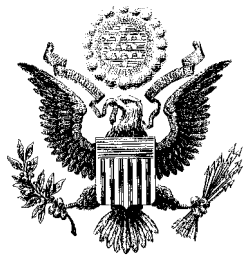
DEFICITS, TAXATION, AND SPENDING



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Summary

The federal government had budget surpluses in the fiscal years from 1998 to 2001, but it had a deficit in fiscal 2002, and recent estimates suggest deficits will continue for the next several years. A budget deficit is in itself not necessarily either good or bad for the economy. A deficit (or surplus) is the difference between two much bigger numbers, revenue and spending. Policymakers should focus on how federal taxation and spending affect economic growth; avoiding or achieving deficits should not be ends in themselves. Raising taxes to cover budget deficits is usually a bad idea, because it reduces incentives to work, save and invest. A better course is restraint in spending over a period of several years. Combined with ordinary economic growth, it is sufficient to turn the federal budget from deficit to surplus.

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DEFICITS, TAXATION, AND SPENDING

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After experiencing surpluses on a unified (on-budget plus off-budget) basis in fiscal years 1998 to 2001, the federal government had a deficit in 2002. The budget is in deficit for fiscal 2003, which began in October 2002, and deficits are also expected for the next several years.[1] How important is the deficit? How much attention should Congress and the public pay to budget estimates, especially long-range projections?[2] A realistic understanding of the relationship between economic growth, government spending, and budget deficits is vital for Congress and the American public.

I. DEFICITS AND DEBT

Deficits versus debt. The federal government obtains revenue, mainly from taxes, and it spends money on various programs. When revenue exceeds spending for a particular period, it has a surplus; when revenue is less than spending, it has a deficit. For some purposes, the federal government divides revenue and spending into "on-budget" and "off-budget" portions; the off-budget portion consists mainly of Social Security. For analyzing the effect of federal taxation and spending on the economy, what matters is the unified budget. Calling a tax "off-budget" does not change that people have to pay it, and calling spending "off-budget" does not change that the government disburses it.

People sometimes confuse federal budget deficits and the federal debt. A deficit is a shortfall in a single period—usually a year. When the federal government runs a deficit, it typically finances the deficit by borrowing from the public. The government issues Treasury securities that promise repayment with interest at a later date. The securities the Treasury has issued over many years, but not yet repaid, comprise the federal debt. The measure of the debt most relevant for budgetary policy and financial markets is the publicly held debt. Debt owed by one part of the federal government to another part is a bookkeeping entry that has little or no effect on debt held by the public. The Social Security System is a large holder of nonpublic debt, which represents Social Security tax revenue that the federal government has used for non-Social Security spending.

To gain a sense of how the federal budget affects the economy, even more important than the dollar figures of the budget, deficit or surplus, and debt are their ratios to the overall economy.[3] For example, if the federal debt is growing, but the economy is

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[1] Deficits are projected to last longer if President Bush's budgetary proposals are fully implemented (CBO 2003, p. 17). Statistics of budget deficits and surpluses are calculated in this report on a cash basis, the form of accounting that the federal government has always used. Another way to analyze the budget is on an accrual basis, in which current financial statements reflect estimates of streams of revenue and spending in future years. The Treasury Department's Financial Management Service makes accrual estimates in its annual *Financial Report of the United States Government,* produced in conjunction with the Office of Management and Budget.

[2] In the jargon of the federal budget, a forecast is made using a model, whereas a projection is more explicitly a guess, made, for example, by taking a ruler and drawing a straight line as an estimate of future trends.

[3] Another useful but less widely used measure is the ratio of government debt to private sector net worth.

growing even faster, the ratio of federal debt to gross domestic product (GDP) shrinks. The proportion of the nation's income that the government would have to take to repay the debt immediately also shrinks. Ratios help us judge whether various aspects of federal financing are becoming heavier or lighter burdens on the economy over time.

Deficits and debt usually, but not always, move in the same direction. A budget deficit almost always accompanies a rising debt, in dollar terms, whereas a budget surplus almost always accompanies a falling debt. However, the budget can be in deficit and the debt can still be shrinking *as a percentage of GDP* if the economy is growing faster than the debt. On the other hand, the budget can be in surplus and the debt can still be growing as a percentage of GDP if the economy is shrinking.[4]

II. THE ACCURACY OF BUDGET FORECASTS

Budget forecasting is not an exact science. Deficits and surpluses can be planned or unplanned. They are planned when they arise from a deliberate decision by Congress to spend more or less than projected revenue. They are unplanned when revenues turn out to be different from what was projected, generally because economic growth or inflation is higher or lower than projected.

In the federal government, two bodies make detailed analyses and forecasts of the budget. The Office of Management and Budget (OMB), established in 1921 as the Bureau of the Budget, assists the President in supervising the budgets of executive branch departments and agencies. The Congressional Budget Office (CBO), which began operations in 1975, prepares analyses and projections for Congress. Congress often uses CBO's estimates of economic growth and its analyses of the cost of particular bills so as to make the budget process conform to the rules Congress itself has established.

Accurately forecasting the growth of the economy and of tax revenues is inherently difficult. Our economy is the result of decisions by millions of individuals. Those decisions can take sudden and unexpected turns as they are influenced by unpredictable events. The terrorist attacks of September 11, 2001 and their effect on the stock market and economic confidence provide a dramatic example. The business of making projections has no barriers to entry, and anybody who thinks he or she can do a better job at it can try. The record of OMB and CBO is broadly similar to the record of private-sector forecasters.[5]

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[4] In countries with more volatile interest rates or exchange rates than the United States, government debt can rise as a percentage of GDP even when a surplus exists in the "primary" budget—revenue minus spending on things other than debt service. Similarly, government debt can fall as a percentage of GDP even when the overall budget is in deficit. In Brazil recently, real (inflation-adjusted) interest rates have been higher than real economic growth, so Brazil's federal government debt has increased as a percentage of GDP despite a substantial primary budget surplus. Much of Brazil's debt is linked to the U.S. dollar as a way of attracting lenders who would be reluctant to lend in local currency, which historically has not retained value well. When Brazil's currency, the *real,* depreciates against the dollar, the government's cost of financing increases in terms of local currency.

