ECONOMIC COMMENTARY

A day doesn’t pass without some public discussion of the federal deficit. Advocates of immediate deficit cutting use terms like ‘explosive’ and ‘unstable’ to describe the debt burden, suggesting imminent catastrophe. Others describe this as hysteria, pointing to the current performance of the economy as evidence that nothing serious is wrong. Neither view is quite right. The deficit problem could more properly be characterized as an insidious danger, much like a slow leak in a car tire. A tire with inadequate air pressure wears much faster, but worse, it eventually becomes permanently damaged and potentially dangerous. Unfortunately, one cannot always tell whether a tire is damaged by looking at it from the outside. This makes it difficult to assess how soon a low tire will become dangerous, hence it’s always prudent to treat the problem as urgent. One doesn’t wait until an accident occurs to acquire insurance. Similarly, the case for urgent action on the deficit is to insure against the risk that government debt requirements will stifle private investment that is necessary for a healthy, growing economy. The current state of the economy, like the outside of the tire, doesn’t reveal the problem. The unfortunate consequence of deficits will manifest themselves in the future. The insidious danger of large persistent deficits is that they are likely to reduce growth of output and to reduce our standard of living.

The Debt Burden: What You Don’t See

by John B. Carlson

Debt service has a momentum of its own, a momentum determined by interest rates, and by the rate of increase in the individual’s income. To illustrate, suppose an individual needs only to borrow an amount equal to the interest on his existing debt so that his primary deficit would be zero. If the market rate of interest were 10 percent, then his debt would grow 10 percent that year, even though his non-interest expenditures would not exceed his income. In this way, an initial level of debt would increase at a rate equal to the interest rate. The higher the interest rate, the faster the debt would accumulate and the greater would be the concern about default. An increase in an individual’s income, on the other hand, would reduce concern about his debt because it increases his ability to service the debt without further borrowing. Even if borrowing and debt service were to grow over a period, the momentum of debt service would not be problematic unless debt service were to increase persistently at a rate faster than income. An important distinction therefore is between the interest rate paid on the debt and the rate of growth in an individual’s income.

This distinction is also relevant for government debt. Much attention has been given to the issue of whether or not deficits are explosive, that is, whether or not the growth of debt service alone could overwhelm growth in the economy.
The government recoups part of its interest payments through extra taxes that are paid on taxable interest income. A nominal tax rate on government debt is about 25 percent. Thus, the after-tax nominal interest rate paid by government would be about 18.75 percent less than its average nominal yield.

Inflation also has an important effect on the burden of debt. To illustrate, consider someone seeking a loan in a market where the interest rate is 10 percent, while the expected rate of inflation is 5 percent. Ignoring tax advantages, the individual expects to pay a real interest rate of only 5 percent. That is, measured in terms of work effort or commodities sacrificed, 5 percent of the value of the debt will be paid in interest. If inflation actually turns out to be 7.5 percent, then the total payments only 25 percent in real terms.

The real interest rate on a government debt is approximately the nominal rate minus the expected rate of inflation. The real interest rate that reduces the real cost of a government debt is the expected rate of inflation that inflation favors the debtor over the creditor, but an unanticipated increase in inflation favors the creditor over the debtor. The same reasoning holds true for government debt. The nominal interest rate represents the expected rate of inflation in an economy with inflation. This suggests an obvious way that a government might reduce the real cost of its debt, that is, by deliberately pursuing inflationary policies. This would only work, however, if the public could be fooled by continuous unanticipated inflation into accepting a low interest rate for government securities.

An unanticipated increase in inflation reduces the real value of federal debt in the 1970s, the government cannot count on surprises in inflation. Most economists today believe that policymakers have no advantage over the public in anticipating inflation and hence cannot adopt an inflationary strategy to reduce the real cost of its debt. Unlike individuals, the Federal government has another important factor that reduces the real cost of its debt. This factor is seigniorage—the revenue earned by the government when it provides money for the economy. If inflation is greater than expected, the real value of the coin increases, making the coin more valuable. This is how the Federal Reserve creates money, and the government profits from inflation in the long run. The example of inflation suggests that a government should expect inflation and reduce the real cost of its debt.

