CBO

The Effects of Automatic Stabilizers on the Federal Budget

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Notes

Numbers in the text and tables of this report may not add up to totals because of rounding.

Unless otherwise indicated, all of the years referred to are federal fiscal years (which run from October 1 to September 30).

Because of technical changes, some of the historical estimates of the automatic stabilizers presented in this report differ slightly from those in Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2011 to 2021*, Appendix E (January 2011).

Spreadsheets showing historical values for the budget deficit and related series with and without automatic stabilizers are available at www.cbo.gov.

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The Effects of Automatic Stabilizers on the Federal Budget

In March 2011, the Congressional Budget Office (CBO) released its most recent baseline projections of federal revenues, outlays, and budget balances for the next 10 years.[1] For those projections, CBO assumed the continuation of current laws and policies that affect taxes and mandatory spending programs and extrapolated the growth of discretionary spending by using projected rates of inflation. CBO estimated in March that the baseline budget deficit will rise from $1.3 trillion in fiscal year 2010 to $1.4 trillion in 2011 and then will average $692 billion over the next five years. At 9.3 percent of gross domestic product (GDP) in 2011, the deficit in those terms will be the second largest in more than half a century (behind only the 2009 deficit, which was 10.0 percent of GDP). By comparison, CBO projects that the deficit will average 4.1 percent of GDP during the five years from 2012 through 2016 if current laws remain in place.

CBO's projections of the budget deficit are affected by legislation that governs taxation and spending and by the automatic responses of revenues and outlays to developments in the economy and other factors. This report focuses on a component of the latter group—the automatic stabilizers—that reflect cyclical movements in real (inflation-adjusted) output and unemployment.[2] During recessions, GDP falls relative to potential GDP (the quantity of output that corresponds to a high rate of use of labor and capital), and revenue declines automatically. In addition, some outlays—for example, to pay unemployment insurance claims or to provide federal nutrition benefits—automatically increase. Those automatic reductions in revenues and increases in outlays when GDP is falling relative to potential GDP and unemployment is correspondingly rising help bolster economic activity, but they also temporarily increase the budget deficit. As GDP moves up closer to potential GDP, revenues automatically begin to rise, outlays automatically begin to fall, and the automatic stabilizers offer a smaller boost to output. (For a discussion of the measurement of automatic stabilizers, see the appendix.)

CBO estimates that automatic stabilizers are adding significantly to the budget deficit now but that their contribution will steadily fade over the next few years. In 2010, CBO estimates, automatic stabilizers added the equivalent of 2.4 percent of potential GDP to the deficit, an amount somewhat greater than the 2.1 percent added in 2009.[3] According to CBO's baseline projections, the contribution of automatic stabilizers to the budget deficit will decrease as a share of potential GDP—to 2.1 percent in 2011, 1.7 percent in 2012, and 1.5 percent in 2013 (see Table 1 and Table 2). That contribution will then continue to fall—to 1.0 percent in 2014, 0.5 percent in 2015, and 0.1 percent in 2016—consistent with CBO's projection for output to come back up near potential output by 2016.

1. See Congressional Budget Office, *An Analysis of the President's Budgetary Proposals for Fiscal Year 2012* (April 2011).

2. For a description of a methodology for estimating automatic stabilizers that is similar to CBO's methodology, see Darrel Cohen and Glenn Follette, "The Automatic Fiscal Stabilizers: Quietly Doing Their Thing," *Economic Policy Review,* Federal Reserve Bank of New York, vol. 6, no. 1 (April 2000), pp. 35–68. See also Glenn Follette and Byron Lutz, *Fiscal Policy in the United States: Automatic Stabilizers, Discretionary Fiscal Policy Actions, and the Economy,* Finance and Economic Discussion Series, 2010–43 (Federal Reserve Board, September 2010).

3. Those calculations and subsequent ones in this report involve potential, rather than actual, GDP because potential GDP excludes fluctuations that are attributable to the business cycle.

Table 1.