[5] Cashell (2002), CBO (2002).

Retrospective accuracy is not the only criterion for judging the usefulness of budget forecasts. A forecast can be useful even if it turns out to be inaccurate. Budget forecasts are not like forecasts of earthquakes or other events beyond human control. Budget forecasts estimate what could happen without any further changes, not what must happen. If forecasts estimate that economic growth will be low, Congress can try to improve the situation by providing tax and regulatory relief that encourages economic activity. If the change in policy was successful, the forecast will look inaccurate in retrospect, when in fact it performed a great service by identifying a potential problem and spurring action to solve it.

III. HOW INFLATION AND ECONOMIC GROWTH INFLUENCE THE BUDGET

Inflation and the budget. Inflation has an important influence in producing budget surpluses or deficits. Before 1985, the federal tax code was not indexed for inflation. Lack of indexation gave rise to "bracket creep"—the rise into higher tax brackets that can occur as income rises with inflation. From 1970 to 1980, the consumer price index increased 112 percent. For many taxpayers, tax relief did not keep pace with inflation. A head of household with $10,000 in taxable income in 1970 paid $1,760 (17.6 percent) in taxes, and the marginal tax rate—the rate paid on the last dollar of income—was 23 percent. Ten years later, the same person needed $22,400 in taxable income to do no more than keep up with inflation. Taxes, however, were $4,610 (20.6 percent of taxable income), and the marginal tax rate was 31 percent. Bracket creep left the person with 3 percent less in real (inflation-adjusted) after-tax income, despite cuts in tax rates that had taken effect in 1977, 1978, and 1979. In the upper tax brackets the effect of bracket creep was much stronger: the top tax rate of 70 percent began at $180,000 of taxable income for a head of household in 1970, but in 1980 the threshold was actually lower—$161,300. In real, year 1970 dollars, the threshold fell from $180,000 to $85,000.

The Economic Recovery Tax Act of 1981 (Public Law 97-34) introduced indexation of the income tax. Under the law, indexation did not actually begin until 1985. Some other important taxes still remain unindexed, notably the alternative minimum tax and the capital gains tax. Inflation has a particularly strong effect in increasing real tax revenue from the alternative minimum tax for individuals.[6] Inflation also affects spending; for example, Social Security benefits are indexed to wages, whose nominal rate of growth depends in part on past inflation and expectations of future inflation.

An unexpected acceleration or deceleration of inflation can throw the federal budget off kilter. From 1979 to 1982, inflation as measured by consumer prices fell from 13.3 percent (the highest level since 1946) to 3.8 percent. Because the Reagan administration and Congress based their plans for spending on the assumption that inflation would not fall so fast, real spending was higher than it would have been with more accurate assumptions. Revenue, on the other hand, was lower than projected because lower inflation reduced bracket creep.[7]

[6] See JEC (2001a).
[7] Bartlett (2002).

In the 1970s the Federal Reserve System had a period of bad monetary performance following the breakdown of the Bretton Woods monetary system, which had linked the dollar to gold. During the 1980s the Federal Reserve learned how to keep inflation low and steady without a link to gold. Since 1991, inflation in consumer prices has remained within the narrow range of 1.6 to 3.3 percent a year.[8] Low inflation has simplified the task of making budget projections by removing one cause of volatility.

Economic growth and the budget. Economic growth, both expected and actual, has a powerful influence in producing budget surpluses or deficits. Growth produces more revenue for government because the government takes a share of the increasing wealth of goods and services the private sector produces.

Another way growth produces more revenue in results from the nature of income taxes in the United States and most other countries. As growth makes people richer, they move into higher tax brackets. Although many federal taxes are indexed for the effects of inflation, they are not indexed for the effects of economic growth. Growth therefore produces what is called "real bracket creep," which is different from the ordinary, inflation-caused bracket creep discussed previously. Like inflation-induced bracket creep, real bracket creep tends to reduce economic growth.[9] If tax rates are not cut occasionally or brackets are not adjusted to offset real bracket creep, more and more workers end up in the top bracket. The higher their tax rates are, the more attractive many will find leisure compared to work. The average person may be increasingly well off by historical standards, but the country can fall behind other countries that are growing faster because they have less burdensome taxes.

For an example of real bracket creep, suppose that in 2000 a head of household had $30,000 in taxable income (that is, income after all exemptions and deductions). He or she paid $4,504 (15 percent of taxable income) in income tax and was in the 15 percent marginal income tax bracket. Now imagine that economic growth raises everybody's taxable income by one-third. The person who made $30,000 a year now makes $40,000 in real, year 2000 dollars. Yet everyone else's taxable income has increased by the same proportion, so compared to others, this person has not climbed any higher on the income ladder. Without the tax reductions proposed by President Bush and passed by Congress in 2001, by 2010 he or she would have paid $6,487.50 (16.2 percent of taxable income) in income tax and would have been in the 28 percent marginal tax bracket. With the tax reductions, the marginal rate will fall to 25 percent—still higher than the 15 percent that applied in 2000.

The marginal rate is more important than the average rate for influencing behavior, as the following thought experiment illustrates. Suppose the federal income tax had a rate of 0 percent for the first $50,000 a year of taxable income, but 100 percent on every dollar beyond that. (Note that this is taxable income, not gross income.) The 100

[8] December-to-December figures.

