

The Automatic Stabilizers in the Federal Budget

Overview

Federal revenues and outlays regularly respond to cyclical movements in the economy in ways that tend to dampen those movements. When the economy is operating below its potential, wages and salaries, corporate profits, and other tax bases are smaller than they would have been if the economy was operating at its potential; as a result, federal revenues are lower as well. Meanwhile, outlays for unemployment insurance benefits and some other transfer programs are higher. Those changes in revenues and outlays tend to encourage private spending. By contrast, when the economy is operating above its potential, revenues are higher and transfer payments lower than they would have been if the economy was operating at its potential—changes that tend to restrain private spending. The changes in revenues and outlays that are attributable to cyclical changes in the economy are known as automatic stabilizers. They are automatic because they occur without any legislated changes in tax or spending policies. They are stabilizers because they tend to dampen the magnitude of cyclical fluctuations in the economy.

The Congressional Budget Office estimates the automatic stabilizers in order to inform policymakers and analysts about the extent to which changes in the budget deficit are caused by cyclical developments in the economy and are therefore likely to prove temporary. The automatic stabilizers are measured as the estimated effects on federal revenues and outlays—and thus on federal budget deficits—of the cyclical components of gross domestic product (GDP) and the unemployment rate.¹ Those cyclical components are the output gap, or the difference between GDP and potential GDP (CBO’s estimate of the maximum sustainable output of the economy), and the unemployment gap, the difference between the rate

of unemployment and the underlying long-term rate of unemployment.²

On the basis of CBO’s current economic and budgetary projections, which incorporate the assumption that current law will generally remain unchanged, the agency projects that the automatic stabilizers would reduce deficits through 2021 but then slightly increase the deficit every year thereafter. Over the next decade, federal budget deficits without automatic stabilizers are projected to vary narrowly around 4.3 percent of potential GDP.

Estimates of the Automatic Stabilizers Over the Next Decade

Between 2019 and 2021, the economy is expected to operate above its potential, so outlays for unemployment insurance and other categories that vary with the economy are projected to be smaller—and tax revenues, greater—than they would be if the economy was operating at its potential. Thus, the automatic stabilizers would reduce deficits during those years. In 2020, for example, they are projected to reduce the deficit by \$79 billion, or 0.4 percent of potential GDP (see Table C-1).³ Thereafter—when GDP is projected to fall short of potential GDP and when, beginning in 2023, the unemployment rate is projected to exceed CBO’s estimate of the underlying long-term rate of unemployment—the automatic stabilizers would slightly increase deficits (see Figure C-1 on page 136). From 2022 to 2029, the automatic stabilizers increase projected deficits

1. CBO’s estimates of the 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 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.

2. 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 that boosted the natural rate in the years immediately following the 2007–2009 recession. The natural rate of unemployment is the rate of unemployment arising from all sources except fluctuations in the overall demand for goods and services.

3. In addition to showing the automatic stabilizers in billions of dollars, CBO also presents them as percentages of potential GDP, which unlike GDP, excludes fluctuations that are attributable to the business cycle. The agency’s previous estimates of the automatic stabilizers are available at www.cbo.gov/publication/51139.

Table C-1.

Deficit or Surplus With and Without CBO's Estimate of Automatic Stabilizers, and Related Estimates

	Deficit (-) or Surplus With Automatic Stabilizers	-	Automatic Stabilizers	=	Deficit (-) or Surplus Without Automatic Stabilizers		Revenues and Outlays Without Automatic Stabilizers		Output Gap ^a	Unemployment Gap (Percentage points) ^b
					Revenues	Outlays	Revenues	Outlays		
In Billions of Dollars										
1969	3		11		-8	181	188	26		-2.4
1970	-3		3		-6	194	200	2		-1.9
1971	-23		-6		-18	193	211	-16		-0.2
1972	-23		-3		-21	211	231	-5		-0.1
1973	-15		11		-26	222	248	40		-0.9
1974	-6		11		-17	256	273	28		-1.1
1975	-53		-18		-35	294	329	-56		1.2
1976	-74		-23		-50	314	365	-51		1.8
1977	-54		-11		-42	362	404	-24		1.1
1978	-59		4		-64	395	458	11		*
1979	-41		16		-56	450	506	36		-0.4
1980	-74		-10		-64	525	588	-37		0.6
1981	-79		-22		-57	613	670	-39		1.2
1982	-128		-66		-62	664	726	-179		3.0
1983	-208		-97		-111	667	777	-229		4.0
1984	-185		-31		-154	687	841	-81		1.7
1985	-212		-14		-199	742	940	-53		1.2
1986	-221		-15		-206	779	985	-55		1.1
1987	-150		-26		-124	878	1,001	-81		0.5
1988	-155		-12		-143	923	1,066	-39		-0.3
1989	-153		1		-153	994	1,147	-5		-0.6
1990	-221		-11		-210	1,045	1,255	-42		-0.3
1991	-269		-77		-193	1,125	1,317	-227		1.0
1992	-290		-90		-200	1,168	1,368	-221		1.8
1993	-255		-74		-181	1,216	1,397	-181		1.6
1994	-203		-47		-156	1,298	1,455	-109		0.9
1995	-164		-24		-140	1,374	1,514	-69		0.2
1996	-107		-13		-94	1,465	1,560	-32		0.1
1997	-22		21		-42	1,561	1,603	60		-0.2
1998	69		45		25	1,685	1,660	101		-0.7
1999	126		67		59	1,772	1,713	154		-1.0