Budget Deficit or Surplus With and Without Automatic Stabilizers and Related Series, 1960 to 2016, in Billions of Dollars

	Budget Deficit (-) or Surplus With Automatic Stabilizers	− Automatic Stabilizers =	Budget Deficit (-) or Surplus Without Automatic Stabilizers	Revenues and Outlays Without Automatic Stabilizers			
				Revenues	Outlays	GDP Gap[a]	Unemployment Gap[b] (Percent)
1960	*	1	*	92	92	1	-0.2
1961	-3	-5	2	99	97	-16	0.9
1962	-7	-3	-5	102	106	-7	0.5
1963	-5	-2	-3	108	111	-6	0.1
1964	-6	1	-7	112	119	3	-0.1
1965	-1	4	-5	114	119	10	-0.7
1966	-4	11	-15	122	136	34	-1.7
1967	-9	11	-20	140	160	30	-2.0
1968	-25	9	-35	146	180	24	-2.0
1969	3	12	-9	178	187	27	-2.4
1970	-3	5	-8	191	198	4	-1.9
1971	-23	-4	-19	191	210	-14	-0.2
1972	-23	-1	-22	209	231	-5	-0.1
1973	-15	13	-28	220	247	39	-0.9
1974	-6	12	-18	254	272	27	-1.2
1975	-53	-19	-35	294	329	-57	1.2
1976	-74	-23	-51	316	366	-53	1.8
1977	-54	-13	-41	365	406	-27	1.1
1978	-59	2	-61	398	459	9	**
1979	-41	12	-52	453	506	28	-0.4
1980	-74	-15	-58	530	588	-47	0.6
1981	-79	-26	-53	621	673	-56	1.2
1982	-128	-68	-60	676	736	-195	3.0
1983	-208	-91	-117	679	796	-236	4.1
1984	-185	-35	-150	699	850	-82	1.8
1985	-212	-18	-194	749	943	-40	1.2
1986	-221	-11	-210	777	987	-24	1.0
1987	-150	-15	-135	869	1,004	-39	0.4
1988	-155	6	-162	905	1,067	18	-0.3
1989	-153	23	-175	972	1,147	57	-0.7
1990	-221	14	-235	1,019	1,255	28	-0.5
1991	-269	-56	-213	1,104	1,318	-161	0.8
1992	-290	-74	-216	1,155	1,371	-172	1.7
1993	-255	-61	-194	1,207	1,402	-141	1.5
1994	-203	-41	-162	1,295	1,458	-86	0.9
1995	-164	-30	-134	1,382	1,515	-82	0.3
1996	-107	-34	-74	1,485	1,559	-78	0.2
1997	-22	3	-24	1,578	1,602	20	**
1998	69	37	32	1,690	1,657	88	-0.5
1999	126	88	37	1,745	1,708	215	-0.7

Continued

Table 1. **Continued**

Budget Deficit or Surplus With and Without Automatic Stabilizers and Related Series, 1960 to 2016, in Billions of Dollars

	Budget Deficit (-) or Surplus With Automatic Stabilizers	− Automatic Stabilizers	= Budget Deficit (-) or Surplus Without Automatic Stabilizers	Revenues and Outlays Without Automatic Stabilizers		GDP Gap[a]	Unemployment Gap[b] (Percent)
				Revenues	Outlays		
2000	236	139	98	1,895	1,797	318	-1.0
2001	128	79	49	1,916	1,867	140	-0.7
2002	-158	-21	-137	1,864	2,001	-58	0.7
2003	-378	-67	-311	1,839	2,150	-170	1.0
2004	-413	-27	-386	1,902	2,288	-47	0.6
2005	-318	13	-331	2,141	2,472	48	0.2
2006	-248	41	-289	2,371	2,660	102	-0.3
2007	-161	25	-185	2,550	2,735	41	-0.5
2008	-459	-34	-424	2,552	2,977	-119	0.2
2009	-1,413	-315	-1,098	2,358	3,456	-923	3.4
2010	-1,294	-363	-930	2,458	3,388	-884	4.6
2011[c]	-1,399	-332	-1,067	2,499	3,566	-805	4.4
2012[c]	-1,081	-279	-802	2,791	3,593	-639	3.5
2013[c]	-692	-256	-436	3,308	3,743	-523	2.6
2014[c]	-513	-184	-329	3,599	3,928	-350	1.9
2015[c]	-538	-88	-450	3,720	4,170	-149	0.9
2016[c]	-635	-10	-625	3,837	4,461	-7	0.2

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

Notes: Automatic stabilizers are automatic changes in revenues and outlays that are attributable to cyclical movements in real (inflation-adjusted) output and unemployment.