[9] To be precise, it is the movement from a lower to a higher tax bracket that reduces incentives to work, save, and invest. Once a taxpayer is already in a bracket, there is no change in incentives from movement within the bracket.

percent marginal rate would give a person with $60,000 of taxable income a year no incentive to earn more than $50,000, even though the tax of $10,000 (for an average of 16.6 percent over all $60,000 of income) would be less than people at that that level paid in 2001: $10,857 (18.1 percent) for a head of household, the least heavily taxed kind of filer, to $13,844 (23.1 percent) for a single filer, the most heavily taxed kind of filer.

When the economy is growing, federal tax revenue tends to grow faster than the overall economy because of real bracket creep and complementary trends, such as substantial capital gains taxes from the stock market. During a recession, the process goes into reverse. More people than usual lose their jobs; others may have to accept cuts in pay to keep their jobs. Those people pay no taxes or lower taxes than before. Similarly, tax revenue from sources other than wages also tend to rise when the economy is growing and to fall when it is shrinking, though other taxes do not necessarily contain real bracket creep. (The capital gains tax, for example, is unindexed for inflation but has a main rate of 20 percent.)

For these reasons, federal revenue tends to grow faster than the overall economy during economic expansions, unless the government reduces tax rates, and tends to shrink more than the overall economy during recessions.

Actual versus expected growth of the economy and revenue. To repeat, unexpectedly low or high economic growth cases unplanned deficits or surpluses in the federal budget. Two different kinds of inaccuracy in making projections of economic growth are inaccuracy about the turning points of growth and about the average level of growth. The turning points of growth—the beginnings of recessions and of recoveries—are notoriously difficult to forecast. The National Bureau of Economic Research, a nonprofit organization recognized as the unofficial umpire of business cycles, does not declare that recessions and recoveries have begun until months after the fact.[10]

Projections of average growth over a period of years smooth out the ups and downs of particular years and thus tend to be more accurate than projections for individual years. Even here, though, the possibility for inaccuracy is significant. From 1992 to 2000, the U.S. economy grew in real terms by almost 3.7 percent a year. Based on recent and longer-term historical experience, OMB, CBO, and the private-sector consensus of the time estimated an average growth rate of 2.4 to 2.5 percent a year.[11] Higher actual growth increased federal government revenue much faster than expected, and faster than the growth of spending. The result was an unintentional degree of budgetary restraint that turned deficits to surpluses. (The discipline Congress imposed on itself through changes in its budget procedures also helped. Most notable were spending caps and the pay-as-you-go [PAYGO] rules established by the Budget Enforcement Act of 1990. Another factor that may have had a restraining effect was that the existence of budget deficits prompted greater scrutiny of proposals for new spending.)

[10] For its announcements, see <http://www.nber.org/cycles.html>.
[11] CBO (2002a), p. 11.

Favorable budget circumstances of the 1990s. Tables 1 and 2 provide basic historical data about federal budgets from 1980 to 2002, plus estimates for 2003 to 2012. In the 1990s, the federal budget's balance improved because of unexpectedly fast economic growth and other trends. The Cold War waned in the late 1980s, and ended when the Soviet Union dissolved in 1991. Defense spending accordingly fell from an average of roughly 6 percent of GDP in the mid 1980s to 3 percent by 1999—a "peace dividend" of about 3 percent of GDP. By comparison, the budget deficits of the years 1982 to 1992, which many observers considered worryingly large, averaged 3.8 percent of GDP.

The long economic expansion of the 1980s ended with a short recession from July 1990 to March 1991, after which the U.S. economy grew again until March 2001, when it experienced a new recession (now apparently finished). During the 1980s expansion, federal spending grew more slowly than the economy only half the time. During the 1990s expansion, federal spending grew more slowly than the economy every single year. Restraint in spending was helped by the "peace dividend" and by Congress's refusal to add big new programs such as federally financed national health insurance.

Federal revenue, on the other hand, increased faster than the overall economy, partly from real bracket creep, partly from the Clinton tax increase of 1993, and, especially as the decade progressed, from big growth in revenue on capital gains taxes during the bull market in stocks. Federal revenue from capital gains taxes grew from $25 billion in 1991, at the end of a recession, to a high of $126 billion in 2000, as the bull market peaked.[12] In terms of GDP, the increase was from a low of 0.4 percent to a high of 1.3 percent. (The increase in tax *revenue* occurred while the tax *rate* for capital gains fell: it was 28 percent through 1996, then fell to the current rate of 20 percent in 1997.) The result was that, to the surprise of most observers, the budget deficits of the early 1990s turned to surpluses by the late 1990s. There were no dramatic changes in budget policy specifically aimed at achieving surpluses quickly. Rather, somewhat lower growth in federal spending, combined with an economic recovery that gathered momentum over the course of the 1990s, harnessed the power of compounding.

The power of compounding. It has been said that the most powerful force in the universe is compound interest. Small differences that persist over time can have large effects after a number of years. A seemingly small amount of budget restraint or extra economic growth now can make a big difference several years from now. If the economy grows 4 percent a year, after five years it is approximately 21.7 percent larger. If it only grows 2.5 percent a year, after five years it is almost 13.1 percent larger. The difference between 21.6 percent and 13.1 percent is 8.5 percentage points. If the federal government's tax take of that 8.5 percent is 18 percent, the government then has an extra, unexpected 1.5 percent of GDP in revenue. That is equal to the *combined* budgets in 2002 of the departments of Commerce, Education, Energy, Housing and Urban Development, Interior, Justice, and State, with the White House, Congress, and federal courts thrown in for good measure.

