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 impervious to the level of interest rates and credit demands of the federal government. In this situation, any large increase 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 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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ECONOMIC COMMENTARY

The Debt Burden: What You Don't See

by John B. Carlson

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 or not 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 consequences 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.

This *Economic Commentary* examines some potential problems that could be caused by large persistent deficits. It begins by identifying conditions that could lead to runaway debt. The real cost of deficits — a primary element of these conditions — is described in some detail.

Recent projections by the administration and by Congress suggest that while large deficits will persist, there is no evidence they are explosive. Nevertheless, the projected deficits will lead to a continued imbalance between domestic credit demands and private savings. The implications of this imbalance are discussed in the final section of this article.

The Potential of Runaway Debt

In some respects, the federal debt situation is like debt in personal finance. Early in adult life people typically build up debt for a sustained period as they purchase their first homes, furniture, appliances, and cars. During this stage, the change in a family's outstanding debt has two components: one is generated by interest payments on the past accumulation of debt — *debt service* — and the other is created by current overspending — the *primary deficit.*[1]

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.[2] 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

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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.

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 an immediate blowout.

The essence of the issue is simply that debt cannot grow relative to GNP without limit—and become runaway—because borrowing to finance debt 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 are 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.[3]

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 debts. The real cost is affected by our own marginal tax rates and by inflation. These same factors are also important in assessing the real burden of government debt.[4] The appropriate measure of the cost of private or public debt is the interest rate adjusted for inflation and taxes.

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 taxes. For example, an individual in a 25 percent tax bracket will recoup 25 percent of his interest payments. The net interest rate he pays will be 25 percent less than the nominal interest rate on the mortgage.

Federal income taxes also reduce the effective rate that the government 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 common estimate is that the marginal tax rate on government debt is about 25 percent. Thus, the after-tax nominal interest rate paid by government would be about 25 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 individual pays only 2.5 percent in real terms. An unanticipated increase in inflation favors the debtor over the creditor, but an unanticipated decrease in inflation favors the creditor.

The same reasoning holds true for government debt. The nominal interest rate overstates the real cost of debt 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.

Although unanticipated increases in inflation sharply reduced 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 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. In early exchange economies, seigniorage was the profit taken from minting coins, usually the difference between the value of the bullion and the face value of the coin.[5]

In the modern U.S. economy, the revenue from money creation is earned by the Federal Reserve, which acquires government debt when it supplies bank reserves and Federal Reserve notes (currency)—base money. The revenue (minus relatively small and fixed expenses) is turned back to the U.S. Treasury. In effect, an increase in base money directly reduces the net cost of the Federal government's outstanding debt. To obtain the net cost of government debt, one must exclude the effects of seigniorage by reducing the nominal interest rate by the proportion of government debt held by the Federal Reserve.

Taking account of all factors, the net real interest rate on government debt (r_{net}) is approximated by the following:

$$r_{net} = (1-m)\,(1-t)\,R - \dot{P},$$

where

m = proportion of the debt monitized,
t = average marginal tax rate,
R = nominal interest rate, and
$\dot{P}$ = inflation rate.

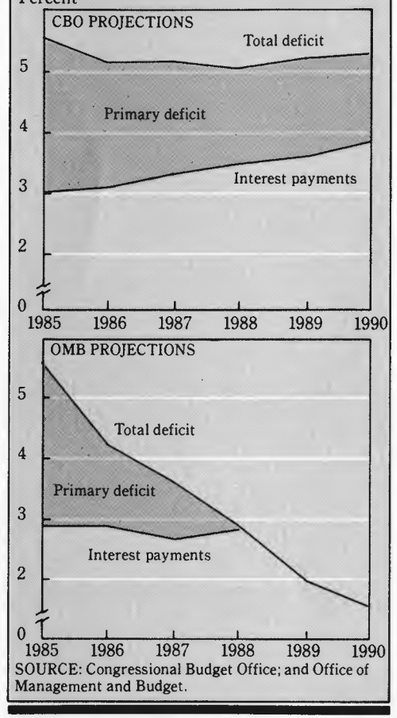
The relevant value of each factor is the equilibrium value, measured by its expected long-term average.[6]

Is the Deficit Explosive?

Whether or not the deficit is explosive depends on the net real interest rate on government debt, r_{net}, and on the trend growth rate of the economy (g). If r_{net} is greater than g, and if the deficit exceeds interest payments, then, sooner or later, deficit financing required by debt service will exceed total income and output of the economy. The critical problem then is to estimate long-run average values of g and r_{net}, 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.

