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Long-Term Economic Effects of Chronically Large Federal Deficits

Since fiscal year 1960, the federal government has recorded budget deficits averaging 2.1 percent of gross domestic product (GDP), and those deficits have been especially large in each of the past three years. Depending on the course of policy and the economy, deficits may moderate as a share of GDP over the next decade. But looking farther ahead, the demand for federal budgetary resources is expected to rise steadily under current law as the baby boomers retire and become eligible for Social Security and Medicare.

Persistently large federal deficits can erode the growth of future living standards by reducing national saving, which slows the accumulation of wealth, and degrading economic performance. Thus, they differ from temporary deficits, which may serve to support economic activity and other policy objectives in the near term. The degree to which chronically large deficits adversely affect future living standards depends in part on the policies that produce them. Policies that increase the deficit but also provide incentives for people to work, acquire more skills and education, undertake research and development, invest, innovate, or use resources more efficiently may do less harm to future living standards than policies that increase the deficit without providing such incentives.

The Links Between National Saving, Wealth, and Future Living Standards

The amount of national wealth accumulated by U.S. residents depends on national saving—the part of national income that is not currently consumed. National wealth rises through the acquisition of claims to productive assets both here and abroad, and more national saving permits more wealth accumulation. Claims to productive assets provide financial resources that permit U.S. residents to enjoy higher living standards in the future.

Future living standards also depend on factors such as productivity. Growth in total factor productivity (TFP)—the growth of output that is not explained by the growth of capital and labor—accounted for roughly 40 percent of the overall growth in the nonfarm business sector's potential output during the 1950-2004 period. Higher productivity directly raises national income and opportunities for future consumption even without any change in saving. Thus, activities that increase productivity, such as technological innovation, research and development, training and education, and more-efficient use of resources, also help to raise future living standards.

How Deficits Affect National Saving

Federal deficits can have a significant impact on how much the nation saves. National saving consists of saving by the private sector (households and businesses) and by governments (federal, state, and local). If all other parts of national saving remain the same, national saving falls when the federal deficit increases, because deficits raise the fraction of income that is consumed.[1] That switch from saving to consumption occurs regardless of whether federal deficits result from cuts in federal taxes or hikes in current federal spending. Reductions in federal taxes will tend to finance more private consumption, as will increases in spending for federal entitlement programs. Increases in current federal purchases (which do not include public investment) will raise government consumption.

1. In the national income and product accounts (NIPAs), federal deficits reflect government consumption expenditures but not government investment expenditures. Consequently, federal investment expenditures do not reduce gross federal saving (or gross national saving). By contrast, investment spending is treated as part of outlays in the calculation of the federal budget surplus (or deficit) as reported by the Office of Management and Budget (OMB). For a discussion of the differences between the NIPAs and the budget as reported by OMB, see Congressional Budget Office, *The Treatment of Federal Receipts and Expenditures in the National Income and Product Accounts* (September 2005).

In reality, private saving will generally not remain the same when federal deficits change. Instead, private saving also changes, usually offsetting part of the impact of larger deficits on national saving. The extent to which private saving responds to federal deficits depends on the policies that resulted in the deficit. For example, private saving might react quite differently to an increase in the federal deficit caused by a cut in individual income tax rates than to one caused by larger child tax credits or more federal entitlement benefits. Cuts in tax rates might increase private saving more than larger child tax credits because the cuts in tax rates would raise the after-tax rate of return on saving. Child tax credits do not provide that incentive to save. Deficits caused by an increase in entitlement spending could actually reduce private saving, depending on which age groups benefited from the change in entitlements and which groups eventually paid for it.

The response of private saving to changes in federal saving also depends on people's perceptions about future policy actions. Reasoning suggests that private saving will at least partly offset movements in the federal deficit because households base their spending not only on what they currently earn after taxes but also on what they expect to earn after taxes over the course of their lives. According to that line of reasoning, taxpayers would save more in response to federal deficits if they believed that current deficits meant higher future taxes.