[12] Esenwein (2002), p. 5.

Table 1. Key statistics of the federal budget, 1980-2013

Year	*Billions of current dollars*					*As a percentage of GDP*			
	Revenue	*Outlays*	*Balance*	*Debt*	*GDP*	*Revenue*	*Outlays*	*Balance*	*Debt*
1980	517.1	590.9	-73.8	711.9	2,732	18.9	21.6	-2.7	26.1
1981	599.3	678.2	-78.9	789.4	3,060	19.6	22.2	-2.6	25.8
1982	617.8	745.8	-128	924.6	3,231	19.1	23.1	-4.0	28.6
1983	600.6	808.4	-207.8	1,137.3	3,442	17.4	23.5	-6.0	33.0
1984	666.5	851.9	-185.4	1,307.0	3,847	17.3	**22.1**	-4.8	34.0
1985	734.1	946.4	-212.3	1,507.4	4,142	17.7	22.8	-5.1	36.4
1986	769.2	990.5	-221.3	1,740.8	4,398	17.5	**22.5**	-5.0	39.6
1987	854.4	1,004.1	-149.7	1,889.9	4,654	18.4	**21.6**	-3.2	40.6
1988	909.3	1,064.5	-155.2	2,051.8	5,017	18.1	**21.2**	-3.1	40.9
1989	991.2	1,143.7	-152.5	2,191.0	5,407	18.3	**21.2**	-2.8	40.5
1990	1,032.0	1,253.2	-221.2	2,411.8	5,738	18.0	21.8	-3.9	42.0
1991	1,055.0	1,324.4	-269.4	2,689.3	5,928	17.8	22.3	-4.5	45.4
1992	1,091.3	1,381.7	-290.4	3,000.1	6,222	17.5	**22.2**	-4.7	48.2
1993	1,154.4	1,409.5	-255.1	3,248.8	6,561	17.6	**21.5**	-3.9	49.5
1994	1,258.6	1,461.9	-203.3	3,433.4	6,949	18.1	**21.0**	-2.9	49.4
1995	1,351.8	1,515.8	-164	3,604.8	7,323	18.5	**20.7**	-2.2	49.2
1996	1,453.1	1,560.6	-107.5	3,734.5	7,700	18.9	**20.3**	-1.4	48.5
1997	1,579.3	1,601.3	-22	3,772.8	8,194	19.3	**19.5**	-0.3	46.0
1998	1,721.8	1,652.6	69.2	3,721.6	8,655	19.9	**19.1**	0.8	43.0
1999	1,827.5	1,701.9	125.6	3,632.9	9,134	20.0	**18.6**	1.4	39.8
2000	2,025.2	1,788.8	236.4	3,410.1	9,747	20.8	**18.4**	2.4	35.0
2001	1,991.0	1,863.9	127.1	3,320.0	10,032	19.8	18.6	1.3	32.9
2002	1,853.3	2,010.9	-157.6	3,553.2	10,506	17.6	19.1	-1.5	33.8
	Estimated					*Estimated*			
2003	1,891	2,137	-246	3,816	10,756	17.6	19.9	-2.3	35.5
2004	2,024	2,224	-200	4,013	11,309	17.9	**19.7**	-1.8	35.5
2005	2,205	2,328	-123	4,142	11,934	18.5	**19.5**	-1.0	34.7
2006	2,360	2,417	-57	4,212	12,582	18.8	**19.2**	-0.5	33.5
2007	2,504	2,513	-9	4,233	13,263	18.9	**18.9**	-0.1	31.9
2008	2,647	2,621	26	4,217	13,972	18.9	**18.8**	0.2	30.2
2009	2,798	2,736	62	4,165	14,712	19.0	**18.6**	0.4	28.3
2010	2,949	2,853	96	4,077	15,480	19.1	**18.4**	0.6	26.3
2011	3,220	2,989	231	3,854	16,250	19.8	**18.4**	1.4	23.7
2012	3,479	3,074	405	3,456	17,013	20.4	**18.1**	2.4	20.3
2013	3,674	3,215	459	3,003	17,851	20.6	**18.0**	2.6	16.8

Notes: **Bold** indicates years of falling outlays as a percentage of GDP. GDP is calendar year; budget data are budget years. Estimated figures are Congressional Budget Office baseline assumptions. Figures are rounded, which may cause minor discrepancies in addition.
Sources: Congressional Budget Office, "Historical Budget Data," at <http://www.cbo.gov>, and CBO (2003b).

Table 2. Real growth rates of GDP, federal revenue, and outlays, 1980-2013 (in percent)