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Table C-1.

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Deficit or Surplus With and Without CBO's Estimate of Automatic Stabilizers, and Related Estimates

	Deficit (-) or Surplus With Automatic Stabilizers	-	Automatic Stabilizers	=	Deficit (-) or Surplus Without Automatic Stabilizers		Revenues and Outlays Without Automatic Stabilizers		Output Gap ^a	Unemployment Gap (Percentage points) ^b
					Revenues	Outlays	Revenues	Outlays		
In Billions of Dollars (Continued)										
2000	236		87		149	1,954	1,805	193	-1.2	
2001	128		17		111	1,988	1,876	-25	-0.8	
2002	-158		-75		-83	1,923	2,006	-235	0.6	
2003	-378		-103		-275	1,873	2,148	-295	0.9	
2004	-413		-59		-354	1,928	2,282	-149	0.6	
2005	-318		-22		-297	2,170	2,467	-49	0.2	
2006	-248		12		-261	2,397	2,658	31	-0.2	
2007	-161		20		-181	2,555	2,736	38	-0.4	
2008	-459		-23		-436	2,542	2,978	-82	0.4	
2009	-1,413		-256		-1,156	2,297	3,454	-809	3.6	
2010	-1,294		-301		-993	2,369	3,362	-703	4.7	
2011	-1,300		-263		-1,036	2,475	3,511	-623	4.1	
2012	-1,087		-208		-879	2,579	3,458	-503	3.2	
2013	-680		-207		-473	2,915	3,388	-529	2.6	
2014	-485		-168		-317	3,144	3,460	-425	1.6	
2015	-439		-86		-353	3,311	3,664	-206	0.7	
2016	-585		-76		-509	3,333	3,842	-238	0.3	
2017	-665		-53		-612	3,370	3,982	-168	-0.1	
2018	-779		8		-787	3,335	4,122	15	-0.6	
2019	-897		72		-969	3,470	4,439	177	-1.0	
2020	-903		79		-982	3,637	4,619	161	-1.0	
2021	-974		41		-1,015	3,819	4,834	74	-0.5	
2022	-1,128		-4		-1,124	4,021	5,144	-20	*	
2023	-1,139		-38		-1,100	4,241	5,341	-98	0.2	
2024	-1,091		-51		-1,041	4,490	5,531	-129	0.2	
2025	-1,213		-53		-1,160	4,690	5,850	-136	0.3	
2026	-1,204		-64		-1,141	5,008	6,149	-165	0.3	
2027	-1,192		-67		-1,126	5,309	6,434	-164	0.3	
2028	-1,435		-61		-1,374	5,495	6,870	-150	0.3	
2029	-1,370		-62		-1,308	5,723	7,031	-156	0.3	

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Table C-1.

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Deficit or Surplus With and Without CBO's Estimate of Automatic Stabilizers, and Related Estimates

