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The Economics of the Federal Budget Deficit

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Summary

In FY1998, federal budget receipts exceeded outlays for the first time since 1969. Those surpluses continued through FY2001. At one time, those surpluses had been projected to continue, but conditions have since changed. The economy went into recession in 2001, a stimulus package was enacted, and further tax cuts as well as increases in defense spending seem likely. The actual unified budget deficit for FY 2003 was $374 billion. In August 2003, the Congressional Budget Office projected that there would be a budget deficit of $480 billion in FY2004, and a deficit of $341 billion in FY2005.

Over fairly short periods of time, say three or four years, fiscal policy can affect the rate of economic growth by adding to, or subtracting from, aggregate demand. For a time, the effect on the economy may even be larger than the initial change in the budget. These effects, however, tend eventually to diminish because of either higher interest rates or rising prices. Estimates of the multiplier effect on the economy of a change in fiscal policy vary, but most of them suggest that it reaches a peak somewhere between one and one-and-a-half times size of the change in the budget. In most economic models, that peak effect is realized within 1 or 2 years of the initial change in policy.

One measure economists use to assess fiscal policy is the structural, or standardized-employment, budget. This measure estimates, at a given time, what outlays, receipts and the surplus or deficit would be if the economy were at full employment. Although the actual budget was in surplus beginning in 1998, the standardized measure first registered a balanced budget in 1999. Between 1992 and 2000, the actual budget surplus increased from -4.7% (a deficit of 4.7%) to 2.4% of gross domestic product (GDP), a shift of 7.1 percentage points. Over the same period the standardized measure rose from -2.9% to 1.1% of GDP. That suggests that a little more than half of the shift was the result of changes in policy, and a little less than half was attributable to the economic expansion.

In the long run, economic growth is determined primarily by three factors; growth in the labor force, the rate of technological advance, and the amount of capital available to the workforce. Of the three, the last one may be the most susceptible to the influence of policymakers. The larger the capital stock is, the more productive the labor force tends to be. While it is possible for fiscal policy to have an effect on the rate of technological progress in the way public money is spent, it probably has a much larger effect on growth through its influence on the size of the domestic stock of capital and the amount of capital available for each worker in the labor force.

In 1996, the public sector contribution to national saving was small — less than 1% of GDP. By 2000, public sector saving had risen to 4.4% of GDP, but has since fallen, and in 2002 accounted for-0.2% of GDP. Between 1996 and 2002, private sector saving fell from 16.5% of GDP to 13.9%. Net inflows of foreign capital rose from 1.4% of GDP in 1996 to 4.7% in 2002. Total funds available for investment in the U.S., from all sources rose from 18.7% of GDP in 1996 to 22.4% in 2000, before falling to 19.7% in 2002.

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Prior to 1998, deficit reduction was an important objective in the setting of overall budget policy. During the 1990s, a combination of budget policy and a booming economy entirely eliminated the deficit. While the budget was in surplus, there was considerable debate about what to do with it. Now that the string of surpluses is over, that is no longer be an issue.

Strictly speaking, economics generally has little to say regarding whether a budget deficit is a good thing or not. Whether the budget is in deficit or surplus, and whether the budget deficit is growing or shrinking, have consequences for the performance of the economy, both in the short and long run. At the same time, the performance of the economy can have substantial effects on the budget as well.

Recent Budget History

The share of income that is saved is simply a reflection of relative preferences for current and future consumption. From an economic standpoint, there is no optimal rate of saving. Nonetheless, raising the national rate of saving has long been a goal of policymakers.

Most economists, however, believe the capacity of public policy to influence private saving behavior is limited. The one certain way to raise the national saving rate through public policy is to increase the public sector saving rate, and that is what happened in the 1990s. The national saving rate rose after 1995 because increases in public saving more than offset falling private saving.