Year	*GDP*	*Rev-enue*	*Defense outlays*	*Other outlays*	*All outlays*	*Remarks*
1980	-0.2	2.2	5.5	8.0	7.4	Recession.
1981	2.5	6.0	7.5	4.2	5.0	
1982	-2.0	-3.0	10.8	1.3	3.5	Recession and Reagan tax cuts (partly reversed 1982) cut revenue.
1983	4.3	-6.5	9.0	**2.7**	4.3	Revenue effects of recession linger.
1984	7.3	7.0	**4.5**	**0.6**	**1.6**	Social Security tax hike starts.
1985	3.8	6.8	7.7	7.7	7.7	
1986	3.4	2.5	5.9	**1.1**	**2.4**	Gramm-Rudman-Hollings Act constrains growth of spending.
1987	3.4	7.8	**0.1**	**-2.2**	**-1.6**	1986 Tax Reform Act boosts revenue.
1988	4.2	2.9	**-0.4**	**3.7**	**2.5**	
1989	3.5	5.0	**0.7**	4.5	3.5	Communism collapses in E. Europe.
1990	1.8	0.2	**-5.1**	9.3	5.5	Short recession starts.
1991	-0.5	-1.4	**-11.9**	6.3	2.0	Recession ends; USSR dissolves; Bush "41" tax hikes, new budget rules.
1992	3.0	1.0	6.6	**0.6**	**1.9**	Some costs of 1991 Gulf War paid.
1993	2.7	3.3	**-4.7**	**0.8**	**-0.4**	Clinton tax hikes start.
1994	4.0	6.8	**-5.2**	**3.4**	**1.6**	
1995	2.7	5.1	**-5.4**	3.1	**1.5**	
1996	3.6	5.5	**-4.2**	**2.1**	**1.0**	
1997	4.4	6.6	**-0.2**	**0.8**	**0.6**	
1998	4.3	7.7	**-1.9**	**2.7**	**2.0**	
1999	4.1	4.7	**1.0**	**1.7**	**1.6**	
2000	3.8	8.3	4.7	**2.4**	**2.8**	Capital gains payments lift revenue.
2001	0.3	-3.8	2.5	1.9	2.0	Recession part of year.
2002	3.7	-7.9	11.9	5.7	6.7	Bush "43" 2001 tax cuts start.
				Estimated		
2003	2.5	0.4	8.9	3.7	4.6	
2004	3.6	5.2	**2.4**	**2.3**	**2.3**	Return to lower growth of outlays.
2005	3.4	6.8	**-2.0**	3.6	**2.6**	
2006	3.3	4.8	**0.1**	**2.0**	**1.7**	
2007	3.2	3.9	**1.3**	**1.9**	**1.8**	
2008	3.1	3.4	**1.3**	**2.2**	**2.1**	
2009	3.0	3.4	**0.5**	**2.5**	**2.1**	
2010	2.9	3.1	**0.7**	**2.3**	**2.0**	
2011	2.6	6.8	**1.2**	**2.8**	**2.5**	
2012	2.5	5.7	**-0.9**	**0.9**	**0.6**	
2013	2.7	3.3	**1.5**	**2.5**	**2.3**	

Note: **Bold** indicates years of outlays growing more slowly than the economy. Real growth rates are calculated using the GDP deflator; budget data are budget years.
Sources: Congressional Budget Office, "Historical Budget Data," at <http://www.cbo.gov>, CBO (2003), and calculations based on those sources.

Because of compounding, an error in estimating the size of the economy for a base year can lead to bigger and bigger errors in later years. So, if forecasters underestimate economic growth for the base year 2003 but are right on target for subsequent years, the underestimate of the base year will result in underestimates of the size of the economy in later years. Since estimates for federal revenue depend on estimates of the size of the economy, forecasters in these circumstances will underestimate revenue, with the underestimate growing bigger in later years ("out years"). Again, this is not a criticism of particular forecasts; it is simply another factor that explains why forecasting is difficult, and why long-term estimates are particularly difficult.[13]

IV. HOW IMPORTANT IS THE DEFICIT?

Differences between individual and government finance. Budget deficits or surpluses have a different significance for governments than they do for individuals. Individuals ordinarily gain their revenue by cooperating with others in voluntary transactions. A carpenter earns wages working for a construction company. The carpenter can seek work elsewhere if he can find a better offer, and the company can fire the carpenter if he does a bad job. Because the carpenter's decision to work for the construction company and the company's decision to hire the carpenter are voluntary, the presumption is that the transaction make both parties better off than they would otherwise be. If the carpenter has a "budget deficit" because he spends more than he earns, he can close the deficit by working and earning more, spending less, or borrowing to tide him over temporarily. If he chooses to work and earn more, he makes the overall economy grow a little bit by spending more of his valuable time pounding nails, sawing planks, and otherwise helping to erect buildings.

In contrast, government revenue comes mainly from taxes, which are compulsory. When government increases its revenue by increasing its tax collections, there is no presumption that people will be better off. They may not want to give more of their income to the government. Therefore, closing a budget deficit by raising more revenue does not necessarily make the economy grow; it can discourage growth by making leisure time and other untaxed activity relatively more attractive. Raising tax rates, or keeping them higher than they need be, increases what economists call the "deadweight loss" or "excess burden" of taxation—income that is not transferred from taxpayers to government, but is simply lost because excessive taxation reduces economic growth by inducing people to behave less productively.[14]

The deficit (or surplus) is a residual. A budget deficit or surplus is the difference between revenue and spending. Revenue and spending are big numbers; the deficit or surplus is by comparison a small number. Rather than focus on the small number, the focus should be on the big numbers and what goes into them.

[13] The problem is well understood by members of Congress. For example, House Minority Leader Richard Gephardt has compared budget forecasting ten years into the future to weather forecasting over the same period (News Conference 2001).

[14] See JEC (2001b).

On the spending side, the crucial question is, What is the role of the federal government, that is, what functions should it perform? Answering the question requires thinking about what government can do efficiently and what is better done by the private sector, whether for-profit or nonprofit, or by state and local governments. After taking a hard look at what the federal government does, one can ask the crucial question on the revenue side: What taxes impose the least burden on the economy? The less burdensome taxation is, the more opportunity the economy has to keep growing, producing more wealth, and providing more jobs.