	Deficit (-) or Surplus With Automatic Stabilizers	-	Automatic Stabilizers	=	Deficit (-) or Surplus Without Automatic Stabilizers		Revenues and Outlays Without Automatic Stabilizers		Output Gap ^a	Unemployment Gap (Percentage points) ^b
					Revenues	Outlays	Revenues	Outlays		
As a Percentage of Potential GDP										
1969	0.3		1.1		-0.8	18.9	19.7	2.8		-2.4
1970	-0.3		0.3		-0.6	18.5	19.1	0.1		-1.9
1971	-2.0		-0.5		-1.5	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		0.9		-2.0	16.9	18.9	3.1		-0.9
1974	-0.4		0.7		-1.2	17.6	18.7	1.9		-1.1
1975	-3.2		-1.1		-2.1	17.7	19.8	-3.3		1.2
1976	-4.0		-1.3		-2.7	17.1	19.8	-2.8		1.8
1977	-2.6		-0.5		-2.1	17.7	19.7	-1.2		1.1
1978	-2.6		0.2		-2.8	17.4	20.3	0.5		*
1979	-1.6		0.6		-2.2	17.8	20.0	1.4		-0.4
1980	-2.6		-0.4		-2.3	18.5	20.8	-1.3		0.6
1981	-2.5		-0.7		-1.8	19.3	21.1	-1.2		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	20.9	-2.0		1.7
1985	-4.9		-0.3		-4.6	17.2	21.8	-1.2		1.2
1986	-4.8		-0.3		-4.5	17.0	21.5	-1.2		1.1
1987	-3.1		-0.5		-2.6	18.1	20.7	-1.7		0.5
1988	-3.0		-0.2		-2.8	17.8	20.6	-0.8		-0.3
1989	-2.7		**		-2.8	17.9	20.6	-0.1		-0.6
1990	-3.7		-0.2		-3.5	17.6	21.1	-0.7		-0.3
1991	-4.3		-1.2		-3.0	17.8	20.8	-3.6		1.0
1992	-4.4		-1.4		-3.0	17.6	20.6	-3.3		1.8
1993	-3.7		-1.1		-2.6	17.5	20.1	-2.6		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	-0.9		0.2
1996	-1.3		-0.2		-1.2	18.4	19.5	-0.4		0.1
1997	-0.3		0.2		-0.5	18.6	19.1	0.7		-0.2
1998	0.8		0.5		0.3	19.1	18.8	1.1		-0.7
1999	1.3		0.7		0.6	19.0	18.4	1.7		-1.0

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Table C-1.

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Deficit or Surplus With and Without CBO's Estimate of Automatic Stabilizers, and Related Estimates

	Deficit (-) or Surplus With Automatic Stabilizers	-	Automatic Stabilizers	=	Deficit (-) or Surplus Without Automatic Stabilizers		Revenues and Outlays Without Automatic Stabilizers		Output Gap ^a	Unemployment Gap (Percentage points) ^b
					Revenues	Outlays	Revenues	Outlays		
As a Percentage of Potential GDP (Continued)										
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	-2.1	0.6	
2003	-3.3		-0.9		-2.4	16.2	18.5	-2.5	0.9	
2004	-3.4		-0.5		-2.9	15.8	18.7	-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	0.2	-0.2	
2007	-1.1		0.1		-1.3	17.9	19.2	0.3	-0.4	
2008	-3.1		-0.2		-2.9	17.1	20.1	-0.6	0.4	
2009	-9.3		-1.7		-7.6	15.1	22.7	-5.3	3.6	
2010	-8.3		-1.9		-6.4	15.2	21.6	-4.5	4.7	
2011	-8.1		-1.6		-6.5	15.4	21.9	-3.9	4.1	
2012	-6.6		-1.3		-5.3	15.6	20.9	-3.0	3.2	
2013	-4.0		-1.2		-2.8	17.0	19.8	-3.1	2.6	
2014	-2.7		-0.9		-1.8	17.7	19.5	-2.4	1.6	
2015	-2.4		-0.5		-1.9	18.1	20.0	-1.1	0.7	
2016	-3.1		-0.4		-2.7	17.7	20.4	-1.3	0.3	
2017	-3.4		-0.3		-3.1	17.3	20.5	-0.9	-0.1	
2018	-3.9		**		-3.9	16.5	20.4	0.1	-0.6	
2019	-4.3		0.3		-4.6	16.5	21.1	0.8	-1.0	
2020	-4.1		0.4		-4.5	16.6	21.0	0.7	-1.0	
2021	-4.3		0.2		-4.4	16.7	21.1	0.3	-0.5	
2022	-4.7		**		-4.7	16.9	21.6	-0.1	*	
2023	-4.6		-0.2		-4.4	17.1	21.6	-0.4	0.2	
2024	-4.2		-0.2		-4.0	17.4	21.5	-0.5	0.2	
2025	-4.5		-0.2		-4.3	17.5	21.8	-0.5	0.3	
2026	-4.3		-0.2		-4.1	18.0	22.1	-0.6	0.3	
2027	-4.1		-0.2		-3.9	18.4	22.3	-0.6	0.3	
2028	-4.8		-0.2		-4.6	18.3	22.9	-0.5	0.3	
2029	-4.4		-0.2		-4.2	18.4	22.6	-0.5	0.3	

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

Automatic stabilizers are automatic changes in revenues and outlays that are attributable to cyclical movements in GDP and unemployment.

