

**As fiscal imbalances  
increase, economists  
debate their effect on  
the macroeconomy**

# **Do Deficits Matter? And, If So, How?**

BY STEPHEN SLIVINSKI

**I**n late 2008 the U.S. government enacted a number of spending programs that were intended to stimulate the economy and support struggling financial institutions. In so doing, it continued a practice that has been common for decades: spending more money than it collects. The resulting deficit in the budget requires that the federal government issue Treasury debt to pay for the spending in the short term.

This seems like a relatively innocuous practice. As long as capital markets have a demand for Treasury bills, what's the worry? But that question has divided economists for decades. The recent upswing in the current federal deficit and projected future deficits has pulled this debate back into public view.

As of fiscal year 2009, the federal budget deficit reached almost \$1.4 trillion, or 9.9 percent of GDP. That's the largest deficit since 1945 as a percentage of the national economy. At that time, wartime spending was accelerated and the budget deficit was an unusually high 22 percent. It dropped to 7 percent in 1946. Since then, however, it hasn't reached beyond 6 percent of GDP.

The prospect of deficits remains high. Current spending is projected to keep deficits persistently large for the foreseeable future. The levels of debt that will accumulate are unlike anything we've seen before in peacetime. That will be compounded by the fact that even state and local governments are issuing debt in historic amounts. The total debt load of state and local governments has grown from \$1.1 trillion in 1995 to \$2.4 trillion in 2009. Most of that debt increase — nearly \$800 billion — has been issued in the last six years.

Economists have made some headway in research on the topic of how deficits might influence macroeconomic variables — in particular they have generally rebutted the idea that deficits alone have a substantial effect on inflation in the United States — but there remains debate about whether deficits have any real influence over other variables, such as interest rates.

With deficits and debt levels projected to be bigger than normal in the foreseeable future, the question of what macroeconomic effects deficits can have is an important one. The analysis done by economists over the past 30 years has tried to find consistent relationships between debt levels and certain macroeconomic variables. The results to date have been mixed.

### Deficits and Inflation

Many arguments have been put forward in defense of balanced budgets. In the 1950s, some policymakers worried that running budget deficits was inherently inflationary. The concern was that government spending in excess of revenue would artificially increase aggregate demand in the economy. This was actually a feature, not a bug, in the schools of Keynesian thought that saw government spending as a lever to revitalize economic production. But the counter-Keynesian argument of that era sometimes hinged on an assertion that counterproductive inflationary pressures might arise out of such deficit spending, while at the same time arguing that government spending was limited in its ability to boost real output.

It was hard to tell at that time whether either view was correct as an empirical matter. After the military demobilization post-World War II, the federal government did not run large deficits until the 1960s. Part of that had to do with the ideology of President Dwight Eisenhower, who is remembered as an advocate of balanced budgets because of his belief that it was a necessary component of a constitutionally limited government. As a practical matter, policymakers on Capitol Hill and even within the Federal Reserve then regarded deficits as dangerous because of the inflationary pressures they might unleash.

For most of the decade, a post-war economic boom helped sustain revenue and make deficits a less likely threat. The budget imbalances that did eventually arise in the 1950s were small (usually between 0.5 percent and 2 percent of GDP) and transitory. Each of those annual deficits was mainly the result of an economic slowdown that reduced federal revenue.

Beginning in the 1960s, however, budget deficits became the norm. At the same time, inflation began to take off. While some worried about this, it wasn't necessarily at odds with the Keynesian view of deficits. In fact, Keynesians saw inflation as an acceptable cost of the increased output and employment that would come from deficit spending.

What's missing from this simple story is that monetary policy at the time was becoming progressively looser to support more government spending and that began to fuel the subsequent inflation. "The extent to which monetary policy is used to help balance the government's budget is the key to determining the effect of budget deficits on inflation," writes Keith Sill, an economist at the Philadelphia Fed.

Indeed, one of the things that economists generally agree on in relation to budget deficits is that — at least in the U.S. experience — they are not inherently inflationary. Analysis of the history of fiscal and monetary policy from the 1960s to the 1980s has led most economists to argue that the relevant factor during this period was that the Fed began to warm to the idea of "monetizing" the deficit. In essence, that meant the Fed would act to guarantee there was always a market for Treasury debt.