Focusing narrowly on the budget deficit or surplus without considering carefully these broader questions tends to produce incoherent policies. That is especially the case when there is a budget deficit. Political pressures are such that Congress may reduce a deficit by raising tax rates rather than by cutting spending (or not increasing it as fast as revenue). However, higher tax rates discourage economic growth. Treating deficits rather than spending as the problem risks creating a situation like that of Western European countries, which reduced or eliminated their deficits in the 1990s but had bigger government and slower growth than the United States.[15]

There are circumstances in which it can be more prudent to tolerate deficits than to eliminate deficits by raising tax rates. The prime example is wartime. During the Second World War, the U.S. government financed less than half its spending with current revenue; it financed the rest by borrowing to cover its huge deficits, and by some inflation (partly repressed by price controls until after the war). Paying for the war without deficits would have required tax rates so high they would have discouraged work, despite the patriotic fervor of the time. Even in peacetime, though, similar principles apply. Moderate deficits of a few percentage points of GDP can be prudent as part of a strategy to promote economic growth by keeping the burden of taxes relatively low. Rapid growth tends to increase government revenue fast and reduce the proportion of government debt to GDP. A fast-growing economy with moderate deficits that do not produce unsustainable levels of debt is preferable to a slow-growing economy with a balanced budget.

Budget deficits in themselves need not harm economic growth. A number of countries have been able to maintain economic growth even with budget deficits above 10 percent of GDP.[16] The United States has only had such high deficits during the Civil War, the First World War, and the Second World War.[17] All were periods of economic growth, as the federal government mobilized the economy in an all-out effort to win the war. A peacetime economy cannot function along the same lines. A clearer example that what seem to be high budget deficits need not produce low economic growth is the experience of the 1980s and most of the 1990s. The U.S. economy had its longest and third-longest economic expansions on record, despite budget deficits that some observers

[15] The notable exceptions, Ireland and Luxembourg, have smaller government sectors than their neighbors, and Ireland has cut tax rates almost every year since 1988.
[16] Fischer (1993), p. 508, Table 12.
[17] And perhaps the War of 1812, though statistics of GDP for the time are not as reliable as for later years.

feared would lead to a painful "day of reckoning."[18] The recession of 1990-91 was mild by historical standards, as was the recession that began and appears to have ended in 2001.

Figure 1, on the next page, uses one of the simplest ways of searching for a relationship between budget balance and GDP growth: a scatterplot diagram, where each dot represents one year of data. The data start with 1947, the first economically normal year of the era since the Second World War.[19] The straight regression line is a simple attempt to find a trend in the data, to the extent that one exists. The regression line is very slightly downward sloping, indicating that to the extent a relationship exists, it has been for very slightly higher growth to occur in years of deficit than in years of surplus. (This correlation should not be taken to indicate that deficits somehow *cause* higher economic growth, though, for reasons discussed later.)

Actual U.S. budget deficits and interest rates are only loosely linked. In theory, budget deficits tend to raise interest rates because they increase the demand for loans, other things being equal.[20] In practice, the big questions are to what extent other things remain equal for more than quite short periods, and whether deficits of the size the U.S. government has run are large enough to affect interest rates noticeably.

Consider the budget deficits of the Second World War and the 1980s. During the war, the federal government incurred deficits exceeding 20 percent of GDP, but interest rates were 2.50 percent a year for 30-year Treasury bonds and below 2.75 percent for top-quality, long-term corporate bonds. Rates were so low because other things were not equal: the war cut off investment opportunities abroad. In the 1980s, interest rates on three-month Treasury bills fell from over 14 percent in 1981 to below 6 percent in 1986. Mortgage and other long-term interest rates also fell, even though the minimum federal budget deficit was 2.6 percent of GDP every year—higher than baseline estimates of the *maximum* annual deficit in the next few years. Other things were not equal because, after having allowed double-digit inflation in the 1970s, the Federal Reserve aimed at low inflation. Investors noted the shift in policy and interest rates fell.

[18] The title of a book by Harvard University economics professor Benjamin Friedman (1988).

[19] In 1946 the U.S. economy recorded a sharp contraction in output related to shifting from a fully mobilized wartime economy focused on making guns, tanks, and battleships to a more normal peacetime economy focused on making toasters, refrigerators, and automobiles.

[20] The economist David Ricardo (1772-1823) suggested that under certain strict assumptions, changing the mixture of taxation and budget deficits used to finance a given level of government spending would not affect interest rates. Budget deficits today would imply higher taxes at some future date than would otherwise occur. Taxpayers would save more today so that they, or their descendents, would have more on hand to pay higher taxes in the future. Their additional saving would match the government's additional borrowing. Starting in the 1970s, economists rediscovered and extensively debated the theoretical and practical implications of this idea, dubbed Ricardian equivalence. Ricardo himself thought that typical actual conditions did not fulfill the strict assumptions for Ricardian equivalence. An implication of Ricardian equivalence is that governments could finance their spending in a noninflationary manner entirely by deficit finance. In practice, they rely mainly on taxation.

