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U.S. Budget Woes: The CBO Projections

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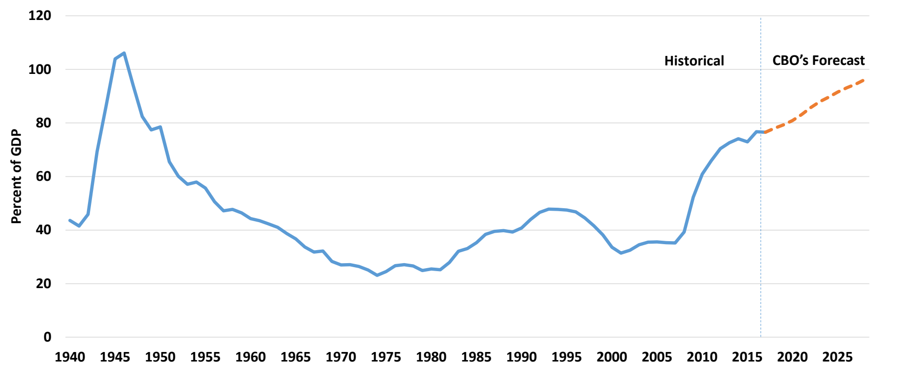
The U.S. Congressional Budget Office (CBO) has just released its latest economic and budget projections, "The Budget and Economic Outlook: 2018 to 2028." This document, usually released in January, was delayed until April so that the CBO could incorporate into its analysis the recent legislation on tax cuts and the latest spending bills.

The results are worrisome, albeit expected. The CBO projects large and persistent federal government deficits with accompanying increases in government debt and a growing ratio of debt to Gross Domestic Product (GDP). In fact, federal debt held by the public is projected to approach 100% of GDP by 2028, reaching levels not seen since the end of WWII. Of course, WWII ended and the debt-to-GDP ratio shrunk to less than 60% within ten years. In contrast, the spending that is causing today's massive deficits and the growth in the debt-to-GDP ratio is, to put it mildly, extremely unlikely to end as quickly as in 1945.

Figure 1. Debt Held by the Public as a Percent of GDP



Sources: Office of Management and Budget, Historical Tables, *Budget of the U.S. Government*, Table 7.1 and Congressional Budget Office, The Budget and Economic Outlook 2018 to 2028, Summary Figure 2.

Figure 1 is directly from the CBO report and shows federal debt held by the public as a percent of GDP. The spike from 44% in 1940 to 106% by 1945 is obvious, as is the quick decline to 56% by 1955 and to 37% by 1965. By 1975, it was less than 25%. The increase in the debt-to-GDP ratio in the 1980s to 1995 is clear, as is the decline from 1995 through 2000. The sharp increase in the ratio during the Financial Crisis/Great Recession period in 2008-2009 is striking, as is the persistent increase from 2010 to the present and on through the CBO projection period of 2018-2028.

This current and future run-up in the ratio of debt to GDP is more persistent than our prior experience in 1945, and is largely caused, not by defense spending, but instead by spending on government 'entitlement' programs.

The CBO's debt projections are derived from its government surplus or deficit projections, and these are shown as the ratio of surpluses (or deficits) relative to GDP in Figure

2. From this figure, we see a clear link to the debt. It is also now evident that we are not replicating the rapid reduction in the post war debt and deficits. The deficits during the post-Great Recession period of economic expansion have been large and projected to remain high during the entire projection period of 2018 – 2028.

How can the US run continual budget deficits? The answer is partly that the US economy is growing over time, and increasing GDP – increasing income – provides additional tax revenue to the government and additional capacity to carry debt. Problems arise when the debt load grows faster than tax receipts. Governments borrow for many reasons, and typically, governments with massive borrowing are not borrowing to purchase productive capital, but instead to fund spending on transfer programs and other spending more analogous to consumption activities than to investment.