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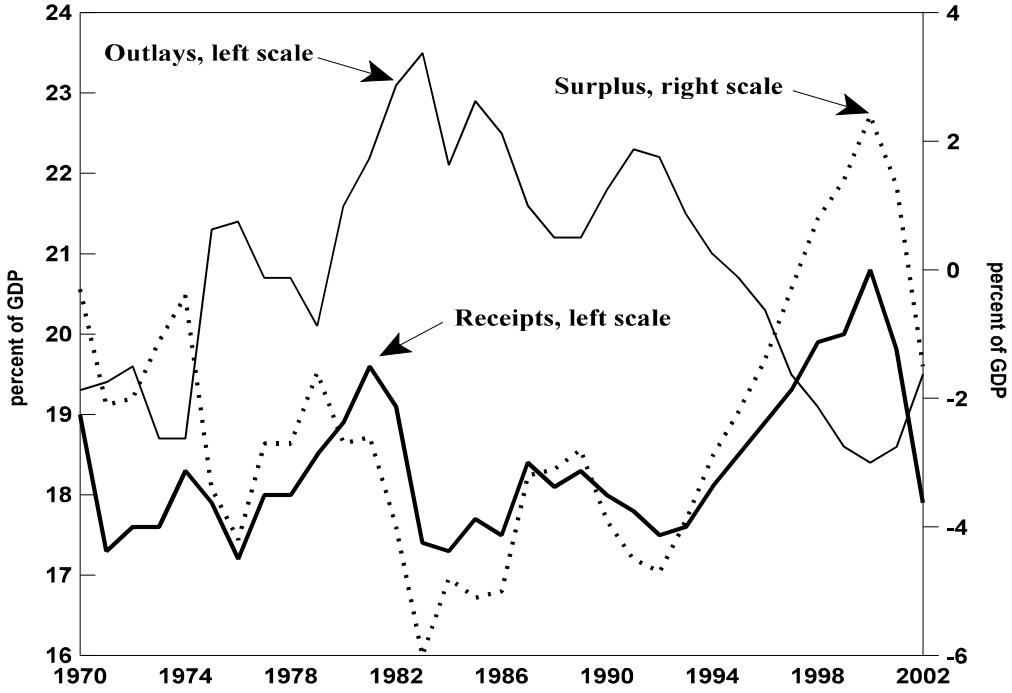
[1] Congressional Budget Office, *The Budget and Economic Outlook: An Update,* August 2003.

In recent history, budget *surpluses* have been rare, and a succession of surpluses rarer still.[2] In every year between FY1969 and FY1998, the federal budget was in deficit; that is, outlays exceeded receipts. Beginning in 1929 and up until 1969, the budget was in surplus for a total of nine years, and during that time was never in surplus for more than three years in a row.

Figure 1 presents figures for federal budget outlays, receipts, and the surplus beginning in 1970. Rather than showing dollar amounts, each of the three series is expressed as a percentage of gross domestic product (GDP). Showing the figures in this way focuses attention on the size of the budget aggregates relative to the economy as a whole.

Figure 1. Outlays, Receipts, and the Surplus, 1970 — 2002



Source: Office of Management and Budget.

From a position of near budget balance in 1970, the budget went into deficit. In part because of an economic contraction beginning in late 1973 and ending in early 1975, the surplus fell to -4.2% (in other words, a deficit equal to 4.2%) of GDP in 1976. Another economic downturn began in mid-1981 and ended in late 1982 contributing to another drop in the surplus, to -6% of GDP in 1983. Since then, with a brief reversal attributable to an economic contraction in 1990 and 1991, the surplus increased steadily until 2000. In fiscal 2001, the surplus fell from 2.4% of GDP the

[2] Unless otherwise specified, in this report surpluses and deficits (negative surpluses) reflect both on- and off-budget receipts and outlays. That is, they are from the unified budget.

previous year to 1.3% of GDP. In 2002, there was a budget deficit (a negative surplus) of 1.5% of GDP. While the budget has clearly been influenced by changing economic conditions there nevertheless appeared to be a tendency towards smaller and smaller surpluses (at the time they were characterized as increasing deficits, which is the same thing) between 1970 and 1983. Through 2000, that trend had been reversed, but over each of the next two years the surplus declined.

Deficit or Surplus, What Difference Does it Make?

The federal budget and the economy are closely interrelated. The strength or weakness of the overall economy affects the levels of outlays and receipts substantially. The budget also has significant effects on the economy, both in terms of how fast the economy grows, and also in terms of the overall allocation of resources.

Fiscal policy in the short run. Over fairly short periods of time, say three or four years, fiscal policy can affect the rate of economic growth by adding to, or subtracting from, aggregate demand. Consider, for example, a one-time increase in total federal spending, with no matching rise in tax receipts. Each additional dollar of government spending becomes income for those entities satisfying the initial increase in demand for public goods and services. In turn, some of that increase in income will be spent raising the income of those who satisfy a second wave of increased demand for goods and services. Theoretically, this process continues with each successive increment to income getting smaller and smaller as some is saved and some is spent.