The deficits without automatic stabilizers have *not* been adjusted to remove the effects of timing shifts. When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. Those timing shifts will noticeably boost spending and the deficit in 2022 and 2028 and reduce spending and the deficit in 2024 and 2029. See Table 1-2 on page 8 for more details.

Shaded amounts are actual deficits or surpluses.

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

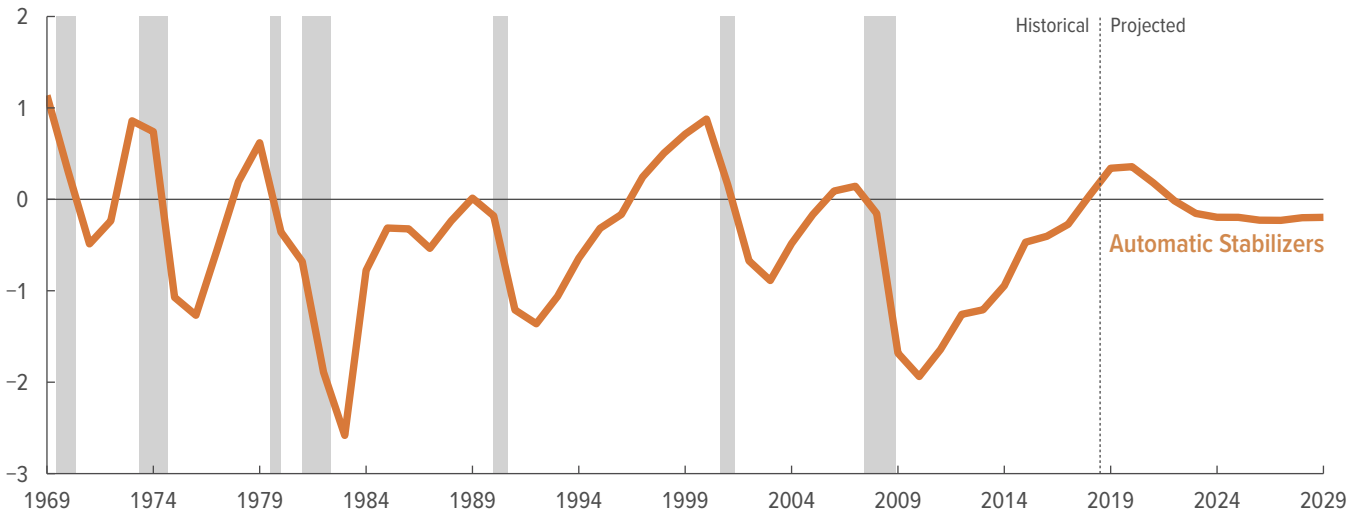
a. The output gap equals actual or projected GDP minus potential GDP (CBO's estimate of the maximum sustainable output of the economy).

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

Figure C-1.

Contribution of Automatic Stabilizers to Budget Deficits and Surpluses

Percentage of Potential Gross Domestic Product



Source: Congressional Budget Office.

Automatic stabilizers are automatic changes in revenues and outlays that are attributable to cyclical movements in gross domestic product and unemployment.

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

Data are fiscal year values.

by an average of 0.2 percent of potential GDP—roughly equal to its long-run average value—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.⁴

Budget Deficits Without Automatic Stabilizers

Removing CBO's estimate of the 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 changes in the deficit are caused by factors other than cyclical developments in the economy, such as changes in legislation and demographics.⁵

If current laws generally remained unchanged, over the next few years budget deficits without automatic stabilizers would fall slightly from 4.6 percent of potential GDP in 2019 to 4.4 percent in 2021, CBO estimates (see Figure C-2). Thereafter, the deficit without automatic stabilizers would average 4.3 percent of potential GDP as strong growth in revenues without automatic stabilizers outpaces the growth in outlays without automatic stabilizers. That strong growth in revenues is due, in part, to the scheduled expiration of many temporary provisions of Public Law 115-97 (referred to here as the 2017 tax