The CBO calculations of federal government deficits or surpluses are built up from government revenues and expenditures, both for historical periods and for their projections into the future. Figure 3 shows federal outlays and revenues for 1940 – 2017, with projections for 2018 - 2028. Outlays have averaged 20.3% of GDP for 1968-2017, while revenues have averaged 17.4%. The difference is the average deficit over the last 50 years: 2.9% of GDP.

There is a clear business cycle pattern in Figure 3. During recessions there is an increase in outlays and a decline in revenues so that deficits increase. The huge deficits that accompanied the Great Recession in 2008-2009 are due to falling revenue (taxes decline when income declines) and rising outlays as we engaged in a massive stimulus program to counter the recession. Despite the return to averages in recent years, the projection period shows rising outlays accompanied by much smaller increases in revenues, so that large deficits are continuing.

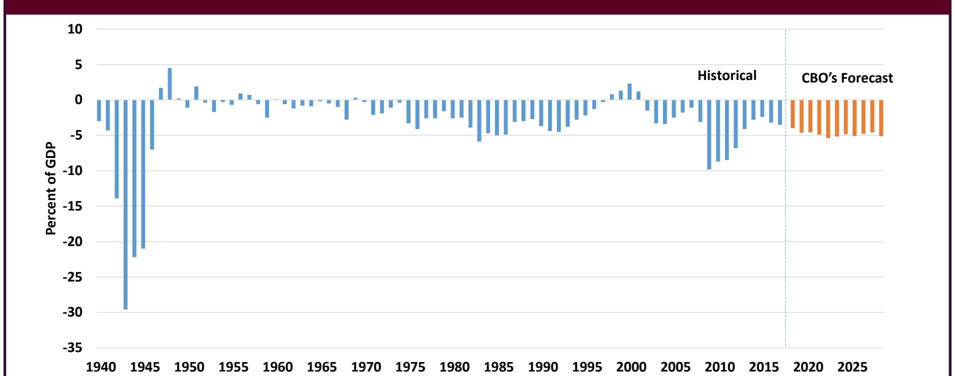
By 2010, outlays were beginning to decline and revenues increased, so that by 2014 these series had converged to their longer run average values and seemed destined to continue moving closer, further shrinking deficits. However, something happened after 2014 and the two series started to move apart, leading to a persistent increase in deficits, a pattern that is projected by the CBO to continue. Unlike past recovery periods, we are experiencing an ongoing and persistent budget deficit that shows no tendency to shrink over time. Economists typically call for smaller deficits or even surpluses in good times, when unemployment is low and the economy growing, in order to make up for the larger deficits that come with recessions.

Now, however, we are running and are projected to keep running large deficits during a time of low unemployment and economic growth. This pattern is especially worrisome because there will be a recession in our future, and during that recession deficits will increase over and above what they are at the start of the recession. Policymakers may find themselves choosing between unacceptable deficit levels and unacceptable levels of unemployment.

What constrains the government's ability to run ever-larger deficits and accumulate ever-larger debt? One basic observation is the fact that as debt grows the interest payments on the debt also grow, and an ever-increasing debt (relative to income) means ever-increasing interest payments (relative to income). With ever-growing debt, at some point interest payments would exceed borrower income, causing a default. Lenders would, as expected, refuse to lend to such a borrower.

In fact, long before such a situation is reached, lenders would start requiring higher and higher interest

Figure 2. Federal Government Deficits and Surpluses as Percentages of GDP



Sources: Office of Management and Budget, Historical Tables, *Budget of the U.S. Government*, Table 1.2 and Congressional Budget Office, The Budget and Economic Outlook 2018 to 2028, Figure 4.1.

rates, demanding larger and larger risk premiums as the borrower gets closer to default. This is what happened to Greece, for example.

