



## Automatic Stabilizers in the Federal Budget: 2020 to 2030

Federal revenues and outlays regularly respond to cyclical movements in the economy in ways that tend to dampen those movements; the budget mechanisms that drive that process are known as automatic stabilizers. Those mechanisms help stabilize the economy automatically, without any legislated changes in tax or spending policies.

In this report, the Congressional Budget Office projects the budgetary effects of those automatic stabilizers—as well as the size of deficits without them—from 2020 to 2030 and provides historical estimates of the stabilizers' effects since 1970.<sup>1</sup> Like the agency's current economic forecast and budget projections on which this analysis is based, the projections presented here reflect the assumption that current law will generally remain unchanged.<sup>2</sup>

1. Data going back to 1965 are available at [www.cbo.gov/publication/51139](http://www.cbo.gov/publication/51139), as are the agency's previous estimates of the effects of automatic stabilizers.
2. For the agency's current economic forecast and budget projections, see Congressional Budget Office, *The Budget and Economic Outlook: 2020 to 2030* (January 2020), [www.cbo.gov/publication/56020](http://www.cbo.gov/publication/56020). In the past, the analysis included in this report has appeared as an appendix in the annual *Budget and Economic Outlook*. This year, however, it is published separately because the timing of recent legislation forestalled its inclusion in that larger report.

The key takeaways from CBO's analysis of the effects of automatic stabilizers are as follows:

- From 2020 to 2023, the economy operates above its potential in CBO's forecast, and automatic stabilizers are projected to *reduce* federal budget deficits.
- From 2024 to 2030, the economy operates below its potential in the agency's forecast, and automatic stabilizers are projected to *increase* deficits.
- With the effects of automatic stabilizers removed, deficits are projected to average 4.7 percent of potential gross domestic product (GDP) over the next decade, nearly twice their 50-year average. (Potential GDP is an estimate of the maximum sustainable output of the economy.)

### Background

When the economy is operating below its potential, automatic stabilizers typically boost federal outlays for transfer programs, such as unemployment insurance benefits, Medicaid, and the Supplemental Nutrition Assistance Program, above what they would be if the economy was operating at its potential; such programs support household income and thus private spending. Meanwhile, automatic stabilizers reduce federal revenues because wages and salaries, corporate profits, and

Notes: Unless this report indicates otherwise, 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 may not add up to totals because of rounding.

other tax bases are typically smaller than they would be if the economy was operating at its potential. By contrast, when the economy is operating above its potential, automatic stabilizers increase revenues above what they would be if the economy was operating at its potential and drive transfer payments downward; those changes tend to restrain private spending.

CBO estimates the effects of automatic stabilizers on spending and revenues to inform policymakers and analysts about the extent to which changes in the budget deficit are caused by cyclical developments in the economy and therefore are likely to prove temporary. The effects of automatic stabilizers are measured as the estimated changes in federal revenues and outlays—and thus in federal budget deficits—stemming from the cyclical components of GDP and the unemployment rate.<sup>3</sup> Those cyclical components are the output gap, which is the difference between GDP and potential GDP, and the unemployment gap, the difference between the rate of unemployment and the underlying long-term rate of unemployment.<sup>4</sup>

### Estimates of the Effects of Automatic Stabilizers Over the Next Decade

Using its latest budget and economic projections, CBO estimates that from 2020 through 2030, automatic stabilizers would, on average, increase federal budget deficits by less than 0.1 percent of potential GDP under current law. By comparison, automatic stabilizers added an average of 0.5 percent of potential GDP to deficits over the past 50 years. The relatively low projected average is the result of automatic stabilizers' reducing deficits over the next four years and increasing them thereafter.

3. CBO's estimates of the effects of automatic stabilizers reflect the assumption that discretionary spending and interest payments do not respond automatically to the business cycle. For a description of the methods that CBO uses to estimate the effects of automatic stabilizers, see Frank Russek and Kim Kowalewski, *How CBO Estimates Automatic Stabilizers*, Working Paper 2015-07 (Congressional Budget Office, November 2015), [www.cbo.gov/publication/51005](http://www.cbo.gov/publication/51005).