In the past, gross private saving has tended to partially offset changes in gross federal saving.[2] In the 1990s, for instance, gross federal saving swung from a deficit of 3.5 percent of GDP in calendar year 1992 to a surplus of 2.8 percent in 2000. Over the same period, gross private saving fell from 17.4 percent of GDP to 13.6 percent. Over the longer period from 1970 to 2004, gross private saving tended to rise by about 0.4 percent of GDP when the federal deficit increased by 1.0 percent of GDP (as indicated by the trend line in Figure 1). That relationship, however, is an average that covers a variety of economic conditions and many different policy measures that changed the federal deficit. Consequently, it is not necessarily the best estimate of how much private saving might change in the future in response to a specific change in policy.

The Effect of Deficits on Productive Capacity and Capital Inflows

By reducing national saving, large and persistent federal deficits lower the amount of resources that U.S. residents are able to devote to investment in productive capacity at home and abroad. Domestic investment (private and public) affects the growth of U.S. output and productivity in two main ways.[3] First, for a given level of technology, an increase in capital raises output per worker (labor productivity). Second, because new capital is often the vehicle for introducing new technologies into the production process, an increase in investment may raise TFP growth.[4]

The adverse impact of federal deficits on domestic investment and productivity are partly offset by net capital inflows from abroad, which tend to rise when the U.S. saving rate falls. Those inflows increase because additional investment opportunities open up for foreigners in the United States when U.S. saving declines. Foreign capital thus finances investment that otherwise might not be funded under prevailing market conditions.

The downward trend in gross national saving since 1983, for example, has been accompanied by an upward trend in net capital inflows, although the relationship is not very close over short periods of time. More generally, the historical evidence indicates that, on average, each decline in gross national saving equal to 1.0 percent of GDP is offset by an increase in net capital inflows from abroad (some combination of more capital inflows and less capital outflows) amounting to 0.4 percent of GDP, as indicated by the trend line in Figure 2. That offset supports

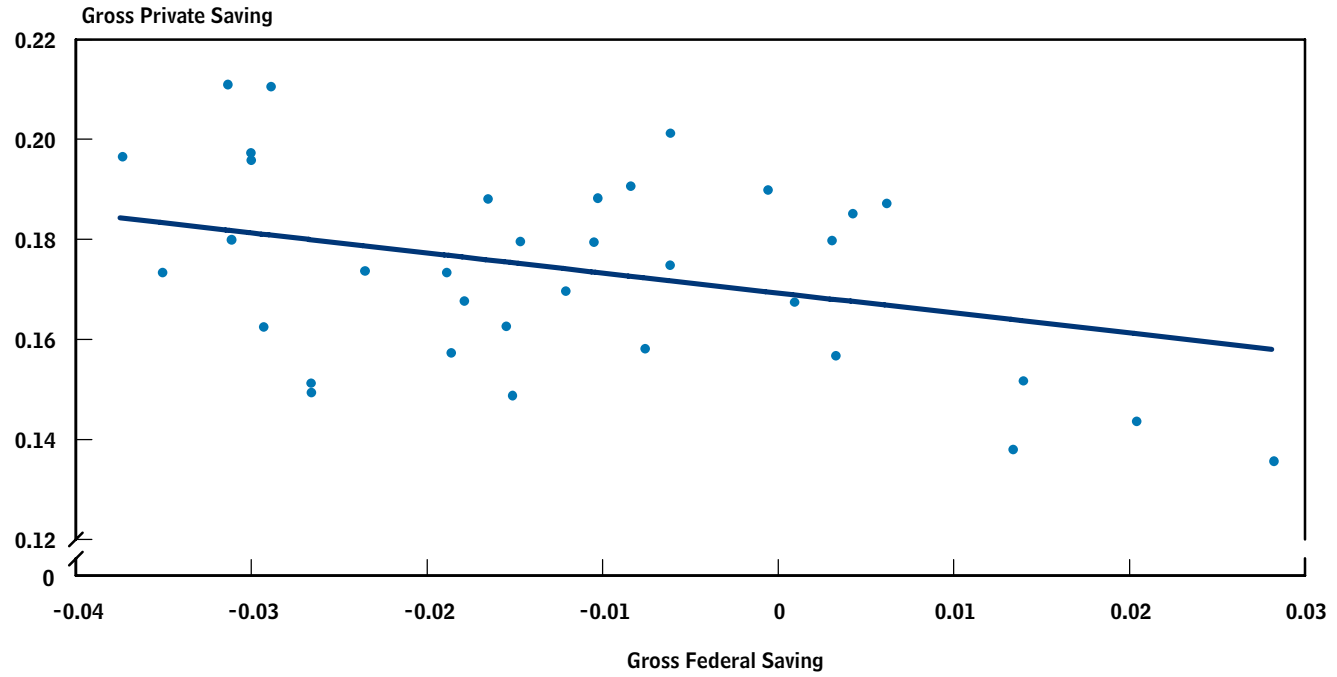
2. Gross federal saving in the NIPAs is calculated by removing the consumption of fixed capital (depreciation) from current federal expenditures and then subtracting the result from current receipts. That treatment of depreciation in the NIPA measure of gross federal saving is conceptually the same as in the federal budget surplus (or deficit) as reported by OMB, which does not record outlays for depreciation.