What might cause an ever-larger debt relative to income? The answer has several parts. First, it matters if the growth rate of the economy is higher than the interest rate. Why? Consider a situation in which a borrower wants to increase borrowing only to cover the interest owed on the outstanding debt. That is, the borrower's outstanding debt increases every year, but only because he borrows to pay the interest. This means his debt is increasing every year at the rate of interest. If the borrower's income is growing at a rate equal to or higher than the interest rate, then the ratio of debt to income is either constant or falling.

This situation is one in which the borrower's budget is balanced except for interest on his debt. Economists call the budget that includes all outlays and revenues except interest payments the 'primary budget.' If the primary budget is balanced and if income is rising as fast as or faster than the interest rate, then the borrower's situation is sustainable. In fact, if income grows faster than the interest rate, the debt-to-income ratio will shrink over time.

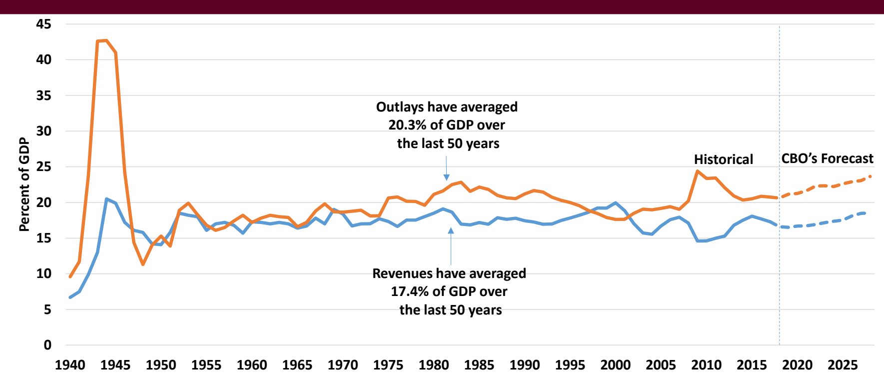
In the CBO projections, the growth rate of GDP is projected to be 4.1% per year over the period 2017 – 2028, and the growth rate of government revenue is projected to be 4.7% per year over that period, as taxes rise faster than income (Figure 3 and author calculations.) The CBO projects interest rates over 2018 – 2028 will average 3.8% for 10-year bonds and 3.0% for 3-month treasury bills. Based on CBO projections, it seems that the problem is not one of interest rates exceeding the growth rate of income. That is, if the US were merely borrowing additional amounts to cover interest on the debt, our debt-to-income ratio would be falling.

What is the problem? The problem is that the U.S. government has continuing primary budget deficits. Even ignoring interest payments, the federal government is spending more than it receives in tax revenue. The primary budget deficit was 2.1% of GDP in 2017 and is projected to average 2.2% of GDP over the projection period, being as high as 2.8% in 2019 and as low as 1.6% in 2027. These ongoing primary budget deficits are the problem, and the fact that the US can currently borrow at interest rates lower than the growth rate of the economy is insufficient to make up for the size of these primary budget deficits.

Basically, the U.S. is on an unsustainable path for fiscal policy. Countries have, at times, ignored concerns for budget balance, typically due to a lack of political will to adequately address the budget shortfall. Spendthrift nations who ignore budgetary realities eventually run into hard constraints. Some then will explicitly default, especially when the debt is owed to foreigners. Others will turn to the monetary printing press to inflate away their problem. As an example of the former, Argentina has repeatedly defaulted on its debt; an example of the latter is Germany's hyperinflation after WWI.

The U.S. faces some hard choices ahead, choices that center around federal spending on health care – namely Medicare and Medicaid – and on Social Security. Eventually there will be a change in policy, a reduction in spending or an increase in taxes, or some combination, in order to reduce the primary budget deficits. The sooner these issues are addressed, the better it will be for the economy.

Figure 3. Federal Government Revenues and Outlays as a Percentage of GDP



Sources: Office of Management and Budget, Historical Tables, *Budget of the U.S. Government*, Table 1.2 and Congressional Budget Office, The Budget and Economic Outlook 2018 to 2028, Figure 4.2.

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