Due to the initial increase in spending and the additional spending that is subsequently stimulated, the economy grows somewhat faster than it otherwise would have. For a time, the size of the economy may increase by more than the initial increase in government spending. Government spending is thus said to have a 'multiplier effect.' There can also be a multiplier effect in the case of a spending cut, although the effect is in the opposite direction. If the government reduces spending, that can cut the incomes of those who otherwise would have provided goods and services to the government. If it does, they must either reduce their spending or their saving. To the extent that they cut spending, it adds to the decline in output initiated by the cut in public spending.

The government may also be able to influence the rate of economic growth in the short run via tax cuts or increases. Just as an increase in public sector spending temporarily increases some incomes, so a tax cut increases the amount of income taxpayers have at their disposal. Some of that increase in after tax income is likely to be spent, and so tax cuts may have a multiplier effect just as changes in government spending do. A tax increase reduces disposable income, and so contributes to a slowdown in private sector spending.

Limits on fiscal policy. That is not the end of the story, however. In the view of most economists, the government cannot permanently increase the size of the economy just by increasing spending, or cutting taxes. As is often the case in economics, other things do not remain equal. An increase in spending, or a tax cut, increases the deficit and so increases the public sector's demand for credit. Increased

credit demand tends to raise interest rates. Higher interest rates, in turn, discourage borrowing in the rest of the economy for those activities that depend on credit, especially housing and consumer durable goods.

Higher interest rates also tend to make dollar-denominated financial assets more attractive to overseas investors. In order to buy those assets, however, foreigners must first buy dollars. This increased demand for dollars pushes up the foreign exchange value of the dollar. The 'stronger' dollar makes imported goods cheaper, and makes goods and services produced in the U.S. more expensive abroad. The change in prices tends to increase demand for U.S. imports and reduce demand abroad for U.S. exports, raising the trade, or current account, deficit. Thus, some of the stimulus is, in a sense, exported.

An increase in aggregate demand, stimulated by an increase in spending or a cut in taxes, can be satisfied in one of two ways; either an increase in real production, or an increase in the general price level.[3] If the economy is already operating at full employment, and the capital stock is operating at or near full capacity, then it is more likely that any increase in demand will be met by higher prices than by increased production of goods and services. In a fully employed economy, an increase in government spending would yield a much larger increase in nominal than it would in real GDP.

In a slack economy, with high unemployment and idle resources, a stimulative fiscal policy would be less likely, at least initially, to push up prices. Instead, any increase in demand could be met by increased employment and capacity utilization rates. In an economy with excess capacity, a stimulative fiscal policy would tend to increase the production of goods and services more than it would prices, and any increases in real and nominal GDP would tend to be of similar size.

Given a sufficient fiscal policy boost, a slack economy would tend gradually to converge to full employment. As the economy approaches full employment of both labor and capital, additional increases in aggregate demand would be more likely to be satisfied by higher prices than by increased real output.

Whether because of higher interest rates or rising prices, any effects of an increase in government spending, or a tax cut, on the rate of economic growth tend to diminish over time. Estimates of the multiplier effect of a change in fiscal policy vary, but most of them suggest that it reaches a peak value of somewhere between one and one-and-a-half times the original stimulus. In most economic models, that peak effect is realized within one or two years of the initial change in policy. In other words, for every dollar increase in federal spending, the economy, within a year or two, will be larger than it otherwise would have been by somewhere between a dollar and a dollar-and-a-half.[4]

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[3] In the short run, to which this discussion is limited, supply is more or less fixed.

[4] See CRS Report 94-403 E, *How Big Is The Fiscal Policy Multiplier?*, by Brian W. Cashell.

Not all changes in spending and taxes, however, reflect changes in fiscal policy. Just as the budget can have an effect on short-run economic growth, the rate of economic growth can also have an effect on the budget. Faster economic growth tends to raise revenues above, and reduce outlays below, what they otherwise would have been. Faster growth means more people are working, which raises taxable incomes, which in concert with progressive tax rates increases tax receipts. Faster economic growth, along with higher incomes and employment, tends to reduce outlays, especially for spending on unemployment insurance and various income support programs.