Figure 1. Budget balance and economic growth, 1947-2002

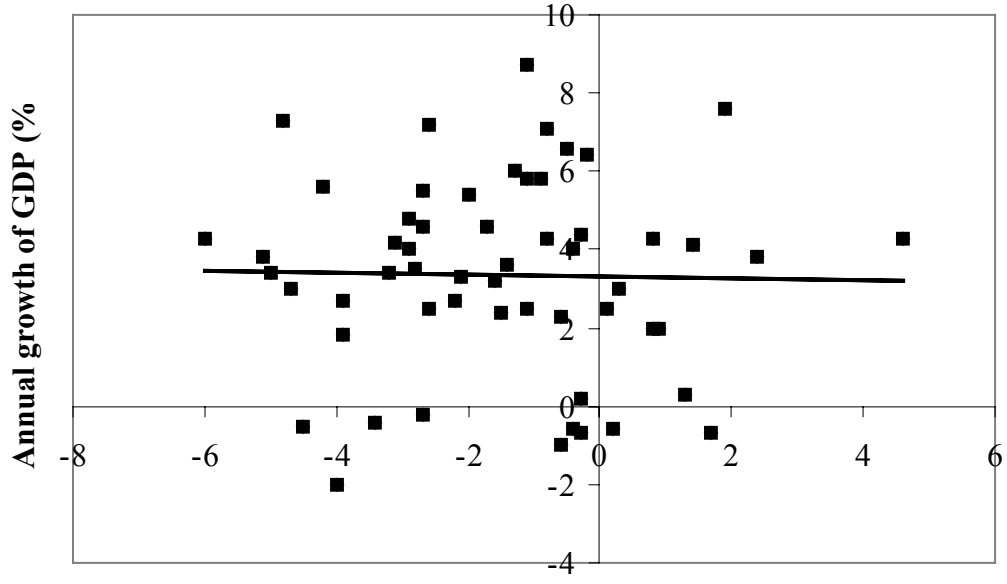
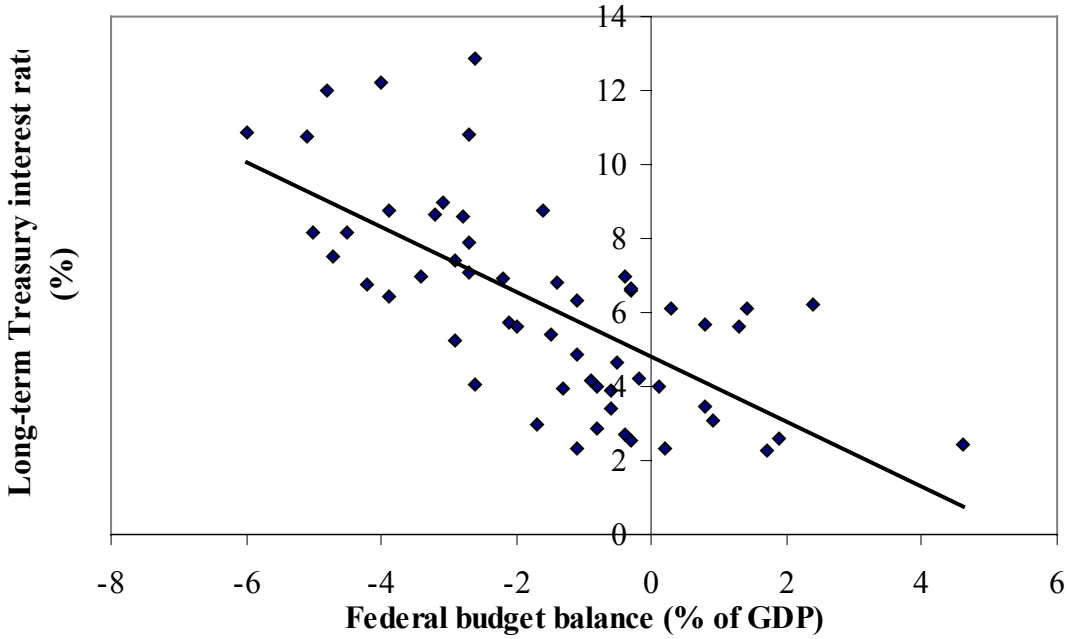


Figure 2. Budget balance and interest rates, 1947-2002



It is also important to remember that the United States is just a part of the world economy. The federal government's borrowings of some tens or even hundreds of billions of dollars a year are only a few drops in the bucket of international financial activity: bond markets alone are estimated to lend roughly $30 trillion a year.[21]

Figure 2 again uses a scatterplot diagram with a straight regression line as a simple way of searching for a link between budget deficits and interest rates. The interest rate in the diagram is the composite rate on U.S. Treasury securities of ten years or more. Part of the correlation in Figure 2 results from the Federal Reserve's monetary policy mistakes of the 1970s, which created a credibility problem that lasted through the 1980s and led to high interest rates. Today the Federal Reserve's pledge to keep inflation low is far more credible, and despite a modest budget deficit, long-term interest rates are lower than they were in the years of surplus. The long-term Treasury interest rate in 2002 was 5.41 percent, the lowest since 1968 (when the United States was on a form of the gold standard).

President Bush has proposed to accept deficits over the next few years in return for tax cuts. Contrary to some caricatures, the President's proposal does not assert theoretical claims that budget deficits never raise interest rates, or that it is desirable for the federal government to run large deficits forever. Rather, the President's proposal is based on readily defensible judgments that lower tax rates will encourage economic growth (thus changing the situation so that the clause of "other things being equal" no longer applies[22]), and that the proposed deficits are small enough in relation to the size of financial markets that they will not raise interest rates substantially.

Actual budget deficits do not seem to have harmed the U.S. economy. The main lesson from this simple review of evidence, and from research economists have done to investigate these topics with more sophisticated methods,[23] is that federal budget deficits of the levels the United States has actually experienced do not seem to have harmed the U.S. economy. One reason it is hard to show harm is that that budget balance is only part of the overall economic picture. It is important to look behind the numbers to see how the federal government is spending the money it raises from taxes or from debt. The Second World War debt that was used to defeat fascism, and the 1980s debt that was used to defeat communism, aimed at producing greater long-term security by incurring significant short-term costs. (Incidentally, at its peak of 6.2 percent in 1986, defense spending as a percentage of GDP was lower than during *any* year of the period 1951 to 1972.[24]) When the goals of the two defense build-ups had been accomplished, military spending and the accompanying budget deficits shrank. In both periods monetary policy remained under control. Both periods were characterized by economic growth, low inflation, and low or falling interest rates.

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[21] Merrill Lynch (2001).

[22] The recent study by Gale and Orszag (2002) about the effect of deficits on interest rates examines what happens other things being equal.

[23] For a short summary of U.S. and other recent experience, with references, see Reynolds (2002). For more detail, see Federal Reserve Bank of Kansas City (1995).

[24] U.S. Office of Management and Budget (2002), pp. 45-9.