GDP = gross domestic product; * = between -$500 million and $500 million; ** = between -0.05 percent and 0.05 percent.

a. The GDP gap equals actual (or projected) GDP minus potential GDP (the quantity of output that corresponds to a high rate of use of labor and capital).

b. The unemployment gap equals the actual (or projected) rate of unemployment minus the natural rate of unemployment, which is the rate of unemployment arising from all sources except fluctuations in aggregate demand.

c. Projected using CBO's baseline assumptions.

The budget balance without automatic stabilizers is an estimate of what the surplus or deficit would be if GDP was at its potential, the unemployment rate was at a corresponding level, and all other factors were unchanged. That budget measure has several applications. For example, some analysts use it to discern underlying trends in government saving or dissaving (that is, trends in surpluses or deficits). Others use it to approximate whether the short-run influence of the budget on aggregate demand and on the growth of real output is positive or negative. More generally, the measure helps analysts estimate the extent to which changes in the budget balance are caused by cyclical developments in the economy and thus are likely to prove temporary rather than long lasting.

Under CBO's baseline assumptions, the budget deficit without automatic stabilizers would constitute 6.7 percent of potential GDP in 2011, up from 6.0 percent in 2010.[4] That increase is primarily due to a rise in mandatory spending from sources other than the automatic

4. In previous years, CBO referred to the "budget deficit without automatic stabilizers" as the "cyclically adjusted deficit." The measure is also referred to as the "structural deficit."

Table 2.

Budget Deficit or Surplus With and Without Automatic Stabilizers and Related Series, 1960 to 2016, as a Percentage of Potential Gross Domestic Product

	Budget Deficit (-) or Surplus With Automatic Stabilizers	− Automatic Stabilizers	= Budget Deficit (-) or Surplus Without Automatic Stabilizers	Revenues and Outlays Without Automatic Stabilizers: Revenues	Revenues and Outlays Without Automatic Stabilizers: Outlays	GDP Gap[a]	Unemployment Gap[b] (Percent)
1960	0.1	0.1	*	17.8	17.8	0.3	-0.2
1961	-0.6	-1.0	0.4	18.1	17.8	-2.9	0.9
1962	-1.2	-0.5	-0.8	17.7	18.5	-1.1	0.5
1963	-0.8	-0.3	-0.5	17.9	18.4	-1.0	0.1
1964	-0.9	0.1	-1.1	17.5	18.6	0.5	-0.1
1965	-0.2	0.5	-0.7	16.8	17.6	1.5	-0.7
1966	-0.5	1.5	-2.0	16.8	18.9	4.7	-1.7
1967	-1.1	1.4	-2.5	17.9	20.5	3.9	-2.0
1968	-3.0	1.1	-4.1	17.3	21.4	2.8	-2.0
1969	0.4	1.3	-1.0	19.3	20.3	3.0	-2.4
1970	-0.3	0.5	-0.7	18.9	19.7	0.4	-1.9
1971	-2.1	-0.4	-1.7	17.5	19.2	-1.3	-0.2
1972	-2.0	-0.1	-1.9	17.7	19.5	-0.4	-0.1
1973	-1.2	1.0	-2.2	17.3	19.5	3.0	-0.9
1974	-0.4	0.8	-1.3	18.0	19.3	1.9	-1.2
1975	-3.3	-1.1	-2.1	18.2	20.4	-3.5	1.2
1976	-4.1	-1.3	-2.8	17.6	20.5	-2.9	1.8
1977	-2.7	-0.6	-2.0	18.3	20.3	-1.3	1.1
1978	-2.7	0.1	-2.8	18.0	20.8	0.4	*
1979	-1.6	0.5	-2.1	18.3	20.5	1.1	-0.4
1980	-2.7	-0.6	-2.1	19.1	21.2	-1.7	0.6
1981	-2.5	-0.8	-1.7	19.9	21.6	-1.8	1.2
1982	-3.7	-2.0	-1.8	19.8	21.5	-5.7	3.0
1983	-5.7	-2.5	-3.2	18.5	21.7	-6.4	4.1
1984	-4.7	-0.9	-3.8	17.8	21.6	-2.1	1.8
1985	-5.1	-0.4	-4.6	17.9	22.5	-1.0	1.2
1986	-5.0	-0.3	-4.7	17.6	22.3	-0.5	1.0
1987	-3.2	-0.3	-2.9	18.5	21.4	-0.8	0.4
1988	-3.1	0.1	-3.2	18.1	21.4	0.4	-0.3
1989	-2.9	0.4	-3.3	18.2	21.5	1.1	-0.7
1990	-3.9	0.2	-4.1	17.9	22.0	0.5	-0.5
1991	-4.4	-0.9	-3.5	18.1	21.6	-2.6	0.8
1992	-4.5	-1.2	-3.4	18.0	21.4	-2.7	1.7
1993	-3.8	-0.9	-2.9	17.9	20.8	-2.1	1.5
1994	-2.9	-0.6	-2.3	18.3	20.6	-1.2	0.9
1995	-2.2	-0.4	-1.8	18.6	20.4	-1.1	0.3
1996	-1.4	-0.4	-0.9	19.0	20.0	-1.0	0.2
1997	-0.3	*	-0.3	19.3	19.6	0.2	*
1998	0.8	0.4	0.4	19.7	19.3	1.0	-0.5
1999	1.4	1.0	0.4	19.4	19.0	2.4	-0.7