4. The underlying long-term rate of unemployment is, for the most part, equal to CBO's estimate of the natural rate of unemployment, but it excludes the effects of certain structural factors (such as changes in the supply of labor stemming from workers' receiving unemployment insurance benefits for extended periods) that boosted the natural rate in the years immediately following the 2007–2009 recession. The natural rate of unemployment is the rate of unemployment that would occur if the economy's output and other key inputs were at their maximum sustainable amounts.

In CBO's current economic forecast, GDP continues to exceed its potential and the unemployment rate remains below its underlying long-term rate from 2020 to 2023. Because of those cyclical factors, outlays for unemployment insurance and other categories that fluctuate with the economy are projected to be smaller, and tax revenues are projected to be greater, than they would be if the economy was operating at its potential. Thus, automatic stabilizers would reduce deficits during those years. In 2021, for example, when the output gap reaches a cyclical peak of 0.8 percent of potential output, automatic stabilizers are projected to reduce the deficit by \$80 billion, or 0.4 percent of potential GDP (see Table 1 on page 4).<sup>5</sup>

From 2024 to 2030, GDP is projected to fall short of potential GDP, and beginning in 2025, the unemployment rate is projected to exceed CBO's estimate of the underlying long-term rate of unemployment. During those years, automatic stabilizers would slightly increase annual deficits—by an average of 0.2 percent of potential GDP—as the projected output and unemployment gaps begin to settle at their long-run average values of –0.5 percent and 0.25 percent, respectively (see Figure 1).<sup>6</sup>

### Budget Deficits Without Automatic Stabilizers

Removing CBO's estimate of the effect of automatic stabilizers from the federal budget deficit yields an estimate of what the deficit would be if GDP was at its potential, the unemployment rate equaled its underlying long-term rate, and all other factors were unchanged. The budget deficit without automatic stabilizers can help analysts evaluate the extent to which actual and projected changes in the deficit are caused by factors other than cyclical developments in the economy, such as past changes in law, scheduled changes in policy, or demographic trends.<sup>7</sup>

5. In addition to showing the effects of automatic stabilizers in billions of dollars, CBO also presents them as a percentage of potential GDP, which unlike GDP, excludes fluctuations that are attributable to the business cycle.

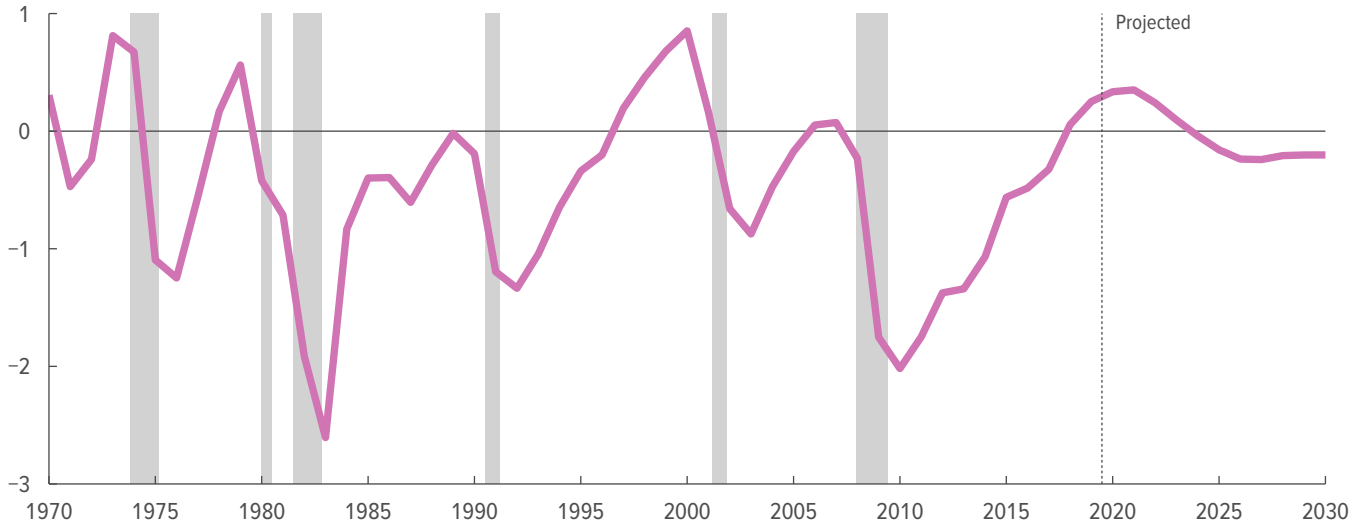
6. For further discussion of CBO's estimate of the average output gap, see Congressional Budget Office, *Why CBO Projects That Actual Output Will Be Below Potential Output on Average* (February 2015), [www.cbo.gov/publication/49890](http://www.cbo.gov/publication/49890). CBO's estimate of the average unemployment gap is consistent with its estimate of the average output gap.

