How Should the Surpluses Be Spent?

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What are the likely economic consequences, particularly on saving, investment, and long-term economic growth, of three alternative uses of budget surpluses: paying down the debt, increasing government spending, and cutting taxes?

The federal budget deficit is disappearing; some shadows linger, but the latest Congressional Budget Office projections put the government budget in deficit by only $5 billion in fiscal year (FY) 1998, in balance by 2001, and in surplus through at least 2008 (Congressional Budget Office 1998). Two factors lie behind the strength in the budget numbers. First, the economy has been performing much better than had been expected a year or even six months ago. Second, the Taxpayer Relief and Balanced Budget Acts of 1997 are estimated to shrink the cumulative deficit by $122 billion over the next five years.

A skirmish has broken out over how to dispose of this fiscal fortune. One camp believes that it is best to use any surplus funds to pay down the outstanding stock of government debt. A second camp argues that the extra money can be better used to fatten up various discretionary programs that have been pared down since 1991. And a third camp urges that the surplus be put to the purpose of tax relief.

While a federal government budget surplus--and the inevitable ensuing battle over how to make use of the new-found funds--is unusual, it is not without precedent. In 1835, as a result of tariff revenues and proceeds from land sales, the federal government budget was in surplus by $21 million--at the time an amount greater than total government expenditures. The national debt had effectively been paid off; it amounted to a mere $38,000, down from a high of $127 million just after the War of 1812. It was expected (surprisingly with some alarm) that the annual surpluses would persist for at least another seven years, until 1842, when tariff rates and revenues were expected to drop as a result of provisions contained in the Tariff Compromise Act of 1833.

Senator Henry Clay of Kentucky, the Great Compromiser and champion of a national bank, transportation improvements, and education, spoke eloquently for the passage of a bill to divide the surplus funds among the states. Lamenting the veto by President Andrew Jackson of a previous bill of a similar character, Clay rose in the Senate to say that, had the bill instead become law,

> about twenty millions of dollars would have been, during the last three years, in the hands of the several States, applicable by them to the beneficent purposes of internal improvement [or] education. . . . What immense benefits might not have been diffused throughout the land by the active employment of that large sum! What new channels of commerce and communication might not have been opened! What industry stimulated, what labor rewarded! How many youthful minds might have received the blessings of education and knowledge, and been rescued from ignorance, vice, and ruin! (Seager 1989)

In this effort, Clay was not alone. Senator John C. Calhoun of South Carolina, the Nullifier and proponent of states' rights, concurred with Clay and introduced his own bill to distribute the surplus revenue in the U.S. Treasury to the states. Calhoun's bill was passed by both houses of Congress and was signed into law by Jackson in 1836.

Of course, the parallel between the fiscal condition of the federal government in 1835 and 1998 is not exact; among other things, the current outstanding stock of federal government debt of $3.8 trillion is somewhat

larger than $38,000. But the debates in Congress can be expected to be just as heated now as they were then. So, what does macroeconomic theory have to say about the proper way to dispose of surplus funds coming to rest in the government coffers?

What Is a Surplus?

The CBO projections have the federal budget in deficit in the range of $2 to $5 billion per year--cumulatively, $10 billion--until 2001 (see chart). After that time the budget will be in surplus in the range of $14 to $138 billion per year--cumulatively, $665 billion--until 2008. Thus, the projected cumulative surplus is $655 billion over the next 11 years or, on average, just less than $60 billion per year.

Despite these favorable figures, many observers caution against spending surplus funds that have yet to accrue. In the words of Franklin Raines, formerly an investment banker and director of the Office of Management and Budget, "reducing the debt and the deficit, at least when I was in the financial business, is not a surplus. Until they actually cross the line of balance, there is no surplus to be spent" (Fram 1997).

But is Raines's the proper notion of surplus? At least two adjustments to the nominal deficit are appropriate.[1] First, as inflation erodes the real (inflation-adjusted) tax burden associated with the debt, a better measure of the true deficit is the change over time in the *real debt* . Using the CBO projections for inflation (averaging 2.4 percent annually over the next 11 years) results in a cumulative real surplus of $1.8 trillion or more than $160 billion per year. Spending this sum annually leaves the country with the same real debt after 11 years.

Second, as real growth in the economy further reduces the real tax burden of the debt, an even better measure of the deficit is the change over time in the *ratio of debt to output* . This ratio is expected to fall from 48 percent to 25 percent of output over the next 11 years--or by more than 2 percentage points of output per year. This, in turn, generates a cumulative surplus of $2.9 trillion or, on average, more than $260 billion per year. Yearly expenditure in this amount results in the same ratio of national debt to output after 11 years.