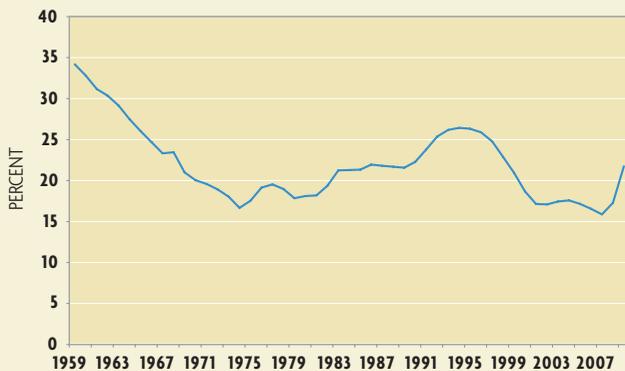
The fear of inflationary deficits is most credible today in small developing countries. Many small developing countries have central banks often motivated more by political pressures than by a regard for price stability. But it's difficult to determine whether one central bank is more independent than another or more prone to monetizing the debt. As an empirical matter, capturing the independence of a central bank quantitatively is difficult.

A study in the *Journal of Economic Literature* by Stanley Fischer, the current governor of the Bank of Israel, Ratna Sahay of the International Monetary Fund, and Carlos Vegh of the University of Maryland offers some insight to this question. The authors split a sample of 94 market economies into high-inflation countries and low-inflation countries. The high-inflation countries were those that had at least one episode of 12-month inflation exceeding 100 percent during the period from 1960 to 1995.

In both sets of countries they needed to find a variable that would explain the incentive a government would have to pressure a central bank to monetize the deficit. They chose seigniorage as a fraction of GDP. When a central bank "creates" money, it generates seigniorage revenue resulting from the difference between the cost of producing the currency and the face value of the currency. (For example, if it costs 5 cents to produce \$1, the seigniorage amounts to 95 cents.) That revenue can be used to pay for spending in the federal budget.

A country with a high seigniorage-to-GDP ratio might be more tempted to generate that revenue when faced with a budget deficit. That's what Fischer and his co-authors discovered. First, they found that high-inflation countries tended to rely more on seigniorage to help finance government spending. The ratio averaged about 4 percent in high-inflation countries and 1.5 percent in low-inflation

### U.S. Federal Publicly Held Debt as a Percentage of All U.S. Nonfinancial Debt



NOTE: For years 1959 to 1990, data is monthly. For all other years, data is annual.  
SOURCE: U.S. Census Bureau, 2005-2007 American Community Survey

ones. Next, they found that a worsening fiscal balance is more likely to be accompanied by an increase in seigniorage in high-inflation countries than in the low-inflation ones. A 10 percentage point increase in the budget deficit as a share of GDP is associated with, on average, a 4.2 percentage point increase in seigniorage as a share of GDP. In low-inflation countries, however, there was no significant link.

The experience of high and erratic inflation in the 1970s in the United States taught Fed policymakers the importance of price stability. The 1980s proved that the Fed could take the necessary steps to tame inflation. The credibility of the Fed as an institution is essential to maintaining price stability. The fact that seigniorage revenue is a very small portion of the U.S. government's revenue stream may merely be secondary to the fact that policymakers have a much better sense of what works and what doesn't in terms of monetary policy. But keeping the lessons of the past 40 years in mind will be vital to making sure that U.S. budget deficits remain noninflationary.

#### Deficits and Interest Rates

A debate that has yet to be resolved is whether deficits can influence interest rates. Like many debates among economists, the different conclusions rest on the assumptions made and models used.

One type of model assumes that there is a "crowding out" of investment capital. When a budget deficit is present, more investment capital is swallowed up by Treasury bonds relative to a scenario in which a deficit is lower or nonexistent. This diversion of private savings that would otherwise go to investment makes the remaining available capital more valuable. That drives up the rate of return necessary for competing investment options (including Treasury bills) to remain attractive. Hence, a rise in interest rates.

This is the main story told in a few papers co-authored by Peter Orszag, formerly of the Brookings Institution and currently the director of the U.S. Office of Management

and Budget. For example, a widely cited 2004 study he co-authored with Brookings colleague William Gale comes to the general conclusion that deficits do raise interest rates. The estimates they arrive at suggest that the strongest effects pertain mainly to anticipated future deficits: Every 1 percent increase in the projected budget deficit raises long-term interest rates by 25 to 35 basis points.

Another element that bears on whether deficits affect the conversion of available savings into investment capital also happens to be one of the most controversial. It comes from the assumptions made about how people in the present view deficits relative to their (or their children's) expected income in the future. The notion of "Ricardian equivalence" — advanced by Robert Barro of Harvard University and based on an insight from the early 19th century economist David Ricardo — is the phenomenon that, when faced with the knowledge that the federal deficit will grow, people today will save more to account for the fact that they or their children will face higher taxes in the future to pay off the debt. As Michael Pakko, an economist at the St. Louis Fed, explains, under the assumptions of "a closed economy with rational, forward-looking consumers, Ricardian equivalence suggests that deficits have no effect at all." The money borrowed from the public by the government is exactly offset by new savings.