The federal government, unlike corporations and some state governments, does not separate its budget into current spending and capital spending. Capital spending, unlike current spending, produces goods that will remain in existence for some years, such as roads or buildings. Corporations and states often finance part of their capital budgets by borrowing, on the grounds that spreading the costs of financing over a number of years is justified by a prospective stream of benefits over many years that will result from the project in question. Deficit financing for certain projects at the federal level might not be controversial if the same projects were instead financed at the state level, in states that practice separation of current and capital budgets.[25]

However, deficit spending stimulates the economy only under specific circumstances. The evidence just reviewed should not be taken to indicate that deficit spending is necessarily beneficial. When the U.S. economy is in a recession or a period of slow growth, somebody always proposes to stimulate the economy by increasing government spending and financing it though deficits or, less often, inflation.[26] Deficit government spending stimulates the economy only under specific circumstances, though.

The point to consider is what would have happened to the resources in question if the government had not bought them or given money to others to buy them. Perhaps the government used them to build roads or other classic public works projects that produce some benefit. However, it is possible that the resources would have been more productive had they been put to other uses—they would have produced even greater benefits if the private sector had had them available to build new houses or factories, for example. Even resources that are apparently idle can perform a service by being ready on hand at key moments: spare parts provide a service even when they lie around unused, because they ensure that defective components of a machine can be replaced if the machine breaks down.

Deficit spending only stimulates the economy if it pulls resources away from less productive into more productive uses. At least beyond a certain level, government spending generally does the reverse, pulling resources from more productive to less productive uses.[27] Recessions happen when, for one reason or another, it turns out that many resources are being used unproductively. Deficit spending during a slowdown in the economy can hurt long-run economic growth if it delays people from discovering more productive uses for the resources, though it may provide a short-term boost in the areas of the economy where the government spends money. Increasing spending to create a deficit unquestionably stimulates economic growth only in the rare case when printing money to finance the deficit counteracts an unnecessary deflation by the central bank. In

[25] There is controversy about whether budget deficits reduce national savings, and therefore tend to reduce the pool of investment available to finance improvements that produce economic growth. The answer depends on what the government budget would have been like without deficits and how the government spent the funds compared to what the private sector would have done.

[26] To be precise, it is the change in budget balance rather than deficits themselves that many economists consider to be stimulate the economy. In this view, reducing a budget surplus is stimulative, even though there is no deficit. Also, maintaining an existing level of deficits creates no *new* stimulus.

[27] Gwartney, Lawson, and Holcombe (1998).

other cases the benefits of increasing spending to go into deficit are much less clear: proposals must be examined one by one, focusing on the quality of the spending, and keeping in mind the possibility that higher government spending may divert resources to less productive uses than the private sector would otherwise find for them. In contrast, there is a stronger case for running moderate deficits if necessary to finance cuts in tax rates. Lower tax rates increase rewards for the private sector to work, save, and invest.

V. CONCLUSIONS

Raising tax rates to cover a deficit is usually a bad idea. There are three ways to reduce or eliminate a budget deficit, which can be used singly or in combination: raise tax rates to attempt to collect more revenue; cut spending; or collect more revenue from economic growth while restraining the growth of spending. Raising tax rates is usually a bad idea. It increases the deadweight loss from taxation, making economic activity lower than it would otherwise be. Beyond a certain point, higher tax rates actually reduce government revenue, because taxable activity falls more than the government has raised taxes. Policymakers have forgotten and rediscovered this idea (now known to economists as the Laffer Curve) many times over the course of history.[28]

Restraint in spending over a period of several years, combined with ordinary economic growth, is sufficient to turn the budget from deficit to surplus. Because of the power of compounding, moderate restraint in spending over a few years, combined with ordinary economic growth, can turn seemingly "structural" budget deficits into surpluses. In the 1990s, federal spending (outlays) grew in real terms every year except 1993, when there was a modest 0.4 percent decline. Spending did not grow as fast as the economy or as fast as revenue, so deficits, which had been expected to persist indefinitely, turned to surpluses. An important factor in promoting restraint was that in the late 1990s, forecasters in the government and the private sector estimated economic growth would follow recent historical trends. Instead, growth was above the trend. The revenue estimates of the CBO provided a kind of unintentional restraint on Congress because revenue came in faster than Congress had planned on spending it. If the goal is to produce persistent budget surpluses over the long term, a key question is how to produce intentionally the kind of unintentional restraint that existed in the late 1990s.

Budget forecasts estimate outcomes under certain assumptions about what policies the federal government will follow; Congress has substantial power to change the outcomes by changing the policies. Again, budget forecasts are estimates of

[28] For example, Senator John C. Calhoun of South Carolina did everything but actually draw the curve in a speech of August 5, 1842 about a tariff bill being considered in the Senate:

> On all articles on which duties can be imposed, there is a point in the rate of duties which may be called the maximum point of revenue—that is, a point at which the greatest amount of revenue would be raised. If it be elevated above that, the importation of the article would fall off more rapidly than the duty would be raised; and, if depressed below it, the reverse effect would follow: that is, the duty would decrease more rapidly than the importation would increase….[A]ny given amount of duty, other than the maximum, may be collected on any article, by two distinct rates of duty—the one above the maximum point, and the other below it.

events within human control. Every penny of federal taxation and revenue has been authorized by Congress; even so-called mandatory spending is within the power of Congress to change if necessary. And although Congress does not control the U.S. economy, its decisions substantially influence economic growth. Good policies on taxes, spending, and regulation allow the private sector to generate wealth faster than bad policies do. A number of previous studies by the Joint Economic Committee have suggested what some elements of good tax policies should be.[29]

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[29] These studies are available at <http://www.house.gov/jec/tax.htm>.

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