7. The budget deficit without automatic stabilizers is sometimes referred to as the cyclically adjusted deficit or the structural deficit.

Figure 1.

**Effect of Automatic Stabilizers on the Budget Deficit or Surplus**

Percentage of Potential Gross Domestic Product



Source: Congressional Budget Office.

Automatic stabilizers are budget mechanisms that automatically help stabilize the economy by changing revenues and outlays in response to cyclical movements in gross domestic product and unemployment.

A negative value indicates that automatic stabilizers increase the deficit, and a positive value indicates that they reduce the deficit (or increase the surplus).

Potential gross domestic product is CBO’s estimate of the maximum sustainable output of the economy.

Shaded vertical bars indicate the duration of recessions. (A recession extends from the peak of a business cycle to its trough.)

Data are fiscal year values.

If current laws generally remained unchanged, federal budget deficits without automatic stabilizers would average 4.7 percent of potential GDP from 2020 to 2030—nearly twice the 2.4 percent of potential GDP they averaged over the past 50 years. Budget deficits without automatic stabilizers would fall from 5.0 percent of potential GDP in 2020 to 4.3 percent in 2027, CBO estimates (see Figure 2 on page 8). That decline stems mostly from an uptick in the growth of revenues without automatic stabilizers in 2026 and 2027. Stronger growth in revenues without automatic stabilizers in those years can be ascribed to the expiration of certain provisions of the 2017 tax act (Public Law 115-97) at the end of calendar year 2025. By 2030, the projected budget deficit without automatic stabilizers reaches 5.2 percent of potential GDP, which is 0.2 percentage points smaller than the deficit in CBO’s baseline, which includes the effects of automatic stabilizers.

Some of the year-to-year variation of the budget deficit without automatic stabilizers in the projection period can be attributed to timing shifts. When October 1 (the first

day of the fiscal year) falls on a weekend, certain payments that would ordinarily have been made on that date will instead be made in September, thus boosting outlays in the previous fiscal year and reducing them in the following fiscal year.<sup>8</sup> If not for those shifts, the budget deficit without automatic stabilizers as a percentage of potential GDP would vary less over the next decade and would steadily increase after 2027.

Despite the exclusion of the estimated effects of cyclical movements in the economy, the deficit without automatic stabilizers as a percentage of potential GDP appears to be correlated with the business cycle. In particular, the deficit without automatic stabilizers has tended to increase during times of recession and early in recoveries. One reason for that correlation is that during times of recession or high unemployment, policymakers

8. October 1 will fall on a weekend in 2022, 2023, and 2028, so certain payments will be shifted from fiscal years 2023, 2024, and 2029 to fiscal years 2022, 2023, and 2028. Those shifts will noticeably boost spending and the deficit in 2022 and 2028 and reduce spending and the deficit in 2024 and 2029.

Table 1.