Although these adjusted notions of the deficit are preferable to the nominal deficit on economic grounds, it is unlikely that Congress will renege on the balanced budget deal. In the current political climate, the best hope for additional spending is if continued robust economic growth generates reductions in the nominal deficit larger and more immediate than those in the CBO projections. There is some evidence this is happening already. The final FY 1997 budget deficit amounted to $22 billion--$12 billion and fully 35 percent below the CBO estimate. At this rate, it is reasonable to expect some sizable surpluses in the near future, perhaps beginning as early as the current fiscal year.

Projected Annual and Cumulative Deficit/Surplus, Fiscal Years 1998 to 2008
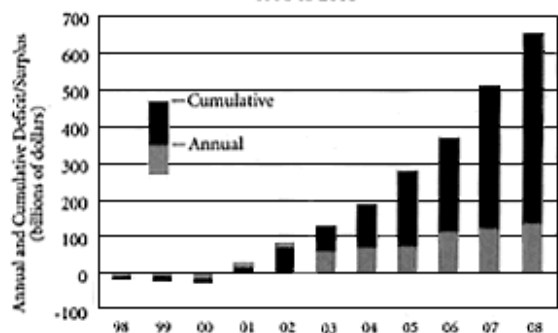
Note: Baseline projections are based on current policies and assume that discretionary spending after 2002 grows with inflation.
Source: Congressional Budget Office, *The Economic and Budget Outlook: Fiscal Years 1999-2008*, 1998, Table 2-1.

There is, then, the prospect of significant surpluses that will have to be "spent" in some manner: to reduce the debt, to boost government spending, or to cut taxes. Although each of these alternatives has its own economic, social, and perhaps even cultural advantages, the focus here is on a fairly narrow question: What are the likely macroeconomic consequences, particularly on saving, investment, and long-term economic growth, of each of these alternatives?

Options for Policy

A primary determinant of the rate of economic growth is the level of national investment--the sum of private investment (in capital assets such as factories, machinery, and technology) and public investment (such as in infrastructure, education, and research). The level of national investment, in turn, is influenced by decisions about the disposal of any surplus funds in the public purse.

Paying Down the Debt Many economists and policymakers argue that the best policy response to a surplus is to do nothing--to let the ratio of debt to output slide from 48 percent to 25 percent, restoring it to levels not seen since the early 1980s. By most accounts, this would have the beneficial effects of raising national saving and lowering interest rates and, thereby, encouraging private investment. For instance, Steven Rattner, deputy chief executive of Lazard Freres and Company, has written that "keeping the economic recovery on track would best be served by maintaining fiscal discipline--running a surplus rather than immediately spending it, so that the investment boom that has played a pivotal role in holding down inflation can continue" (Rattner 1997).

Consider, then, a $100 billion reduction in the deficit and (by definition) an equal increase in public saving. Assuming that private saving remains unchanged, the $100 billion increase in national saving must be absorbed by an increase in private domestic investment or by foreign investment (a trade surplus). The conventional estimates are that a $1 rise in national saving will result in a 50¢ to 60¢ increase in domestic investment, with foreign investment climbing by the corresponding residual amount (see, for example, Council of Economic Advisers 1994). The result of a $100 billion reduction in the deficit, then, would be a $50 to $60 billion expansion in national investment.

Increasing Government Spending Other economists insist that the surpluses be used to bring various government programs--especially those that bore the brunt of budget cuts in the 1990s--back to or near their historical funding levels. Here, it is crucial to distinguish between government consumption and government investment. If a $100 billion surplus is used for government consumption, there is likely to be little or no positive effect on national saving and investment. If, instead, a $100 billion surplus is used for government investment, various possibilities arise, each depending on the effects of the federal spending on alternative forms of investment.

A $100 billion rise in federal investment could, for instance, be direct (undertaken by various federal government agencies) or indirect (undertaken by state and local governments but financed by federal grants). It is conceivable, perhaps even likely, that direct rather than indirect investment by the federal government will have a larger impact on the level of national investment, since indirect investment could have the effect of encouraging state and local governments to reduce taxes and own-source revenues while making no change in levels of spending on roads, schools, and other public facilities. Still, empirical studies show that federal grant money tends to stick where it hits (the so-called flypaper effect), especially if the federal grants are made equally available to all states in a geographical area according to per capita income rank or according to particular demographic features (Hines and Thaler 1995). Similarly, a $100 billion rise in public investment will likely have a larger impact on total national investment if the public investment is in a type of public capital that acts as a complement to rather than a substitute for private capital (for examples, see Aschauer 1989). Once these factors are considered, a reasonable estimate of the effect of a $100 billion increase in federal investment--either direct or indirect--would be a near dollar-for-dollar expansion of national investment.

