The Cyclicality of Federal Receipts

By Samuel Brown

Federal revenues for fiscal 2011 will end up near historic lows — just 15.3 percent of GDP, according to the Congressional Budget Office. This tax-to-GDP ratio is much lower than the average for the past few decades. Between 1981 and 2007 (the year before the financial crisis), federal receipts averaged 18.2 percent of GDP. Our slow economic recovery continues to hold revenues down.

Business cycles affect the ratio of taxes to GDP in two ways: First, different tax bases have different elasticities with respect to short-term fluctuations in GDP. For example, the corporate income tax base is more cyclically sensitive than the bases for personal income and payroll taxes. As the economy waxes and wanes, corporate profits change more than earnings. Second, tax revenues also have different elasticities to changes in their respective bases. Individual income tax revenues will increase more when incomes rise than payroll taxes because the individual income tax has graduated rates. Payroll tax rates, however, are flat and the taxes that fund Social Security are capped. Due to these two effects, the composition of tax receipts can enhance or dampen the business cycle's effect on the ratio of taxes to GDP. A mix that relies on more cyclically sensitive taxes will make the tax-to-GDP ratio more sensitive to economic fluctuations.

Budget analysts estimate these cyclical effects and calculate cyclically adjusted receipts to show the degree to which lower receipts in a recession are due to the temporary economic environment. In "The Effects of Automatic Stabilizers," the CBO estimated that actual receipts will be about $269 billion lower in fiscal 2011 than they would be if the economy were operating at its sustainable potential, or about 1.7 percent of nominal potential GDP. If the economy were operating at full employment, federal receipts would be about 16.1 percent of potential GDP. This is still well below the average over the past few decades: from 1981 to 2007, cyclically adjusted revenues averaged 18.4 percent of potential GDP.

The recent payroll tax cut and the extension of the 2001 and 2003 tax cuts more than explain the difference. These pieces of legislation lower current year revenues by 3.2 percent of potential GDP. Without previous tax cuts, cyclically adjusted receipts would be 19.3 percent of potential output.

Federal Receipts, Fiscal 2011

	Billions of Dollars	Percent of Potential Nominal GDP
Federal receipts	2,314	14.4[a]
Cyclical effects	-269	-1.7
Cyclically adjusted receipts	2,582	16.1
Legislative effects	-517	-3.2
Adjusted receipts absent recent tax cuts	3,099	19.3

[a]Adding percentages requires a common denominator. The table uses nominal potential GDP, calculated by multiplying the CBO's GDP deflator by the estimate for potential real GDP.
Sources: CBO, "The Budget and Economic Outlook: An Update" (Aug. 2011); CBO, "The Effects of Automatic Stabilizers on the Budget" (Apr. 2011); CBO, "Changes in the CBO's Baseline Projections Since January 2011" (May 2011).