**CBO's Estimates of the Budgetary Effects of Automatic Stabilizers**

	Deficit (-) or Surplus With Automatic Stabilizers	-	Effect of Automatic Stabilizers	=	Deficit (-) or Surplus Without Automatic Stabilizers	Revenues and Outlays Without Automatic Stabilizers		Output Gap <sup>a</sup>	Unemployment Gap (Percentage points) <sup>b</sup>
						Revenues	Outlays		
In Billions of Dollars									
1970	-3		3		-6	194	200	2	-1.9
1971	-23		-5		-18	193	211	-16	-0.2
1972	-23		-3		-20	211	231	-5	-0.1
1973	-15		11		-26	222	248	38	-0.9
1974	-6		10		-16	257	273	25	-1.1
1975	-53		-18		-35	294	329	-56	1.2
1976	-74		-23		-51	314	365	-50	1.8
1977	-54		-11		-42	362	404	-25	1.1
1978	-59		4		-63	395	458	9	*
1979	-41		14		-55	451	506	31	-0.4
1980	-74		-12		-62	526	588	-42	0.6
1981	-79		-23		-56	614	670	-41	1.2
1982	-128		-67		-61	665	726	-179	3.0
1983	-208		-98		-110	667	777	-228	4.0
1984	-185		-34		-152	689	841	-88	1.7
1985	-212		-17		-195	745	940	-65	1.2
1986	-221		-18		-203	782	985	-65	1.1
1987	-150		-29		-120	881	1,001	-90	0.5
1988	-155		-15		-140	926	1,066	-46	-0.3
1989	-153		-1		-152	996	1,147	-10	-0.6
1990	-221		-11		-210	1,045	1,255	-43	-0.3
1991	-269		-75		-194	1,124	1,317	-222	1.0
1992	-290		-89		-202	1,166	1,368	-213	1.8
1993	-255		-73		-182	1,215	1,397	-176	1.6
1994	-203		-47		-156	1,298	1,454	-109	0.9
1995	-164		-26		-138	1,376	1,514	-74	0.2
1996	-107		-16		-91	1,468	1,560	-40	0.1
1997	-22		16		-38	1,565	1,603	48	-0.2
1998	69		40		29	1,689	1,660	90	-0.7
1999	126		64		62	1,775	1,713	146	-1.0

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Table 1.

Continued

**CBO’s Estimates of the Budgetary Effects of Automatic Stabilizers**

	Deficit (-) or Surplus With Automatic Stabilizers	-	Effect of Automatic Stabilizers	=	Deficit (-) or Surplus Without Automatic Stabilizers	Revenues and Outlays Without Automatic Stabilizers		Output Gap <sup>a</sup>	Unemployment Gap (Percentage points) <sup>b</sup>
						Revenues	Outlays		
<b>In Billions of Dollars (Continued)</b>									
2000	236		85		152	1,957	1,805	186	-1.2
2001	128		17		111	1,988	1,876	-25	-0.8
2002	-158		-73		-85	1,921	2,006	-225	0.6
2003	-378		-101		-276	1,871	2,148	-282	0.9
2004	-413		-58		-355	1,927	2,282	-141	0.6
2005	-318		-22		-296	2,171	2,467	-52	0.2
2006	-248		7		-255	2,403	2,658	12	-0.2
2007	-161		10		-171	2,565	2,736	5	-0.4
2008	-459		-34		-424	2,554	2,978	-117	0.4
2009	-1,413		-267		-1,145	2,308	3,454	-827	3.6
2010	-1,294		-314		-980	2,381	3,362	-720	4.7
2011	-1,300		-281		-1,019	2,492	3,510	-659	4.1
2012	-1,077		-228		-848	2,599	3,447	-552	3.2
2013	-680		-230		-449	2,938	3,388	-585	2.6
2014	-485		-190		-294	3,166	3,460	-479	1.6
2015	-442		-103		-339	3,329	3,667	-246	0.7
2016	-585		-91		-494	3,347	3,841	-272	0.3
2017	-665		-63		-602	3,377	3,980	-184	*
2018	-779		11		-790	3,330	4,121	45	-0.5
2019	-984		53		-1,038	3,429	4,466	121	-0.7
2020	-1,015		74		-1,089	3,586	4,674	162	-0.9
2021	-1,000		80		-1,081	3,765	4,845	176	-0.9
2022	-1,116		57		-1,173	3,967	5,140	115	-0.6
2023	-1,119		24		-1,143	4,195	5,337	39	-0.3
2024	-1,152		-10		-1,142	4,395	5,537	-39	*
2025	-1,315		-42		-1,272	4,600	5,872	-117	0.2
2026	-1,333		-66		-1,267	4,906	6,174	-166	0.3
2027	-1,313		-70		-1,244	5,212	6,455	-163	0.3
2028	-1,538		-62		-1,475	5,394	6,869	-149	0.3
2029	-1,466		-63		-1,404	5,597	7,001	-155	0.2
2030	-1,742		-65		-1,677	5,798	7,476	-161	0.3

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Table 1.