3. In the NIPAs, expenditures for education, training, and research and development are generally considered current consumption, even though they contribute to productivity growth and thus future living standards. The investment component of those expenditures is not captured in the NIPAs because it is conceptually and empirically difficult to measure.

4. Some analysts argue that there are no effects on the growth of TFP if changes in the quality of capital are properly taken into account. Deficits also can affect the supply of labor through their effect on interest rates, wage rates, tax rates, and expected future tax liabilities.

Figure 1.

Gross Private Saving and Gross Federal Saving, 1970-2004, as a Percentage of GDP



Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis.

labor productivity and the income of workers when the national saving rate falls by financing domestic investment in productive capacity. At the same time, capital inflows increase the United States' foreign indebtedness, and the resulting payments to foreigners in the future will be paid out of the future national income generated by the investment financed by capital inflows. Given low national saving, the United States is better off, on balance, as a result of capital inflows. However, capital inflows only partially remedy the loss in future living standards stemming from the adverse impact of federal deficits on national saving.

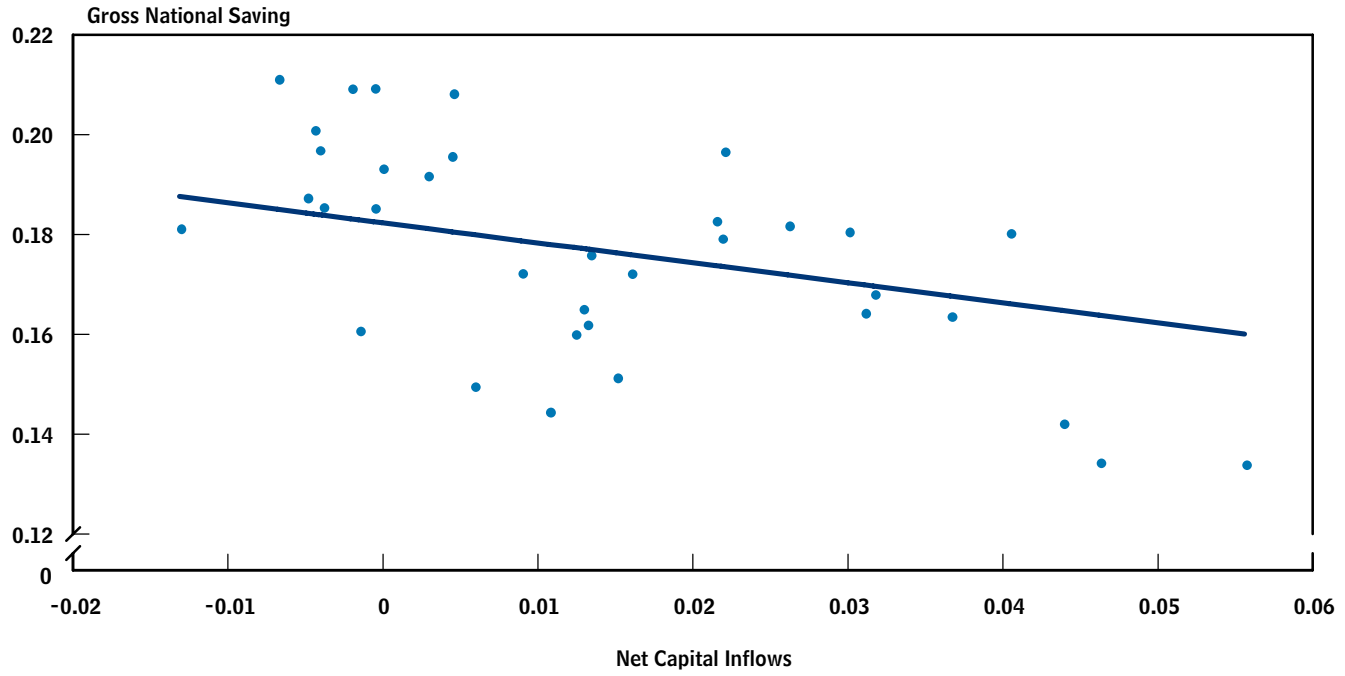
How Deficits Affect Financial Markets

In the process of changing national saving, investment, and net capital inflows, federal deficits can also affect interest rates, exchange rates, and stock market values, although the extent of those effects is uncertain and depends on the type of policies that brought about the deficits. By increasing the demand for credit, federal deficits tend to raise interest rates. Higher interest rates in turn tend to attract foreign capital, which puts some upward pressure on the U.S. dollar (unless expectations about inflation are raised significantly). Stock market values tend to fall as a result of less capital accumulation, but many other factors are much more important than the federal deficit in determining movements in the stock market.

Movements in those financial-market variables (including movements in U.S. markets relative to those in foreign markets) help to restore the balance between the amount of investment demanded, on one hand, and the desired amount of national saving plus net capital inflows, on the other hand. How much interest rates, exchange rates, and stock market values need to change to restore balance depends on how sensitive those various amounts are to movements in those financial variables. The response of net capital inflows, in particular, can be strong enough to significantly dampen movements in interest rates, while offsetting to some extent whatever effect federal deficits have on exchange rates and the stock market. Capital inflows may dampen the effect of deficits on interest rates, moderating the extent to which domestic investment is