Chart 1 Total Deficit, Interest Payments on Debt, and Primary Deficit as Percent of GNP



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

Recently the Office of Management and Budget (OMB) and the Congressional Budget Office (CBO) each released a report that presented its projections of federal revenues and spending through 1990. While the CBO projections assumed that current laws and policies would remain unchanged, the OMB based its projections on the assumption that Congress would pass the Reagan administration's current budget proposals. Neither projection indicates that the debt will become runaway. However, taken together, they indicate that a deficit reduction policy would reduce the probability of such an event.

As chart 1 illustrates, the CBO projections seem to suggest that the deficit borders on being *explosive,* at least over the five-year horizon, even though output is projected to increase without interruption. Interest payments on debt rise relative to real output. However, the estimates of r_{net} tell a different story (see table 1). Because r_{net} is less than g, interest payments will ultimately slow relative to GNP. Interest payments increase through 1990 only because the primary deficit adds to the stock of outstanding debt faster than the government can retire debt with its increasing revenues. Eventually, however, increases in output will be more than enough to cover interest payments on the accumulated debt. At this time, the total deficit would either stabilize or fall, relative to GNP, depending on whether or not the primary deficit were to stabilize or to fall.

Table 1 Net Real Interest Rate on Government Debt and Real Economic Growth Projections, Percent

	CBO		OMB	
	r_{net}	Growth in real GNP	r_{net}	Growth in real GNP
1985	1.5	3.5	1.2	3.9
1986	0.7	3.2	0.9	4.0
1987	1.1	3.3	1.0	4.0
1988	1.2	3.4	1.2	4.0
1989	1.1	3.4	na	na
1990	1.2	3.4	na	na
Average	1.2	3.4	1.1	4.0

NOTE: The net real interest r_{net} was estimated by the ratio of net interest payments (adjusted for Federal Reserve payments to the Treasury) to average outstanding debt for the same year. An average marginal tax rate of 25 percent was assumed. The real growth rate of GNP is on a calendar year basis; all other figures are on fiscal year basis.
SOURCES: Congressional Budget Office; and Office of Management and Budget.

The OMB deficit projections are more optimistic in that the total deficit falls relative to GNP. While the OMB published its interest payments projection only through 1988, it is apparent that a surplus would arise in the primary deficit for 1989 and beyond. Besides assuming passage of a deficit reduction policy, the OMB projections are based on an optimistic 4.0 percent growth trend for real GNP. This assumes a substantially faster growth in productivity than prevailed in the 1970s.

Although neither of the projections provides evidence of *explosive* deficits, both seem precariously dependent on optimistic recession-free outlooks. Such outlooks imply that future deficits would be almost exclusively structural—that is, unrelated to the business cycle. The OMB defends its trend growth assumption on historical grounds. It notes that from 1961 to 1969, the economy grew 4.6 percent. But this performance—the longest expansion on record—was also accompanied by accelerating inflation. Many analysts are skeptical that non-inflationary economic growth can endure for so 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 addition of such cyclical deficits would put increased pressure on credit markets, potentially leading to conditions consistent with runaway deficits.

Increasing productivity will account for additional gains. This seemingly endless potential for growth has made deficit spending politically attractive.

3. These conditions are not necessary, however. Deficits could be explosive even if there is a primary surplus, that is, if the total deficit is less than interest payments. If the primary surplus were not great enough to cover growth in interest payments above trend growth in the economy, the deficit would still grow without limit relative to GNP.

4. The relevance of these and other factors for federal debt dynamics was presented in Tobin's discussion in *Savings and Government Policy,* Conference Series No. 25, sponsored by the Federal Reserve Bank of Boston, October, 1982, pp. 126-37.

5. Total revenue of government could be increased so long as the government could induce the public to hold additional coins without affecting the general price level. Stable prices, then as now, implied some constraint on seigniorage.

6. Indexation of tax rates makes a difference here. The government recoups in tax revenues on the amount of taxes paid on the interest payments it makes on its own debt. The holders of debt report the *nominal* value of interest payments as income. Thus, the tax rates apply to the nominal yields. The real net return is approximated by factoring out the tax payments from the nominal return before subtracting inflation. Until this year, tax rates were not indexed. This meant that inflation, whether anticipated or not, pushed taxpayers into higher tax brackets. Thus, the average marginal tax rate grew relative to income. While indexation of tax rates will tend to stabilize marginal tax rates around current levels, rising real income level will still tend to raise the average marginal tax rate.