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## CBO's Estimates of the Budgetary Effects of Automatic Stabilizers

	Deficit (-) or Surplus With Automatic Stabilizers	-	Effect of Automatic Stabilizers	=	Deficit (-) or Surplus Without Automatic Stabilizers	Revenues and Outlays Without Automatic Stabilizers		Output Gap <sup>a</sup>	Unemployment Gap (Percentage points) <sup>b</sup>
						Revenues	Outlays		
<b>As a Percentage of Potential GDP</b>									
1970	-0.3		0.3		-0.6	18.6	19.1	0.2	-1.9
1971	-2.0		-0.5		-1.6	17.1	18.6	-1.4	-0.2
1972	-1.9		-0.2		-1.7	17.2	18.9	-0.4	-0.1
1973	-1.1		0.8		-1.9	16.9	18.8	2.9	-0.9
1974	-0.4		0.7		-1.1	17.6	18.7	1.7	-1.1
1975	-3.2		-1.1		-2.1	17.7	19.8	-3.4	1.2
1976	-4.0		-1.2		-2.8	17.1	19.9	-2.7	1.8
1977	-2.6		-0.6		-2.1	17.7	19.7	-1.2	1.1
1978	-2.6		0.2		-2.8	17.5	20.2	0.4	*
1979	-1.6		0.6		-2.2	17.8	20.0	1.2	-0.4
1980	-2.6		-0.4		-2.2	18.6	20.8	-1.5	0.6
1981	-2.5		-0.7		-1.8	19.3	21.1	-1.3	1.2
1982	-3.7		-1.9		-1.8	19.0	20.8	-5.1	3.0
1983	-5.5		-2.6		-2.9	17.7	20.6	-6.1	4.0
1984	-4.6		-0.8		-3.8	17.1	20.8	-2.2	1.7
1985	-4.9		-0.4		-4.5	17.2	21.7	-1.5	1.2
1986	-4.8		-0.4		-4.4	17.0	21.4	-1.4	1.1
1987	-3.1		-0.6		-2.5	18.1	20.6	-1.9	0.5
1988	-3.0		-0.3		-2.7	17.9	20.6	-0.9	-0.3
1989	-2.7		**		-2.7	17.9	20.6	-0.2	-0.6
1990	-3.7		-0.2		-3.5	17.6	21.1	-0.7	-0.3
1991	-4.3		-1.2		-3.1	17.8	20.9	-3.5	1.0
1992	-4.4		-1.3		-3.0	17.6	20.6	-3.2	1.8
1993	-3.7		-1.0		-2.6	17.5	20.1	-2.5	1.6
1994	-2.8		-0.6		-2.1	17.8	20.0	-1.5	0.9
1995	-2.1		-0.3		-1.8	18.0	19.8	-1.0	0.2
1996	-1.3		-0.2		-1.1	18.4	19.5	-0.5	0.1
1997	-0.3		0.2		-0.5	18.6	19.1	0.6	-0.2
1998	0.8		0.5		0.3	19.1	18.8	1.0	-0.7
1999	1.3		0.7		0.7	19.0	18.4	1.6	-1.0

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Table 1.

