 billion lower than reported in March because of revisions to the economic forecast. The largest revisions were made to estimates of outlays for Social Security, Medicare, and higher education.

Social Security. Because projections of inflation and wage growth were lowered, outlays in the baseline for Social Security over the 2017–2026 period decreased by

Table A-1. Continued

Changes in CBO's Baseline Projections of the Deficit Since March 2016

Billions of Dollars

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total 2017-2021	Total 2017-2026
Technical Changes													
Changes in Revenues													
Individual income taxes	-57	-46	-33	-23	-20	-11	-4	-1	3	3	4	-133	-128
Corporate income taxes	-17	-19	-8	1	6	7	6	6	7	7	7	-13	20
Payroll taxes	16	10	10	9	7	7	7	8	8	9	11	43	86
Other	-5	-3	2	1	2	2	3	3	3	3	3	4	18
All Changes in Revenues	-63	-58	-29	-12	-5	5	12	16	20	22	25	-99	-4
Changes in Outlays													
Mandatory outlays													
Medicare	*	*	1	1	2	2	3	3	4	5	6	6	27
Earned income and child tax credits	-2	-2	-2	-2	-3	-3	-3	-3	-3	-3	-3	-12	-27
Other	-11	2	1	-11	-2	-1	-1	-1	-1	-1	-1	-10	-15
Subtotal, mandatory	-13	*	*	-13	-3	-2	-1	-1	*	1	2	-16	-15
Discretionary outlays	-15	1	*	*	*	*	*	*	*	*	*	2	2
Net interest outlays													
Debt service	*	1	3	4	5	6	6	6	6	6	6	18	47
Other	*	-1	-1	-1	-1	-1	-1	-1	-2	-2	-2	-4	-13
Subtotal, net interest	*	*	2	3	4	4	5	4	4	3	4	14	34
All Changes in Outlays	-27	2	2	-9	2	3	4	4	4	4	6	*	21
Increase (-) or Decrease in the Deficit From Technical Changes	**-36**	**-61**	**-31**	**-3**	**-6**	**3**	**9**	**13**	**16**	**18**	**19**	**-99**	**-25**
All Changes													
Increase (-) or Decrease in the Deficit	**-56**	**-44**	**29**	**85**	**84**	**85**	**89**	**93**	**94**	**97**	**101**	**239**	**712**
Deficit in CBO's August 2016 Baseline	-590	-594	-520	-625	-714	-806	-954	-988	-1,000	-1,128	-1,243	-3,258	-8,571
Memorandum:													
Changes in Revenues	-87	-87	-45	-26	-30	-34	-35	-38	-41	-46	-49	-223	-431
Changes in Outlays	-31	-42	-74	-112	-114	-119	-124	-131	-134	-143	-150	-461	-1,143

Source: Congressional Budget Office.

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

$50 billion (or 0.4 percent). Whereas CBO had projected that Social Security beneficiaries would receive a 0.7 percent cost-of-living adjustment (COLA) in January 2017, the agency now expects that the COLA will be 0.6 percent. CBO lowered its projection of COLAs for several other years in the 2017–2026 period by 0.1 percentage point.

Medicare. Under current law, payment rates for much of the fee-for-service portion of Medicare (including, for example, rates for hospital care and services provided by home health agencies and skilled nursing facilities) are updated automatically. Those updates are tied to changes in the prices of the labor, goods, and services that health care providers purchase after those prices have been adjusted to remove the effects of economywide gains in productivity over a 10-year period. (Gains in productivity represent the ability to produce the same output using fewer inputs, such as hours of labor, than before.) In general, CBO projects that input prices will not increase as much over the period as it had previously estimated. Consequently, the agency now anticipates lower payment rates for Medicare services than it did in March—a change that decreases outlays in CBO's baseline by $38 billion (or 0.5 percent) over the 2017–2026 period.