Continued

Table 2. **Continued**

Budget Deficit or Surplus With and Without Automatic Stabilizers and Related Series, 1960 to 2016, as a Percentage of Potential Gross Domestic Product

	Budget Deficit (-) or Surplus With Automatic Stabilizers	− Automatic Stabilizers	= Budget Deficit (-) or Surplus Without Automatic Stabilizers	Revenues and Outlays Without Automatic Stabilizers: Revenues	Revenues and Outlays Without Automatic Stabilizers: Outlays	GDP Gap[a]	Unemployment Gap[b] (Percent)
2000	2.5	1.5	1.0	19.9	18.9	3.3	-1.0
2001	1.3	0.8	0.5	19.0	18.5	1.4	-0.7
2002	-1.5	-0.2	-1.3	17.6	18.9	-0.5	0.7
2003	-3.4	-0.6	-2.8	16.5	19.3	-1.5	1.0
2004	-3.5	-0.2	-3.3	16.2	19.5	-0.4	0.6
2005	-2.6	0.1	-2.7	17.3	19.9	0.4	0.2
2006	-1.9	0.3	-2.2	18.1	20.3	0.8	-0.3
2007	-1.2	0.2	-1.3	18.4	19.7	0.3	-0.5
2008	-3.2	-0.2	-2.9	17.6	20.5	-0.8	0.2
2009	-9.4	-2.1	-7.3	15.7	23.0	-6.1	3.4
2010	-8.4	-2.4	-6.0	16.0	22.0	-5.7	4.6
2011[c]	-8.8	-2.1	-6.7	15.8	22.5	-5.1	4.4
2012[c]	-6.6	-1.7	-4.9	17.1	22.0	-3.9	3.5
2013[c]	-4.1	-1.5	-2.6	19.5	22.1	-3.1	2.6
2014[c]	-2.9	-1.0	-1.9	20.4	22.3	-2.0	1.9
2015[c]	-2.9	-0.5	-2.5	20.3	22.7	-0.8	0.9
2016[c]	-3.3	-0.1	-3.3	20.0	23.3	*	0.2

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

Notes: Automatic stablizers are automatic changes in revenues and outlays that are attributable to cyclical movements in real (inflation-adjusted) output and unemployment.

Potential GDP is the quantity of output that corresponds to a high rate of use of labor and capital.

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

a. The GDP gap equals actual (or projected) GDP minus potential GDP.

b. The unemployment gap equals the actual (or projected) rate of unemployment minus the natural rate of unemployment, which is the rate of unemployment arising from all sources except fluctuations in aggregate demand.

c. Projected using CBO's baseline assumptions.