What this means is that it may be difficult to examine the ups and downs in the budget, and in the deficit in particular, and discern whether those changes reflect the fluctuations of the economy, or are due to deliberate changes in budget policy.

The standardized budget. One measure economists use to assess fiscal policy is the structural, or standardized-employment, budget. This measure estimates, at a given time, what outlays, receipts, and the surplus or deficit would be if the economy were at full employment.[5] It is a way of separating changes in the budget totals that are due to changes in overall economic conditions from those changes that are the result of deliberate changes in tax and spending policy. Changes in the standardized-employment surplus reflect changes in policy and are not affected by variations in underlying economic conditions. For example, if the economy is less than fully employed, then the standardized measure of outlays is less than actual outlays, standardized receipts are higher than actual receipts, and the standardized budget deficit would be smaller than the actual deficit.

Economists track the standardized-employment surplus as a percentage of potential GDP to assess if fiscal policy is stimulative or contractionary. As the economy grows, outlays and receipts tend to rise as well. Comparing the budget to GDP filters out changes due to variations in the overall size of the economy. Potential GDP is an estimate of what the total value of production of goods and services would be if labor and capital resources were fully employed. Using potential GDP as a base for comparison avoids the problem of cyclical factors masking changes in fiscal policy. A decrease in the standardized budget deficit relative to potential GDP would be considered indicative of a contractionary fiscal policy. Similarly, an increase in the standardized budget deficit as a percentage of potential GDP would be indicative of a stimulative fiscal policy.

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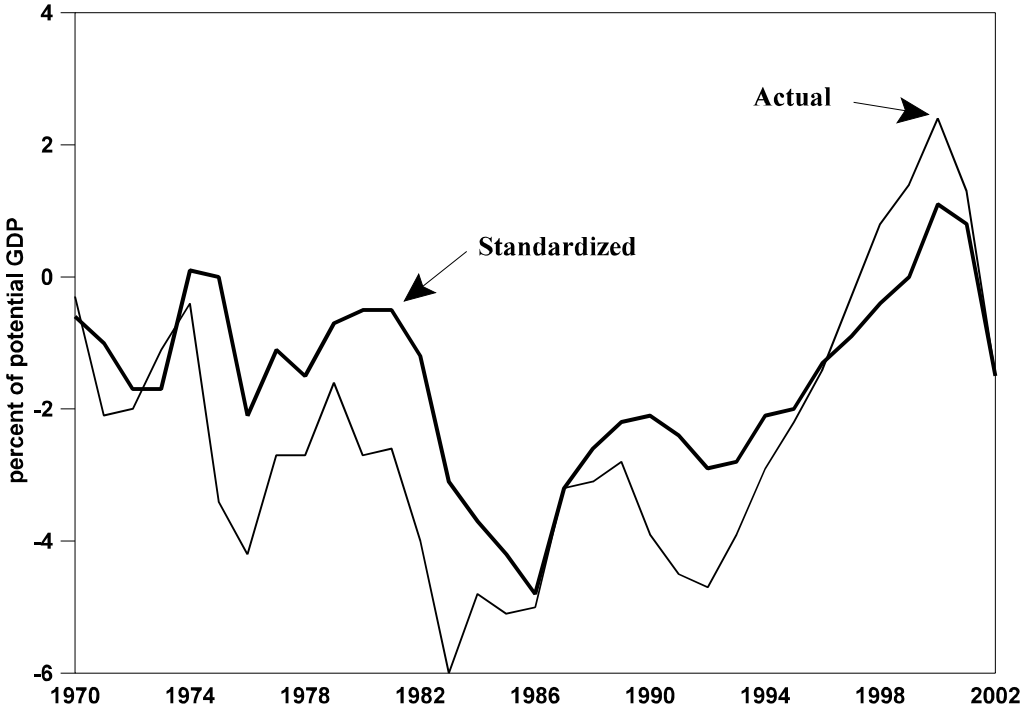
[5] For a definition of full employment see: CRS Report RL30391, *Inflation and Unemployment: What is the Connection?*, by Brian W. Cashell.

The Congressional Budget Office (CBO) regularly publishes estimates of the standardized budget. Figure 2 compares the standardized budget surplus (deficits are simply negative surpluses) with the actual surplus since 1970, both as a percentage of GDP.[6]

Figure 2. Actual and Standardized Budget Surplus



Source: Congressional Budget Office.