Higher Education. Changes in CBO's economic forecast led to a downward revision of $33 billion in projected outlays for higher education over the 2017–2026 period. Within that category, the largest changes were to student loans: Net outlays for student loans over the 10-year period are $36 billion lower in CBO's current baseline than in the March baseline. Consistent with the procedures set forth in the Federal Credit Reform Act of 1990, CBO's estimates of outlays for the student loan program in a given year represent the costs of all federal loans disbursed in that year. Those costs are measured as the present value of the future cash flows associated with the loans, calculated using the Treasury's borrowing rates to discount those cash flows.[3] Because CBO significantly lowered its estimate of those rates for the 2017–2026 period, its estimate of the present value of future receipts to the government associated with student loans (in the form of loan repayments, interest payments, and default recoveries) increased, lowering the projected subsidy costs of those loans. (Using the Federal Credit Reform Act's present-value method, CBO estimates that, on balance, the student loan program produces net negative subsidies—that is, net gains to the government. The lower discount rates result in estimates that indicate even greater net negative subsidies.)

Other Mandatory Spending. Changes in the economic outlook led CBO to reduce its projections of outlays for other mandatory programs for the 2017–2026 period by $40 billion. The largest downward revisions were for the Supplemental Nutrition Assistance Program ($16 billion) and unemployment compensation ($10 billion).

Discretionary Spending. To project discretionary spending, CBO assumes that most annual appropriations through 2021 will adhere to the caps and automatic spending reductions established in the Budget Control Act of 2011 (Public Law 112-25), as amended, and that appropriations for 2022 to 2026 will grow from the 2021 amounts at the rate of inflation. (Certain discretionary appropriations, such as those for overseas contingency operations, are not constrained by the caps. In CBO's baseline, those appropriations grow in future years at the rate of inflation.) As a result, CBO's downward revision to its projection of inflation rates reduced discretionary budget authority and outlays primarily in those years after the caps are set to expire. In total, discretionary spending in the current baseline is $5 billion less over the 2017–2026 period than in the March baseline.

3. The present value of a flow of revenues or outlays over time is a single number that expresses that flow in terms of an equivalent lump sum received or paid at a specific time. The present value of a given set of cash flows depends on the rate of interest (known as the discount rate) that is used to translate them into current dollars.

Changes to Projections of Revenues

Revisions to economic projections since January led the agency to reduce its revenue estimates for 2016 by $24 billion (or 0.7 percent) and its projections for 2017 through 2026 by $428 billion (or 1.0 percent). The reduction for 2016 stems primarily from CBO's lower projection of business fixed investment, which brought down the agency's projections of taxable realizations of capital gains by individuals and corporations. In addition, CBO reduced its estimate of corporate tax receipts for the year mainly because profits were smaller in 2015 than expected and because the agency lowered its projection of profits for 2016.

The $428 billion reduction in projected revenues for 2017 through 2026 stems mostly from CBO's expectation that GDP and the associated taxable incomes—mainly wages and salaries and corporate profits—will grow more slowly than previously anticipated. That change in expectations resulted largely from newly released data and changes in projection methods regarding productivity growth. CBO lowered its projections of domestic corporate profits for the 2017–2026 period by $748 billion (or about 4 percent); that revision was the primary cause of the $247 billion (or 6 percent) reduction in projected revenues from corporate income taxes.[4] In addition, CBO reduced its projections of wages and salaries for the next 10 years by $937 billion (or about 1 percent); that change was the primary cause of the reduction in projected revenues from individual income and payroll taxes.[5] Overall, CBO lowered its projections of individual income tax revenues by $206 billion

4. As defined by the national income and product accounts, domestic corporate profits include the profits of the Federal Reserve System, which are remitted to the Treasury and are not subject to the corporate income tax. CBO has increased its projections of the Federal Reserve's profits as a result of lowering its projections of interest rates. Excluding those profits, CBO's projections of domestic corporate profits over the 2017–2026 period are now about 5 percent lower, which is more consistent with the 6 percent reduction in the projections of corporate income tax revenues than is the change indicated by the 4 percent reduction in the measure that includes the Federal Reserve's profits.