Figure 2.

Gross National Saving and Net Capital Inflows, 1970-2004, as a Percentage of GDP



Sources: Congressional Budget Office; Department of Commerce, Bureau of Economic Analysis.

likely to be crowded out. However, even with small movements in interest rates (or no movement at all), the impact of federal deficits on future living standards can be significant because of their impact on national saving and wealth accumulation.

Most of the empirical studies of the effects of federal deficits on financial markets have focused on the response of interest rates. Overall, they suggest that the effects of federal deficits on interest rates are small. Those studies have produced a wide range of estimates, in part reflecting different data and research methodologies. However, the conclusions of recent studies have tended to fall in a fairly narrow range: that a sustained increase in the federal deficit amounting to 1 percent of GDP raises interest rates by roughly 20 to 60 basis points (or 0.2 to 0.6 percentage points), with the weight of the evidence around 30 basis points.[5]

5. See William G. Gale and Peter R. Orszag, "Budget Deficits, National Saving, and Interest Rates," *Brookings Papers on Economic Activity,* no. 2 (2004), pp. 101-187; and Eric Engen and R. Glenn Hubbard, "Federal Government Debt and Interest Rates," *National Bureau of Economic Research Macroeconomic Annual* (2005). That estimate is roughly consistent with estimates in the literature that raising federal debt by 1 percent of GDP would increase interest rates by only about 3 basis points or less. Those findings are consistent because (in very rough terms) keeping the deficit higher by 1 percent of GDP for, say, 10 years would raise the stock of federal debt by 10 percent of GDP, producing an increase of 30 basis points in interest rates.

Conclusion

Federal deficits reduce future living standards by slowing the accumulation of national wealth as they lower national saving. Deficits reduce national saving by shifting resources into public and private consumption through increases in federal spending and cuts in federal taxes. Those impacts on national saving can occur even if financial market prices, such as interest rates, are not significantly affected. Deficits also can lower labor productivity by reducing domestic investment, although capital inflows from abroad tend to mitigate that effect.

Related CBO Publications: *The Treatment of Federal Receipts and Expenditures in the National Income and Product Accounts* (September 2005); *The Budget and Economic Outlook: An Update* (August 2005); and *The Long-Term Budget Outlook* (December 2003). Forthcoming reports include the next edition of *The Long-Term Budget Outlook* in December 2005 and *The Budget and Economic Outlook* in January 2006.

This issue brief was prepared by Frank S. Russek. It and other publications by CBO are available at the agency's Web site (www.cbo.gov).