**The Deficit Explosion**

Deficits can be explosive even if there is a primary surplus. If the total surplus is not large enough to cover interest payments, the government would default and it would wither without limit relative to GNP.

The OMB deficit projections are more optimistic than the CBO's. The OMB forecasts a deficit that is less than 2 percent of GNP by 1990. While the CBO projections assumed that current laws and policies would remain unchanged, the OMB modified its projections on the assumption that Congress would pass the Reagan administration's current budget proposals. Neither projection indicates that the debt will become sustainable. However, taken together, they indicate that a high nominal tax rate, and the associated seigniorage, makes it unlikely that the government could reduce the real cost of its debt.

**The Net Real Cost of Debt**

Most of us who have borrowed know that the nominal interest rate is not an accurate measure of the actual cost of our debt. The real cost of debt is measured by our own marginal tax rates and by inflation. These same factors are also important in assessing the real burden of government debt. Because of inflation, the measure of the cost of private or public debt is the interest rate adjusted for inflation and tax considerations.

A home mortgage provides a clear illustration of how the tax rate affects the effective interest rate an individual pays. Because an individual can write off mortgage interest as a deduction against taxable income, he offsets part of his interest payments through reduced income taxation. For an individual in a 25 percent tax bracket, the mortgage interest on a $100,000 mortgage will be 25 percent less than the nominal interest rate on the mortgage.

Federal income taxes also reduce the effective interest rate an individual pays on its debt, but by a reverse process. Whereas the individual benefits by reducing his tax liability, the federal government benefits by increasing its revenues because the public pays taxes on some of the interest payments. The government recoups part of its interest payments through extra taxes that are paid on taxable interest income. A nominal tax rate on government debt is about 25 percent. Thus, the after-tax nominal interest rate paid by government would be about 18.75 percent less than its average nominal yield.

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The net real cost of debt

Most of us who have borrowed know that the nominal interest rate is not an accurate measure of the actual cost of our bonds. For although we may have paid an interest rate of 5 percent on our mortgage, we have paid that rate to our own private lender. The Federal government's outstanding debt. To obtain the net cost of government debt held by the Federal Reserve, which acquires money creation is earned by the Federal Reserve, which acquires government benefits by increasing its taxes. Government recoups part of its interest service would ultimately absorb all debt. The real cost is affected by continuous unanticipated inflation. This would only work, however, if the public could be fooled by continuous unanticipated inflation into accepting a low interest rate for government securities. Although unanticipated increases in inflation are a result of an economy. This causes a jump in the inflation rate, which is approximated by the following: where m = proportion of the debt monetized, R = nominal real interest rate, and P = inflation rate. The relevant value of each factor is the equilibrium value, measured by its expected long-term average.1

Is the Deficit Explosive?

Whether or not a deficit is explosive depends on the net real interest rate on government debt. If r_m is greater than g and if the deficit exceeds interest payments, then sooner or later, deficit financing required by interest payments will reduce the trend growth rate of the economy. The critical problem then is to estimate long-run average values of g and r_m where determinants are all related to each other and to the real growth rate of the economy.

Although econometric forecasting models may provide reasonably reliable estimates of these variables in the short-run, the models are not considered a reliable basis for long-term forecasting. Nevertheless, medium-term projections based on macroeconomic models, and on rules of thumb, may offer some indication about whether or not the deficit is on an explosive track.

The relevant determinants are all related to each other and to the real growth rate of the economy. The term explosive is misleading because it refers to long-term growth without limit that, like the tire with a slow leak, does not necessarily cause immediate problems. The essence of the issue is simply that debt cannot grow relative to GNP without limit and become runaway — because the Federal Reserve service would ultimately absorb all current income in the economy. In the process, private incentives to invest would be overwhelmed by the ever-increasing credit needs of government. Conditions sufficient for runaway debt is that the level of the deficit exceed the level of interest payments and that the interest rate on government debt be greater than the growth rate of the economy.