5. Partially offsetting the effect of lower wages and salaries on projections of revenues from individual income taxes was a much smaller increase in projected revenues from that source resulting from lower projections of interest rates. Although the lower interest rates reduced CBO's estimates of personal interest income, they also had the more significant effect of reducing projected mortgage interest deductions from individual income taxes, which would boost payments of individual income taxes.

(or 1 percent) and of payroll taxes by $104 billion (or 1 percent). In addition, changes in the economic outlook caused CBO to lower its projection of receipts from certain other sources by $23 billion. That decline largely reflects lower projections of customs duties that result from the downward revision to projected imports.

Partially offsetting those reductions, CBO has increased its projections of remittances by the Federal Reserve over the next 10 years by $151 billion, largely as a result of the agency's lower forecast of interest rates. Those lower rates reduce the amount of interest that the Federal Reserve is expected to pay on the reserves that depository institutions hold on deposit with it, thereby increasing its expected profits and corresponding remittances to the Treasury. (The changes in projected interest rates also affect taxable personal and business income, but the resulting effects on revenues are smaller than the effect on remittances by the Federal Reserve.)

Over the next decade, the overall reduction in the revenue projections that is attributable to economic factors (1.0 percent) is smaller than the reduction in the projections of GDP (1.8 percent). That difference is the main reason why the new projections for revenues as a percentage of GDP after 2018 are slightly higher than those CBO released in March.[6] For example, in CBO's new baseline projections, revenues in 2026 are 18.5 percent of GDP, whereas they were 18.2 percent in the March projections. Technical factors, which are discussed in the next section, also contributed to the upward revisions to the projections of revenues relative to GDP over the 2021–2026 period.

Technical Changes

Technical updates to CBO's estimates of revenues and outlays—that is, revisions that stem from something other than new legislation or changes in economic projections—resulted in a net increase in the projected deficit for both the current year and for the 2017–2026 period. Lower estimates of revenues—partially offset by lower estimates of outlays—drive the $36 billion increase in the deficit estimated for the current year. For technical reasons, CBO's current projections of outlays over the 10-year period are higher in almost all years than they were in the March baseline, whereas its projections of revenues are now lower each year through 2020 and then higher from 2021 through 2026. Together, those changes increase projected deficits for the 2017–2026 period by a total of $25 billion.

Changes to Projections of Outlays

Because of technical changes, CBO lowered its projections of outlays for 2016 by $27 billion. That downward revision results from lower estimates of outlays for both mandatory and discretionary spending. But for the 2017–2026 period, projected outlays increased by $21 billion, mainly because of higher projections of debt-service costs that were partially offset by lower projected mandatory spending.

Mandatory Spending. Technical revisions related to mandatory programs decreased estimated outlays for the current year by $13 billion. For the 2017–2026 period, technical updates lowered projected mandatory spending by $15 billion.

Medicare. On the basis of actual outlays through early July, CBO now estimates that net Medicare spending for Part A (hospital insurance) and Part D (prescription drugs) in fiscal year 2016 will exceed its previous projections. In addition, this baseline incorporates final administrative actions taken by the Department of Health and Human Services regarding systems that operate on a fiscal year basis (such as setting hospital inpatient payments for the coming year) and improvements to CBO's modeling of Part A spending. In total, CBO increased its estimate of net spending for Medicare for 2016 by less than $1 billion (or 0.1 percent) and its projections for the 2017–2026 period by $27 billion (or 0.3 percent).