For the most part, the two series exhibit the same behavior over time. But since 1970, the two have moved in opposite directions four times, indicating that either the surplus rose at a time that fiscal policy was actually expansionary or that it fell at a time when fiscal policy was actually contractionary. The most recent instance was in 1990 when a weakening economy and substantial outlays for deposit insurance helped reduce the actual budget surplus but, when measured by the standardized budget, fiscal policy was actually slightly contractionary. Most of the time, the actual budget surplus has been smaller than the standardized measure, suggesting that, at least by CBO's calculations, the economy has, more often than not, been less than fully employed.

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[6] It should be noted that these data incorporate other adjustments in addition to the one related to the business cycle. These adjustments removed, for example, the effects of outlays for deposit insurance, receipts from auctions of the electromagnetic spectrum, and foreign contributions related to Operation Desert Storm–all of which are considered to be one-time events or otherwise unrelated to discretionary policy.

Between 1997 and 2001, the actual surplus was larger than the standardized measure. Although the actual budget was in surplus between 1998 and 2001, the standardized measure first registered a balanced budget in 1999. Between 1992 and 2000, the actual budget surplus increased from -4.7% to 2.4% of GDP, a shift of 7.1 percentage points. Over the same period, the standardized measure rose from -2.9% to 1.1% of GDP. That suggests that a little more than half of the shift during that period was the result of changes in policy, and a little less than half was attributable to improving economic conditions.

Between 1992 and 2000, fiscal policy, as measured by changes in the standardized budget surplus, was contractionary. In every year between 1992 and 2000, the standardized surplus grew relative to GDP. Between 1992 and 2000, the average increase per year in the surplus was 0.5% of GDP. The average annual rate of increase in real GDP over the same period was 3.7%. Although fiscal policy was contractionary, other factors contributing to economic growth more than compensated. Since 2000, the standardized surplus has fallen, suggesting that fiscal policy has been expansionary.

Fiscal policy in the long run. A constant deficit or surplus, by itself, is believed to have little if any effect on the short run rate of economic growth. It is *changes* in the surplus that matter for short run growth. However, whether the budget is in surplus or not does have consequences for the *composition* of economic output, and that can have an effect on growth in the long run.

In the long run, economic growth is determined primarily by three factors; growth in the labor force, the rate of technological advance, and the amount of capital available to the workforce. Of the three, the last one may be the most susceptible to the influence of policymakers. The larger the capital stock, the more productive the labor force tends to be.

While it may be possible for fiscal policy to have an effect on the rate of technological progress in the way public money is spent, it probably has a much larger effect on growth through its influence on the size of the domestic stock of capital and the amount of capital available to each worker in the labor force. How this comes about can be illustrated by a brief introduction to economic accounting.

The total value of national output can be measured in two ways. Either the total value of the goods and services produced can be added up, or the total value of the incomes resulting from that production can be counted. These two accounts, at least in the abstract, add up to the same total.

The measure of total output based on the value of production is typically subdivided into several categories of demand. Specifically, it is calculated as the sum of consumption spending (C), investment (I), government spending (G) and the difference between exports (X) and imports (M):

$$GDP = C + I + G + (X - M).$$

The alternative measure of total output is the sum of the various uses to which income is allocated. On this side of the economic accounting ledger the value of

national output is expressed as the sum of consumption (C), private sector saving (S)[7], and tax payments (T):

$$GDP = C + S + T.$$

Combining the two equations, and simplifying gives:

$$I = S + (T - G) + (M - X).$$

That is, total investment spending is equal to the sum of private saving (S), the government budget surplus (T - G, which, if it is negative, is a deficit), and the difference between imports and exports of goods and services (M - X). The last equation is an identity. In other words, investment is *by definition* equal to the sum of private saving, the budget surplus, and net capital inflows from abroad. Other things being equal, a reduction in public sector saving means less investment and slower growth in the capital stock.

Net capital inflows reflect net imports. Along with international flows of goods and services, financial capital flows back and forth between countries. If the value of imports exceeds the value of exports, then other things (namely investment, saving and the budget surplus) being equal, capital inflows will exceed capital outflows; otherwise there would be no way of paying for the excess of imports over exports.