Cutting Taxes There are economists, politicians, and, unquestionably, many citizens who would prefer that budget surpluses be used to cut taxes. In the eyes of Congressman Bill Archer (1997), the main architect of the Tax Relief Act of 1997, cuts similar to the capital gains tax cuts contained in that act will "promote job creation and economic growth" and, not incidentally for him, will "put big government on a diet."

The impact of a $100 billion tax cut on saving and investment turns out to be highly dependent on the type of tax change, making the end effect difficult to assess. A permanent lump sum tax cut would have a rather modest impact on private saving (perhaps $5 to $10 billion), which would raise the pace of private capital accumulation by a smaller amount (between $2.5 and $6 billion).

The effect of a tax cut intended to raise the after-tax return to saving (expanded coverage for Individual Retirement Accounts, for example) or to lower the after-tax cost of investing in plant and equipment (such as enhanced depreciation allowances) is directly related to, for example, the way in which saving reacts to changes in interest rates or investment reacts to changes in the cost of capital.[2] The common view is that saving is quite unresponsive to changes in after-tax real interest rates and that investment is only moderately responsive to changes in the after-tax cost of capital.[3] Using generous estimates of these responses and reasonable auxiliary assumptions, the effect of a $100 billion tax cut on personal and corporate income can be estimated. A $100 billion surplus would allow as much as a 7 percent reduction in average tax rates on both types of income and induce approximately $13 billion in personal saving and $74 billion in private investment

demand--with the residual amount, $13 billion, financing consumption expenditures. The difference between saving and investment, $61 billion, represents an excess demand for funds in the domestic capital market; in response, domestic interest rates will rise and choke off some 50 to 60 percent, or $37 to $44 billion, of the rise in investment demand. Consequently, the final impact of a $100 billion tax cut on national investment would seem to be relatively low, perhaps $30 to $37 billion.

It appears, then, that of the various possibilities the largest positive impact on national investment would come from an increase in public investment. Such investment could be expected, with some degree of confidence, to induce a near dollar-for-dollar increase in national investment without any increase in the level of foreign indebtedness.

Investment and Economic Growth

The conventional way economists analyze the impact of investment on economic growth is to express how a given change in investment alters the ratio of investment to total output and then compare this to the rate of return to capital.[4] Recent research indicates that the conceptual argument and empirical results make it is necessary to go beyond this simple calculation. In particular, it is critical to consider both the level and the composition (public or private) of any increase in national investment caused by a change in the fiscal policy stance. For example, there may be vastly different rates of return to private and public investment, meaning that a fiscal policy change that affects the *composition* of national investment will affect the rate of economic growth differently than one that affects only the *level* of national investment. The effect on growth may be detrimental or beneficial, as it depends on whether the return to public investment exceeds the return to private investment or, stated somewhat differently, whether the actual public capital stock (expressed as a ratio to the private capital stock) is less than the growth-maximizing public capital stock. This difference between the two might be termed the public capital gap. In recent research using data for the 48 contiguous U.S. states over the period from 1970 to 1990, I have found substantial evidence of the existence of such a gap (Aschauer 1997a, b, c). Specifically, I find that the growth-maximizing and actual values of the public capital stock lie at about 60 percent and 45 percent of the private capital stock, respectively, implying a 25 percent public capital gap. Moreover, the gap has been widening over time, with a higher value in the 1980s than in the 1970s; it is somewhat larger in the Snowbelt than in the Sunbelt; and it is most pronounced for urban public capital such as water and sewer systems.

The existence of a gap between public capital and private capital implies that at a minimum any $1 increase in private investment should be matched by a 45¢ increase in public investment; otherwise, the public capital gap widens and economic growth is held back. In effect, the additional private capital--perhaps a new suburban mall--places excessive demands on the existing infrastructure, thereby constraining overall economic activity. But the existence of a gap implies more than this, namely, that a $100 billion increase in national investment should be composed primarily, if not entirely, of public investment. Since public capital investment offers higher rates of return than private capital investment, public policy should aim to shrink the public capital gap over time; once eliminated, ongoing public investment should equal 60¢ for every $1 of private investment so as to maintain the public capital stock at its growth-maximizing level.