Earned Income and Child Tax Credits. CBO decreased its projection of outlays for two refundable tax credits—the earned income and child tax credits—for the 2017–2026 period by a total of $27 billion. (Projected outlays for the earned income tax credit are lower than they were in the March baseline by about $20 billion, and projected outlays for the child tax credit are down by about $8 billion.) The portions of those credits that exceed taxpayers' income tax liabilities are classified as outlays, and the portions that reduce filers' tax payments are classified as reductions in revenues. Outlays for those credits have

6. The increase in revenues relative to GDP after 2018 in CBO's baseline stems partly from higher projections of combined wages and profits relative to GDP, which in turn results in part from data from the beginning of calendar year 2016 showing a greater percentage drop (relative to the previous economic forecast) in GDP than in the sum of wages and profits. Also, lower projected interest rates tend to boost projections of Federal Reserve remittances relative to GDP.

been lower this year than CBO expected. That development is responsible for much of the downward revision to projected outlays in subsequent years.

Other Mandatory Spending. Technical changes lowered estimated outlays for other mandatory programs for 2016 by $11 billion. The largest contributors to that net change were reduced estimates of payments to the Treasury from Fannie Mae and Freddie Mac and of outlays for Medicaid and for health insurance purchased through the marketplaces established under the Affordable Care Act and related spending.

For 2017 through 2026, technical changes caused CBO to decrease its projection of outlays for other mandatory programs by a net amount of $15 billion, most of which is related to updated projections for Social Security's Disability Insurance program.

Discretionary Spending. Technical adjustments to CBO's projections for several discretionary programs reduced estimated outlays for the current year by $15 billion but had little effect on projections for later years, increasing projected outlays for the 2017–2026 period by $2 billion. The biggest changes to estimates for 2016 stem from an $8 billion decrease in projected outlays for certain defense programs (primarily in the areas of operations, procurement, and military personnel) and from a $2 billion decrease in estimated outlays for veterans' programs (mostly for medical services).

Net Interest. Because of technical updates, CBO's estimate of net interest outlays over the 2017–2026 period is $34 billion higher than it was in March. That upward revision stems from an increase in CBO's projections of debt-service costs that is partially offset by other factors.

CBO raised projected debt-service costs for the next 10 years by a total of $47 billion. Most of that revision is the result of two factors that increased projected borrowing but do not contribute directly to the budget deficit:

- CBO increased its estimate of the Treasury's end-of-year cash balance for 2016 to nearly $305 billion on the basis of an expectation that the department will maintain a higher balance than in previous years. With projected deficits, larger cash balances can be maintained only by borrowing more. Therefore, CBO added $70 billion to the amount of borrowing that it estimated in March.
- CBO also increased its estimate of the amount that will need to be borrowed to finance student loans and other credit programs over the 2017–2026 period by $35 billion.

Smaller downward revisions, largely stemming from reduced estimates of interest payments to certain intragovernmental accounts, lowered projected net interest outlays by $13 billion. (However, because such payments are intragovernmental, those revisions have no net effect on projected deficits.)

Changes to Projections of Revenues

For various technical reasons, CBO lowered its projections of revenues for 2016 by $63 billion (or almost 2 percent). Tax collections from individual and corporate income taxes have been lower in recent months than CBO expected in March—and by much more than is explained by currently available economic data. The main factors responsible for the shortfall will be clearer when additional data from tax returns and other sources become available.

All told, technical changes caused CBO to lower its revenue projections for 2017 through 2020 and to increase its projections for 2021 through 2026—for a net reduction of $4 billion over the 2017–2026 period. The reductions for 2017 through 2020 occurred because the agency expects that the effects of low collections in 2016 will continue but gradually dissipate: Taxable income and effective tax rates (total taxes as a percentage of total income) can fluctuate significantly from year to year, but they tend to return to more typical levels when adjusted for changes in tax law and for longer-term trends in income components and demographics. Other technical factors, in isolation, caused CBO to raise its revenue projections for all years between 2017 and 2026. The most significant factors contributing to those increases—the effects of which CBO expects to persist—arise from new data from the Social Security Administration that indicate a higher payroll tax base in 2015 than was anticipated and new data from corporate income tax returns on certain deductions and income. For 2017 through 2020, however, those increases were more than offset by the reductions in projected revenues stemming from the lingering effects of tax collections that have been weaker than expected.