But, other things are not always equal. Among other things, an increase in either private or public sector saving may have an effect on the amount of foreign financial capital flowing into the United States. One reason that might happen would be that an increase in domestic saving would tend to push interest rates down in the U.S. That would make domestic financial assets less attractive to foreign investors and make foreign financial assets more attractive to U.S. investors. Thus, changes in domestic saving and net foreign investment could offset one another.

Figure 3 shows each of the three sources of investment funds over the past seven years, each one expressed as a percent of GDP. Private saving includes the saving of households and businesses. Public saving here reflects federal, and state and local governments.

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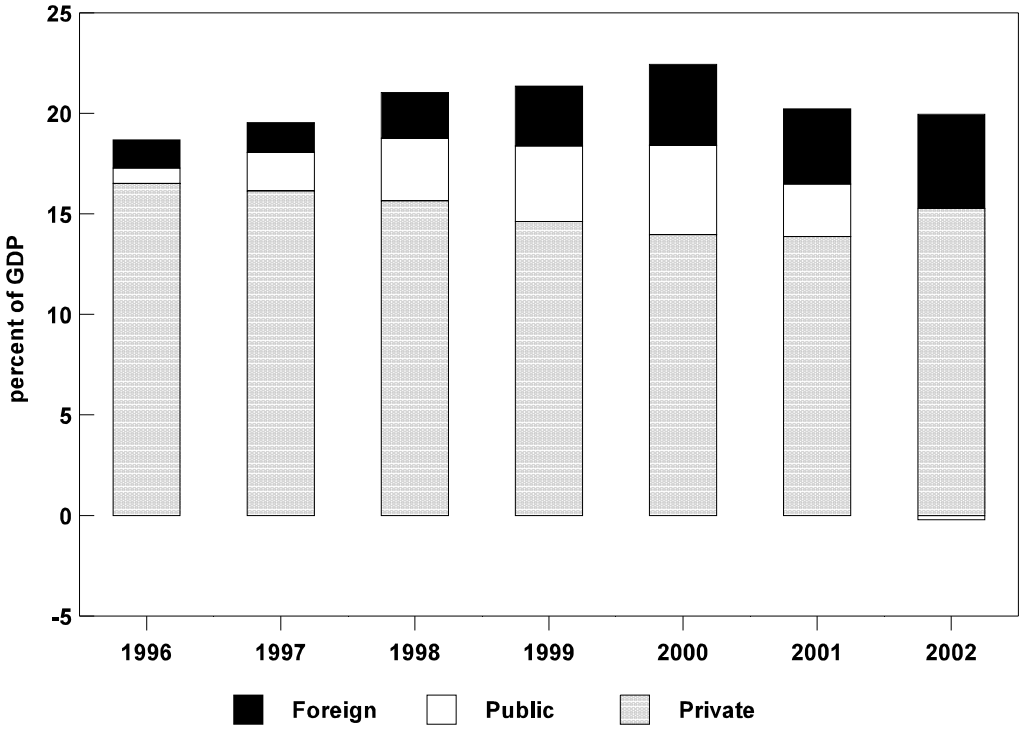
[7] For the purposes of this explanation, State and local government saving is included in public saving. Most of the variations in the public sector saving rate, however, are attributable to the federal government.

Figure 3. U.S. Saving by Sector



Source: Department of Commerce, Bureau of Economic Analysis.

In 1996, the public sector contribution to national saving was small — less than 1% of GDP. By 2000, public sector saving had risen to 4.4% of GDP, but has since fallen, and in 2002 accounted for-0.2% of GDP. Between 1996 and 2002, private sector saving fell from 16.5% of GDP to 13.9%. Net inflows of foreign capital rose from 1.4% of GDP in 1996 to 4.7% in 2002. Total funds available for investment in the U.S., from all sources rose from 18.7% of GDP in 1996 to 22.4% in 2000, before falling to 19.7% in 2002.[8]

Saving from domestic sources, public and private, rose from 17.3% in 1996 to 18.8% in 1998, but has since fallen to 15.1% in 2001. At the same time, because of rising inflows of foreign capital, the claims of foreign investors to income from the domestic capital stock were increasing. In the 1980s, large inflows of foreign capital were typically associated with large federal budget deficits. These deficits added to domestic credit demands and pushed up interest rates. More recently, other factors may also have been at work.