Continued

## CBO's Estimates of the Budgetary Effects of Automatic Stabilizers

	Deficit (-) or Surplus With Automatic Stabilizers	-	Effect of Automatic Stabilizers	=	Deficit (-) or Surplus Without Automatic Stabilizers	Revenues and Outlays Without Automatic Stabilizers		Output Gap <sup>a</sup>	Unemployment Gap (Percentage points) <sup>b</sup>	
						Revenues	Outlays			
<b>As a Percentage of Potential GDP (Continued)</b>										
2000	2.4		0.9		1.5	19.7	18.2	1.9	-1.2	
2001	1.2		0.2		1.1	18.8	17.8	-0.2	-0.8	
2002	-1.4		-0.7		-0.8	17.4	18.1	-2.0	0.6	
2003	-3.3		-0.9		-2.4	16.2	18.6	-2.4	0.9	
2004	-3.4		-0.5		-2.9	15.8	18.8	-1.2	0.6	
2005	-2.5		-0.2		-2.3	16.8	19.1	-0.4	0.2	
2006	-1.8		0.1		-1.9	17.6	19.5	0.1	-0.2	
2007	-1.1		0.1		-1.2	18.0	19.2	**	-0.4	
2008	-3.1		-0.2		-2.9	17.2	20.0	-0.8	0.4	
2009	-9.3		-1.8		-7.5	15.1	22.6	-5.4	3.6	
2010	-8.3		-2.0		-6.3	15.3	21.6	-4.6	4.7	
2011	-8.1		-1.7		-6.3	15.5	21.9	-4.1	4.1	
2012	-6.5		-1.4		-5.1	15.6	20.8	-3.3	3.2	
2013	-4.0		-1.3		-2.6	17.1	19.7	-3.4	2.6	
2014	-2.7		-1.1		-1.7	17.8	19.4	-2.7	1.6	
2015	-2.4		-0.6		-1.8	18.1	20.0	-1.3	0.7	
2016	-3.1		-0.5		-2.6	17.8	20.4	-1.4	0.3	
2017	-3.4		-0.3		-3.1	17.3	20.4	-0.9	*	
2018	-3.8		0.1		-3.9	16.4	20.3	0.2	-0.5	
2019	-4.7		0.3		-4.9	16.3	21.2	0.6	-0.7	
2020	-4.6		0.3		-5.0	16.3	21.3	0.7	-0.9	
2021	-4.4		0.4		-4.7	16.5	21.2	0.8	-0.9	
2022	-4.7		0.2		-4.9	16.7	21.6	0.5	-0.6	
2023	-4.5		0.1		-4.6	16.9	21.5	0.2	-0.3	
2024	-4.5		**		-4.4	17.1	21.5	-0.2	*	
2025	-4.9		-0.2		-4.8	17.2	21.9	-0.4	0.2	
2026	-4.8		-0.2		-4.6	17.7	22.2	-0.6	0.3	
2027	-4.6		-0.2		-4.3	18.1	22.4	-0.6	0.3	
2028	-5.1		-0.2		-4.9	18.0	23.0	-0.5	0.3	
2029	-4.7		-0.2		-4.5	18.1	22.6	-0.5	0.2	
2030	-5.4		-0.2		-5.2	18.0	23.2	-0.5	0.3	

Sources: Congressional Budget Office; Office of Management and Budget.

Automatic stabilizers are budget mechanisms that automatically help stabilize the economy by changing revenues and outlays in response to cyclical movements in GDP and unemployment.

Shaded amounts are actual deficits or surpluses. Projected deficits with automatic stabilizers are CBO's current baseline projections of the federal budget deficit as presented in Congressional Budget Office, *The Budget and Economic Outlook: 2020 to 2030* (January 2020), [www.cbo.gov/publication/56020](http://www.cbo.gov/publication/56020).

This table is available on CBO's website ([www.cbo.gov/publication/51139](http://www.cbo.gov/publication/51139)) with data going back to 1965.

GDP = gross domestic product; \* = between -0.05 and 0.05 percentage points; \*\* = between -0.05 and 0.05 percent.