The relevant value of each factor is the equilibrium value, measured by its expected long-term average.2

The OMB debt projections are more optimistic than the Congressional Budget Office and were based on an optimistic 4.0 percent growth rate of GNP. Such outlooks imply that future deficits will be almost exclusively structural — that is, unrelated to the business cycle. The OMB has rejected such assumptions on historical grounds. It notes that from 1961 to 1969, the economy grew 4.6 percent. But this performance was largely due to acceleration in inflation. Many analysts are skeptical that non-inflationary economic growth can endure for long. If a cyclical slowdown occurs in the next three years, it would be quite probable that the primary deficit would jump sharply, reflecting the additional spending on automatic stabilization programs and reduced revenues.
The Shortfall in Domestic Savings

Even if debt is not explosive, a persistent structural deficit in the neighborhood of 5 percent of GNP — as projected by the CBO — poses a serious threat to long-term economic growth. The danger stems from the current imbalance between domestic savings and credit demands — an imbalance that is likely to continue.

Historically, the private domestic savings rate has been stable, and insipid to the level of interest rates and credit demands of the federal government. In this situation, large increases in federal credit demands must be met either by an increase in foreign savings (a net capital inflow) or by a decline in private credit demands.

The present concern is that federal demands will crowd out private credit demands and thereby stifle private investment. So far this has not happened because the shortfall in domestic savings has been met by a sharp increase in the net inflow of foreign savings. In the past year alone, this net inflow approached $100 billion, amounting to almost one-third of the net private domestic savings and to more than one-half the budget deficit.

Financing a large structural deficit with foreign savings is not without cost, either in the short run or in the long run. The immediate costs are clear. The net inflow of savings has encouraged a very strong dollar. The strong dollar, in turn, has made goods produced in the United States more expensive relative to goods produced abroad and thereby has contributed importantly to the record trade deficits. Thus, while the large budget deficit has not yet had a discernible adverse effect on domestic investment, it has crowded out exporters, farmers, and businesses that do not compete with imports.

This has put the current economic expansion in a precarious position. If the dollar were to strengthen significantly this year, the growing imbalances in the export sector could spill over into the general economy, leading to a slowdown in overall growth. What’s more, the adverse impact on certain sectors of the economy would lead to additional political pressures for trade restrictions and economic relief which, in the long-run, would only make the situation worse. Ironically, a slowdown in the economy would also worsen chances for substantially reducing the Federal deficit.

Many analysts believe that a rapid decline in the dollar is a greater risk. This would be accompanied by a weakening in foreign savings that would put upward pressure on interest rates.

At the same time, the falling dollar would also put upward pressure on the inflation rate.

The long-run costs of the deficit depend on how long the net inflow of foreign capital can be sustained. If it is to continue, holdings of U.S. assets by foreigners must grow at unprecedented rates. Most economists believe that foreign portfolios will eventually become saturated with dollar-denominated assets.

The inflow of foreign savings would then cease, unless interest rates were to rise. In either case, federal credit demands would then begin to crowd out private investment. A slowdown in private investment reduces the rate at which new production techniques are adopted, thereby slowing productivity growth. This has the obvious effect of reducing potential growth and hence the standard of living relative to what it might be. A cessation of foreign savings would also lead to a fall in the dollar and to an increase in interest rates and inflation.

So far, the behavior of foreign savings has confounded forecasters throughout the recovery. Predicting when the inflow of foreign savings will cease, like predicting when an under-inflated tire will become damaged, is virtually impossible. This is what makes the deficit so insidious and so dangerous.

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John B. Carlson is an economist at the Federal Reserve Bank of Cleveland. The author would like to thank Jim Siekmeier for especially capable research assistance and Ed Stassen, Gary Wyckoff, and Owen Flanagan for offering valuable comments throughout the preparation of this article.

1. Although debt service is sometimes defined to include repayment of principal, it is assumed here that principal due is refinanced.

2. However, unlike the individual whose earning potential will ultimately end, government income (its revenues) can grow indefinitely at rates as fast as the economy will allow. Most estimates of potential growth of the economy exceed 2.5 percent annual rates. Population growth alone generally assures growth in advanced economies over long periods.

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