The impact of such a change in public investment on economic growth can be estimated using the empirical results in the previously cited studies. At the end of 1996 the net stock of state and local government capital amounted to $3,522 billion and the net stock of private nonresidential capital amounted to $8,332 billion. Consequently, a $100 billion increase in public investment implies an increase in the ratio of public to private sector capital of 1.1 percentage points, from 42.3 to 43.4 percent. Assuming that increased public investment spending comes at the expense of public consumption spending, the corresponding increase in the public capital ratio--and shrinkage of the public capital gap--induces a 0.16 percent per year increase in output growth for the average state in the short run and a 5.4 percent cumulative rise in output in the long run. Alternatively, an increase in public investment of $963 billion or even $2,442 billion lifts output by more than 37 percent or 40 percent, respectively.[5]

Maximizing the Rate of Return to Society

In the end, the coming surpluses, whether nominal or real, should be invested in a way that best supports a sustained rise in living standards; the surpluses should be invested in those assets that offer the greatest rate of return to society. Investment in debt reduction, in effect, pays the government the rate of return on U.S. Treasury securities and, to the degree that private capital accumulation is stimulated, offers the nation the rate of return to private sector capital. But the presence of a public capital gap indicates it would be much better to spend the surpluses on public investment projects that promise society the higher rate of return on public sector capital and a correspondingly loftier rate of economic growth.

Taken to the extreme, the logic of debt reduction implies that all current public investment should be eliminated with any released funds pointed toward retiring the debt. By the same reasoning, all past public investments after which the government found itself in debt must be viewed as serious policy blunders. In 1806 the total public debt stood at $69 million, and so the construction of the National Road from Cumberland, Maryland, to Wheeling, West Virginia, was a blunder. In 1812 the public debt remained at $56 million, and so the federal promotion of canal building was another blunder. In 1851 the debt was $68 million, and so the first rail laid for the Illinois Central Railroad, financed by a 3,750,000-acre federal land grant, was still another blunder. In 1956 the federal debt was $280 billion, and so the building of the interstate highway system through the 1960s and 1970s was the most colossal blunder of all.

We know, of course, that these expenditures were in no way policy mistakes. In the view of economic historian Louis Cain,

> The Constitutional convention created the framework for the United States to become a large "common market," one where the cost savings associated with specialization in a country of fertile soils and abundant natural resources could be realized. The fall in transportation costs . . . attributable to infrastructure development made it a reality. As a consequence, the agrarian society of Thomas Jefferson's America was transformed into the industrial society of Theodore Roosevelt's. (Cain 1997)

Indeed, it is precisely these and other similar public investments that--along with private investment in factories, warehouses, and machines--have allowed the United States to develop into the most prosperous economy in the world. The way to handle this prosperity is not to walk blindly down the path of debt reduction but, rather, to build a new path to future economic abundance through a solid commitment to investment in our nation's infrastructure.

Notes

1. For a comprehensive discussion of the appropriateness of these and other adjustments to the nominal deficit, see Eisner (1986).

2. Economists refer to such reactions as "elasticities," which measure the degree of responsiveness of one factor to another and are unlimited in their range (that is, elasticities can be infinite in either the negative or positive direction) .

3. In the context of this discussion, the elasticity of saving to the after-tax real interest rate is between 0.0 and 0.4, meaning that a 1.0 percent change in saving results in a 0.0 to 0.4 percent change in the after-tax real interest rate. The elasticity of investment to the after-tax cost of capital is estimated to be between &SHY;0.25 and &SHY;0.67 (Hassett and Hubbard 1996). The other assumptions used in the following estimate are tax rates of 25 and 24 percent on personal and corporate income, respectively; a nominal interest rate of 10 percent; and an expected inflation rate of 2.5 percent. The potential 7 percent tax rate cut is obtained by dividing the total tax cut ($100 billion) by total 1996 federal tax receipts ($1,453 billion).

4. For instance, in 1996 a $100 billion increase in investment spending translated into a 1.3 percent increase in the ratio of total investment to output. Assuming a rate of return to capital of 10 percent, the rise in the ratio led to an initial 0.13 percentage point increase in the economic growth rate (for example, from a 2.0 percent to a 2.13 percent annual growth rate of output per capita).

5. The increases in public capital investment are from the larger amounts calculated previously, which still

allow the real debt and the ratio of debt to output to remain stable through the year 2007.

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