The logical extension of this idea is that interest rates wouldn't have to move to equilibrate capital markets as they would in a world where the crowding out occurred. Yet, when economists have set out to identify episodes of Ricardian equivalence, they have had trouble finding them. Martin Feldstein of Harvard University has suggested that the planned bequests that underlie the logic of the phenomenon aren't all that common. That shouldn't be surprising, he argued in a 2004 speech, "in an economy in which economic growth raises the incomes of future generations so that even an altruistic parent sees no need to reduce his own consumption in order to raise the consumption of his adult children after he has died."

Although the conditions under which Ricardian equivalence holds are quite restrictive, some economists maintain that it is a useful baseline against which to measure the effect of deficit finance on the economy. During the past 25 years, many studies have arrived at the conclusion that there doesn't seem to be much connection between interest rate movements and debt over the long term. In an influential study, Eric Engen of the Federal Reserve Board and R. Glenn Hubbard of Columbia University argue that a better way of viewing the matter isn't to try to find correlations with year-to-year deficits. Instead, the level of government debt as a whole is the factor that has the best chance of influencing interest rates. Even then they find a much smaller effect, an increase of two to three basis points for every 1 percent increase in federal debt as a percentage of GDP.

There are a number of reasons this result might strike someone as unsurprising even if Ricardian equivalence isn't assumed. A wide variety of factors can influence the

determination of interest rates and it is difficult to empirically tease out exactly which interest rate movements are related to increasing debt levels and which are not. Additionally, the debt incurred by the federal government over the past 50 years has been consistently smaller than the aggregate debt incurred by businesses, households, and state and local governments.

Another factor that has renewed skepticism about the effect of deficits on interest rates is the volume of capital from foreign trading partners that has flowed into the country, particularly from those countries with which the United States has a trade deficit, such as Japan and China. As Pakko notes, “the demand for U.S. Treasury securities by foreigners is likely to have mitigated upward pressure on interest rates that might otherwise have been observed.”

### Are All Deficits Created Equal?

None of the research so far is meant to suggest that debt and deficits can be run up indefinitely without consequence. As Feldstein argues, for instance, seeing little reaction by interest rates to deficits shouldn't imply that deficits don't reduce national savings. Instead, he argues that the capital inflow from abroad is evidence that deficits can lower savings rates in the United States. A country with “a low saving rate imports capital,” he notes, and that's what has happened. He concludes that deficits “reduce national saving and capital formation. That lowers the growth rate for a long period of time and permanently lowers the level of real income and the real standard of living.”

Part of this argument depends on what creates the deficit in the first place. For example, small deficits that are the result of business cycles are generally not damaging. Revenues dry up while spending remains constant. The stabilizing effect these sorts of deficits may have on the economy may even be desirable.

What many textbook models seem to miss is how the revenue stream that can pay off the debt is structured. Some economists have pointed out that the current tax code is heavily biased against capital formation. Raising taxes in their current form to cover budget shortfalls may be quite damaging if the deficits are large. The adverse effects that deficits may have, argues Feldstein, “is reinforced by the deadweight loss that results from the need to raise substan-

tial amounts of revenue to service the national debt.” That deadweight loss — or, the investments foregone because of how the tax system is structured — can be exacerbated further by the tax code's penalization of capital formation relative to consumption.

Of greater consequence than today's deficits are the permanent structural deficits that may persist and grow over time. The terms popularly used to discuss budget deficits are simply cash-flow identities for the near term: Count the money in and the money out and find the difference. This operation doesn't account for the assets on the federal books nor does it account for the future liabilities of the benefits promised to retirees through Social Security, Medicare, and other entitlement programs. These systems are considered pay-as-you-go programs in which benefits are financed by current-year taxation. Over time, however, the demographic reality is that the tax base will shrink relative to the number of retirees.

The gap between the estimated tax collections and the benefits to be paid, in present value terms, are enormous — much larger, in fact, than the current federal debt of about \$13 trillion today. Economist Laurence Kotlikoff of Boston University estimates that the total unfunded liabilities of the federal government are in excess of \$70 trillion today. It is these much larger dollar amounts that have many economists worried. These numbers may indeed be large enough to spur future macroeconomic effects of the sort that some have feared since the 1980s.

These larger deficits in entitlement programs can be viewed from this perspective as a byproduct of an institutional problem that requires a structural solution. But it remains to be seen what form that change will take and when. Most deficits to this point haven't been large enough to prompt policy action, except on the rare occasion when the Social Security trust fund was on the verge of falling into deficit in the early 1980s and both the payroll tax and the retirement age were raised to remedy the problem.

How policymakers will deal with the threats posed by these unfunded liabilities remains uncertain. Until that time, economists have once again picked up a debate over the theoretical models and empirical analysis that is likely to provide a useful framework to weigh policy options when the demand for structural change finally materializes. **RF**

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