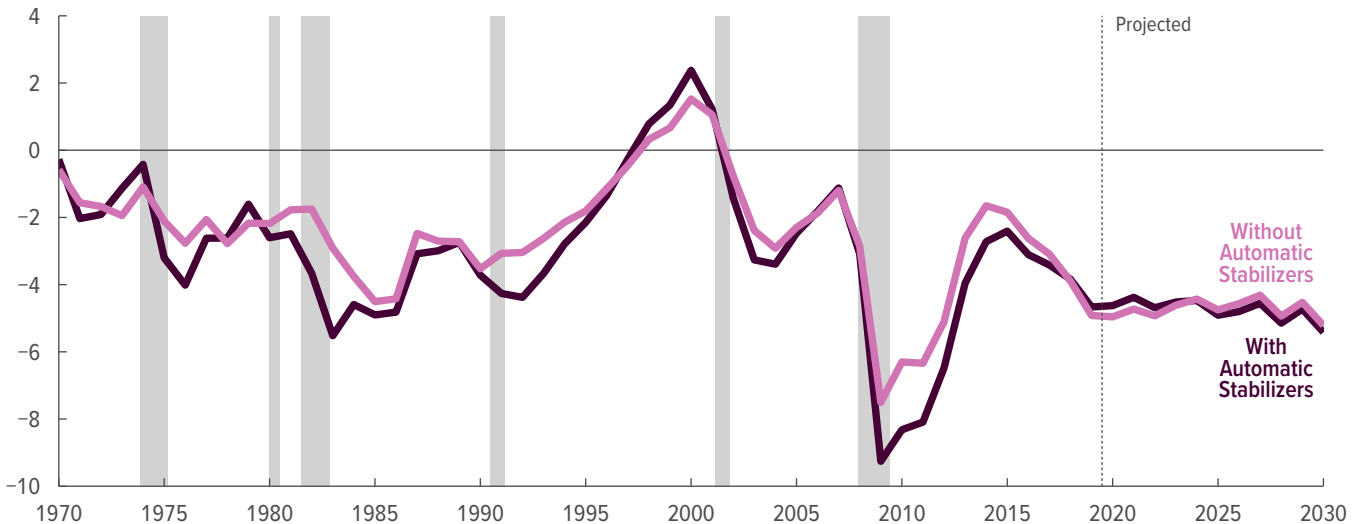
a. The output gap equals actual or projected GDP minus CBO's estimate of potential GDP (the maximum sustainable output of the economy).

b. The unemployment gap equals the actual or projected rate of unemployment minus CBO's estimate of the underlying long-term rate of unemployment.

Figure 2.

**Budget Deficit or Surplus With and Without Automatic Stabilizers**

Percentage of Potential Gross Domestic Product



Sources: Congressional Budget Office; Office of Management and Budget.

Automatic stabilizers are budget mechanisms that automatically help stabilize the economy by changing revenues and outlays in response to cyclical movements in gross domestic product and unemployment.

A negative value indicates a deficit and a positive value, a surplus.

Projected deficits with automatic stabilizers are CBO's current baseline projections of the federal budget deficit as presented in Congressional Budget Office, *The Budget and Economic Outlook: 2020 to 2030* (January 2020), [www.cbo.gov/publication/56020](http://www.cbo.gov/publication/56020).

Potential gross domestic product is CBO's estimate of the maximum sustainable output of the economy.

Shaded vertical bars indicate the duration of recessions. (A recession extends from the peak of a business cycle to its trough.)

Data are fiscal year values.

have often legislated changes to support a weak economy—such as cutting taxes or increasing government spending—that increased the deficit. Such changes require legislation, so their budgetary effects are not automatic and thus are not attributable to automatic stabilizers. After times of recession or high unemployment, the deficit without automatic stabilizers has typically shrunk. That pattern was evident from 2009 to 2014, although the deficit without automatic stabilizers has grown since then.

Another reason that the deficit without automatic stabilizers appears to be correlated with the business cycle may be that CBO's methods for estimating the effects of automatic stabilizers only partially remove the budgetary effects of certain changes. For example, large fluctuations in the stock market, which have a notable effect on federal revenues from capital gains taxes, have not had a sufficiently regular relationship with business cycles to be considered primarily cyclical in nature.



This report supplements *The Budget and Economic Outlook: 2020 to 2030*, which is available on CBO's website ([www.cbo.gov/publication/56020](http://www.cbo.gov/publication/56020)). In keeping with CBO's mandate to provide objective, impartial analysis, the report makes no recommendations.

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CBO continually seeks feedback to make its work as useful as possible. Please send any comments to [communications@cbo.gov](mailto:communications@cbo.gov).



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