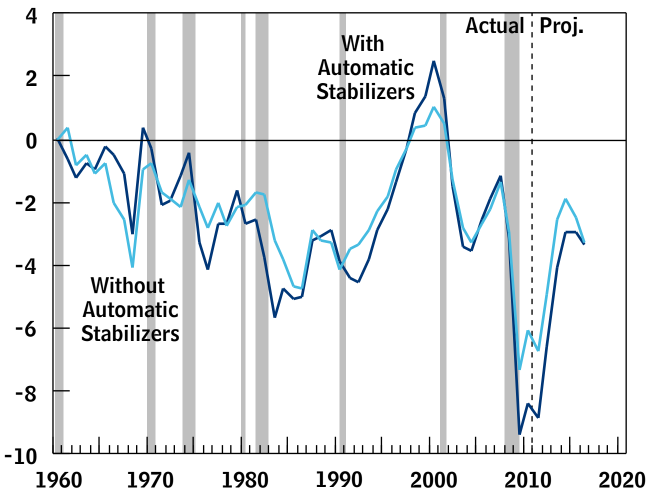
stabilizers that amounts to 0.6 percent of potential GDP. Discretionary outlays, which have no automatic response to the business cycle, are projected to decline by 0.2 percent of potential GDP, and interest payments, which are assumed to have no automatic response, are projected to rise slightly. Revenues without automatic stabilizers are projected to decrease by 0.2 percent of potential GDP in 2011.

According to CBO's baseline projections, the budget deficit without automatic stabilizers falls significantly over the next three years, from 6.7 percent of potential GDP in fiscal year 2011 to 4.9 percent in 2012, 2.6 percent in 2013, and 1.9 percent in 2014 (see Figure 1). The drop in 2012 is due mostly to an increase in revenues without automatic stabilizers (from 15.8 percent of potential GDP to 17.1 percent)—largely attributable to the ending of the temporary reduction in payroll taxes for 2011, which was part of the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (referred to in this report as the 2010 tax act, Public Law 111-312)—and to a lower amount of depreciation

Figure 1.

Two Measures of Budget Deficits and Surpluses, 1960 to 2016

(Percentage of potential gross domestic product)



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

Notes: Automatic stabilizers are automatic changes in revenues and outlays that are attributable to cyclical movements in real (inflation-adjusted) output and unemployment.

Potential gross domestic product is the quantity of output that corresponds to a high rate of use of labor and capital.

The shaded vertical bars indicate periods of recession, which extend from the peak of a business cycle to its trough. The National Bureau of Economic Research establishes dates on which recessions begin and end. The most recent recession ended in the second quarter of 2009.

The dashed vertical line separates actual from projected data.

deductions for investment in business equipment resulting from provisions of the 2010 tax act and other recent acts. Outlays without automatic stabilizers fall by 0.5 percent of potential GDP in 2012, reflecting declines in both mandatory and discretionary outlays that are partly offset by an increase in interest payments. In 2013, the decline in the deficit without automatic stabilizers is almost entirely the result of a rise in revenues, which in turn is due to the delayed effects of the scheduled expiration at the end of 2011 of the temporary patch for the alternative minimum tax and, to a greater extent, to the expiration at the end of 2012 of other tax provisions extended or newly implemented in the 2010 tax act, including extensions of the individual income tax reductions enacted in 2001 and 2003. Moreover, some high-income taxpayers will be subject to additional taxes that are scheduled to take effect in calendar year 2013 under provisions of the Patient Protection and Affordable Care Act of 2010 (P.L. 111-148) and the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152). Some of the impacts of those tax changes become larger in 2014, the first full fiscal year the provisions are in effect.

In 2015, the federal deficit without automatic stabilizers reverses course, rising to 2.5 percent of potential GDP in that year and to 3.3 percent in 2016. Those increases stem mainly from a rise in mandatory outlays (largely Social Security, Medicare, and Medicaid) that is not attributable to automatic stabilizers. Revenues without automatic stabilizers fall slightly in those years relative to potential GDP, mostly because of legislation that shifts the timing of corporate income tax payments out of 2016 and into prior years. An uptick in interest costs is roughly offset by a decline in discretionary spending.

Appendix: Measuring the Budgetary Effects of Automatic Stabilizers

The size of the budget deficit is influenced by policy changes and by the automatic responses of revenues and outlays to economic developments and other factors. In addition to the effects of changes in real (inflation-adjusted) output and unemployment—which are most pronounced during recessions—key economic factors include changes in the long-term (trend) growth rate of output and income, movements in the proportion of income subject to taxation and the distribution of that income across tax brackets, and variations in interest rates and in the pace of inflation.