Two reasons have been suggested for the increased foreign capital inflows at a time when public sector surpluses were rising. One is that because the domestic

[8] Even though the federal budget was not in surplus until 1998, the public sector saving rate was positive beginning in 1996 because of the surpluses of state and local governments.

economy is doing so well — in particular, productivity growth seems to have accelerated — there has been a surge in profitable investment opportunities. The other is that even in the absence of a increased yield on U.S. assets, foreign capital may have flowed here because of a perception of increased risk in countries where the capital might otherwise have been invested. In this case, the U.S. serves as a 'safe haven' for foreign capital. The economy will likely be more productive in the future than it would have been in the absence of any increase investment, but of that increase in output will have to be paid out to foreign investors as either rents, interest, or dividends.

The increase in investment spending of the 1990s was made possible by both the increase in national saving and an increase in foreign capital coming into the country. In 2001, there was a decline in saving from domestic sources, due primarily to a drop in public saving. Capital inflows from abroad did not offset the decline, and so total funds available for investment, measured as a share of GDP, fell.

Reducing the Federal Debt

Perhaps the most obvious effect of the federal government budget surpluses of the 1990s was a decline in the amount of federal debt. From an economic perspective, however, the measure of debt that matters more is not the absolute level in dollar terms, but rather the debt relative to total output, or GDP. From this perspective, the debt began to fall in 1993.

Many economists believe that a steadily growing federal debt is not by itself a cause for concern. As long as the federal debt grows faster than GDP, however, interest payments on that debt will constitute an ever-increasing share of total federal spending and of GDP. If investors should come to expect that the debt would grow faster then GDP indefinitely, and that the debt-to-GDP ratio would continue to rise, they might eventually become unwilling to buy new issues of federal debt.

In the long run, the relationship between the growth rate of the federal debt and the overall rate of economic growth is critical to financial stability. Perpetual growth in the debt in excess of the rate of economic growth is an inherently unstable situation. It is likely that investors would become unwilling to buy federal debt issues long before all of GDP was accounted for by the interest payment on the federal debt, because of growing doubts about the government's ability to raise sufficient revenue to pay the interest on that debt.[9]

Whether or not the debt-to-GDP ratio is on such an explosive path depends on the rate of interest and the rate of growth of GDP. Consider the case where the

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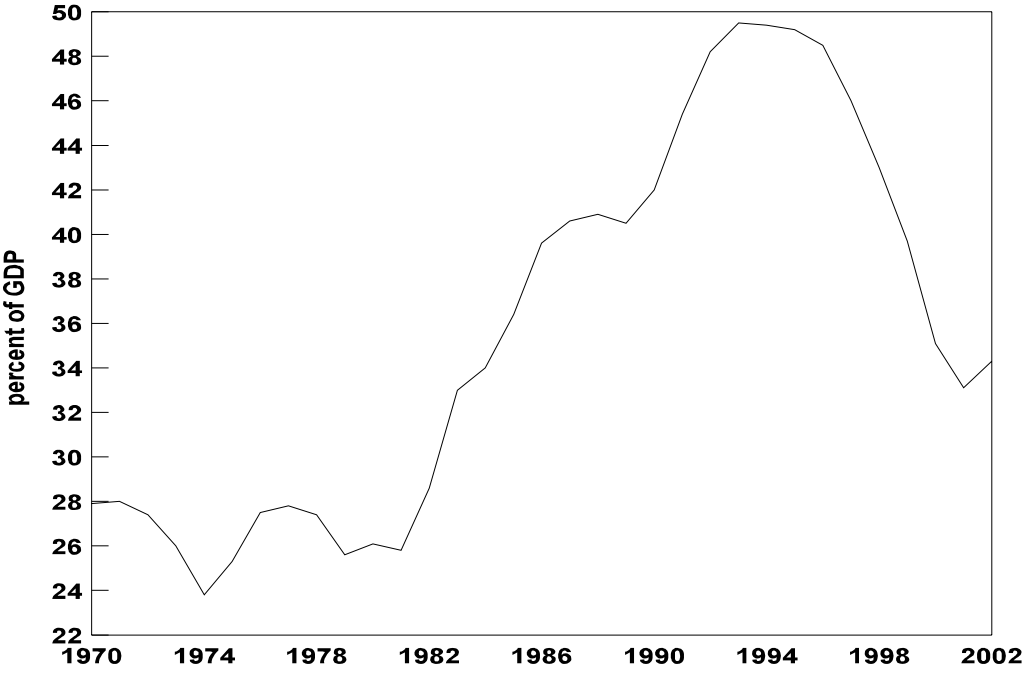
[9] Should the federal government be unable to find private sector buyers for its securities there would be two possible outcomes. First, the federal government would simply be unable to meet all of its obligations. Second, and the more likely of the two, rather than allow the federal government to default, the Federal Reserve would buy those securities. Although the Federal Reserve is independent and under no legal obligation to ensure the sale of government securities, it might well step in to avert default. Should it come to that, the threat would not be one of government insolvency, but rather of inflation.