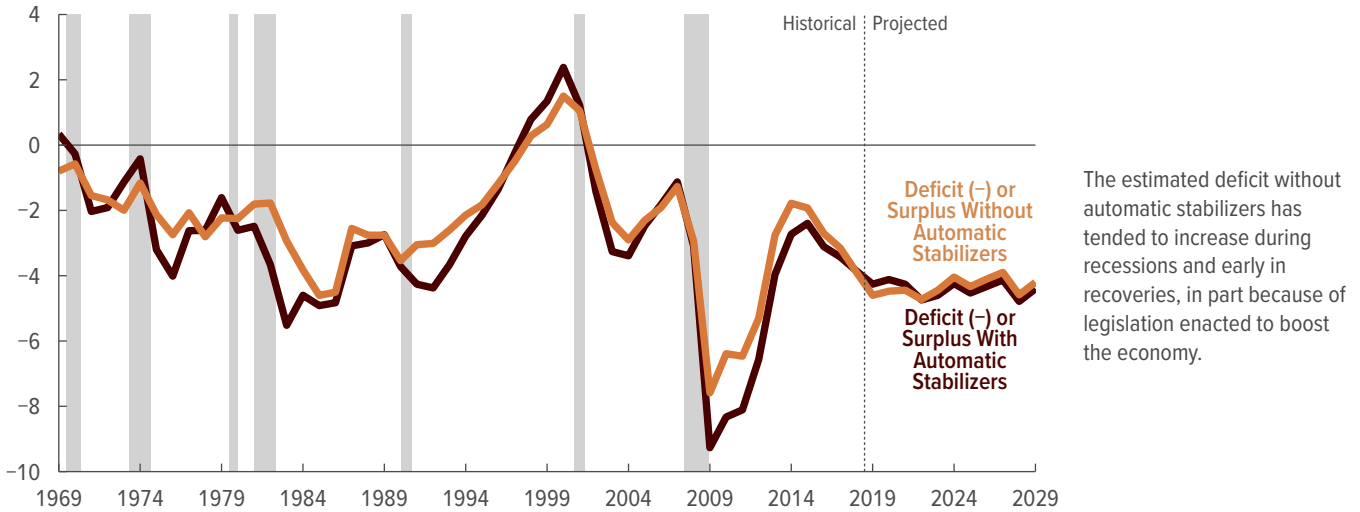
4. For further discussion of CBO's estimate of the average output gap, see Congressional Budget Office, *Why CBO Projects That Actual Output Will Be Below Potential Output on Average* (February 2015), www.cbo.gov/publication/49890. CBO's estimate of the average unemployment gap is consistent with its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

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

Figure C-2.

Budget Deficits and Surpluses With and Without Automatic Stabilizers

Percentage of Potential Gross Domestic Product



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

Automatic stabilizers are automatic changes in revenues and outlays that are attributable to cyclical movements in gross domestic product and unemployment.

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

The deficits without automatic stabilizers have *not* been adjusted to remove the effects of timing shifts. When October 1 (the first day of the fiscal year) falls on a weekend, certain payments that would have ordinarily been made on that day are instead made at the end of September and thus are shifted into the previous fiscal year. Those timing shifts will noticeably boost spending and the deficit in 2022 and 2028 and reduce spending and the deficit in 2024 and 2029. See Table 1-2 on page 8 for more details.

Data are fiscal year values.

act) at the end of calendar year 2025.⁶ By 2029, the projected budget deficit without automatic stabilizers equals 4.2 percent of potential GDP, which is 0.2 percentage points less than the deficit in CBO’s baseline. However, the 2029 deficit without automatic stabilizers was reduced by \$91 billion because in 2028, October 1 (the first day of fiscal year 2029) will fall on a weekend and certain payments that would ordinarily have been made on that date will instead be made in September, thus

boosting outlays in fiscal year 2028 and reducing them in 2029.⁷ If not for that shift, the deficit in 2029 would be about \$1.5 trillion, or about 4.7 percent of potential GDP, and the deficit without automatic stabilizers would be 4.5 percent of potential GDP, CBO projects.

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 tends to increase during times of recession and early in recoveries. One reason for that correlation is that during times of

6. The 2017 tax act made important changes to both the individual and corporate income tax systems. As a result, the underlying relationships between some types of taxable income and cyclical factors that affect the economy have changed. For example, the law amended some provisions that govern the use of net operating losses to lower taxable business income. Because such losses are highly sensitive to the business cycle, the relationship between taxable business income and cyclical movements in the economy has changed. Those changes are reflected in CBO’s estimated effects of the automatic stabilizers starting in 2018.

7. 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. For details on the effects of those timing shifts, see Table 1-2 on page 8.

recession or high unemployment, policymakers often legislate changes to support the weak economy—such as cutting taxes or increasing government spending—that increase the deficit (or reduce the surplus). Those changes require legislation, so their budgetary effects are not automatic, and they are not viewed as 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, though 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 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.