The effects of automatic stabilizers on the budget are automatic changes in revenues and outlays that are driven by the business cycle. For example, the Congressional Budget Office (CBO) estimates that in fiscal year 2000, automatic stabilizers contributed to the budget surplus by an amount that was equal to 1.5 percent of potential gross domestic product (GDP), indicating that the strength of the economy was significantly augmenting the budget surplus. By 2002, the automatic stabilizers' contribution to the budget had turned negative, in CBO's estimation, because the economy was operating below its potential and adding to the budget deficit. Negative contributions persisted through 2004. From 2005 through 2007, the effects of the automatic stabilizers were positive but small because the economy was above but close to its potential. More recently, the automatic stabilizers have contributed significantly to the deficit as the economy has operated significantly below its potential.

CBO arrives at its estimate of the deficit without automatic stabilizers by removing their effects from the total budget deficit. For revenues, CBO estimates taxable income as though overall output equaled its potential, and, when the economy is below (above) its potential, CBO translates the difference between that income and actual income into cyclical losses (gains) in revenue. For outlays, CBO estimates what unemployment would be if output were at its potential, and it translates the difference between that number and actual unemployment into cyclical increases (decreases) in spending for unemployment insurance benefits and other income support programs when unemployment is above (below) the rate consistent with potential GDP.

Economic factors (such as inflation and interest rates) that are not directly cyclical and are therefore not removed from the estimates presented in this report also have automatic effects on the budget. For example, a higher rate of inflation would boost the dollar value of taxable income and thus increase federal tax receipts. Because interest rates also are affected by inflation, federal interest payments would be higher. In addition, spending that is indexed for inflation (Social Security benefits, for example) would increase. However, such budgetary effects of factors other than changes in real output and unemployment are not analyzed here.

In a few cases, CBO's analysis of automatic stabilizers attempts to adjust for the budgetary effects of economic factors whose connection to cyclical fluctuations has varied over time. For example, fluctuations in tax receipts from realized capital gains appear to have moved more closely with the business cycle recently than in earlier cycles; CBO's estimates of automatic stabilizers incorporate the changing relationship over time. Similarly, compensation bonuses, which tend to be concentrated among taxpayers in relatively high tax brackets and which thus affect the effective tax rate on total wages and salaries, seem to have become more cyclical, and that too is reflected in the estimates. Changes over time in the cyclical differences between taxable corporate profits and corporate profits as measured in the national income and product accounts also are accounted for in CBO's calculation of the budgetary effects of the automatic stabilizers.

Despite adjustments to revenues and outlays for the automatic effects of the business cycle, the deficit without automatic stabilizers can exhibit apparently regular cyclical characteristics—such as increases during times of recession and early recovery. In part, that pattern reflects policy responses to recessions. The government often chooses to stimulate a weakening economy by cutting taxes or increasing government spending, both of which increase the deficit (or reduce the surplus).

The Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (Public Law 111-312); the American Recovery and Reinvestment Act of 2009 (P.L. 111-5); the Troubled Asset Relief Program (TARP); and the Housing and Economic Recovery Act of 2008 (P.L. 111-289), which led to federal conservatorship of Fannie Mae and Freddie Mac, were deficit-raising measures enacted to directly or indirectly address the recent recession or slow recovery. Such responses to recessions and persistently high unemployment are not "automatic," however, because they require legislation, and their budgetary effects thus are not part of the automatic stabilizers.

Another reason that the deficit without automatic stabilizers can exhibit residual cyclical movements is that estimates of the budgetary impact of automatic stabilizers might only partly remove the effects of factors (such as large fluctuations in the stock market) that have not had a sufficiently regular relationship to business cycles to be viewed as mostly cyclical.

In its annual reports on the budget and the economy, CBO presents "rules of thumb" that describe how the budget balance would differ if certain economic outcomes were different than projected.[1] Those estimates attempt to capture the effects of sustained changes in the rate of growth of GDP and other economic variables, whereas the estimates in this report are meant to filter out temporary fluctuations that are attributable to automatic stabilizers.

1. See Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2011 to 2021* (January 2011), Appendix B.