budget is in balance except for the interest payment on the debt. That is, the budget deficit is equal to the interest payment. In this example, the debt would grow each year by an amount equal to the interest cost of financing the debt; thus the growth rate of the debt would equal the interest rate. If the interest rate on the federal debt remained above the economic growth rate, then the debt would grow faster than GDP and the ratio of debt to national output would rise. The converse is also true; as long as the interest rate on the debt remains below the growth rate of GDP, then the ratio of debt to income will fall.[10]

Thus even with a budget deficit, the ratio of debt to national income can fall. For the United States, the recent peak level of the federal debt relative to GDP was reached in 1993 at 49.5%, when the budget deficit was $255 billion. In 1994, even though the deficit was still over $200 billion, the debt fell relative to GDP. By 2001, federal debt had fallen to a low of 33.1% of GDP. In 2002, the ratio of debt to GDP rose for the first time in eight years, to 34.3%. Figure 4 shows the level of the debt-to-GDP ratio since 1970.

Figure 4. Federal Debt Held by the Public as a Percentage of GDP



Source: Congressional Budget Office.

[10] Inflation can cause both the interest rate and the growth rate of GDP to rise. Interest rates usually reflect investors' inflation expectations, but a substantial rise in the price level that was unexpected by holders of existing debt would raise nominal GDP, but not the level of outstanding debt, and the debt-GDP ratio would fall.

During the period shown in figure 4, the budget was in deficit most of the time. Clearly, variations in the ratio of debt to GDP do not depend solely on whether or not the budget is in surplus or deficit. As long as the budget is in deficit, however, the ratio cannot fall to zero. For the sake of long term economic stability, what matters most is that the ratio is not perpetually rising.[11]

Conclusions

Economics, generally speaking, is neutral with respect to whether one saving rate is better than another. Ultimately, it is an expression of the public's relative preference for present versus future consumption. For the time being, however, the public sector can also have important effects on the pool of savings.

Whether or not it is better to have a budget surplus or a deficit, the budget has clear-cut consequences for the economy. In the short run, whether or not the budget is in surplus, makes little difference to economic performance. In the short run, it is *changes* in the surplus or deficit that can affect the rate of economic growth. A reduction in the deficit would tend to be contractionary, while an increase in the deficit would tend to be stimulative. Those effects, however, are likely to be short lived.

In the long run, a shift from a budget surplus to a deficit represents a reduction to national saving. Less saving means a shift from future to present consumption. Consuming more now means less investment now, a lower level of output of goods and services in the future, and thus, less to consume in the future than otherwise would have been the case. To the extent that investment is financed by importing capital from abroad, some of that higher output will be paid to foreigners.

Even with a budget deficit, the outstanding federal debt may still fall, relative to GDP, but that depends on the size of the deficit, and of the interest payment on the outstanding debt. A rising debt-to-GDP ratio eventually poses the risk of accelerating inflation.

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[11] The possibility that eventually all of the federal debt held by the public would be paid off raises a number of interesting questions. For example, the Federal Reserve manages the size of the money stock by buying and selling Treasury securities in its open-market operations. In the absence of a market for federal government debt, the Federal Reserve might have to buy and sell private sector assets to conduct monetary policy. The absence of federal government debt could also affect the banking sector. Banks hold Treasury securities among other assets and the fact that they are considered to be riskless assets reduces the overall risk associated with banks' portfolios. If risk-free assets are unavailable, adjustments to these portfolios might be necessary to avoid increasing portfolio risk. See: CRS Report RL30614, *What if the national debt were eliminated? Some economic consequences*, by Marc Labonte.