

Budget Deficits: Rhetoric and Reality

Robert Eisner

Whatever the real or imagined ills of the economy, the news media, most politicians and a fair proportion of the economics profession are quick to point to the culprit: “the budget deficit.” No matter that few appear to know or care precisely what deficit they are talking about or how it is measured. No matter that few bother to explain in terms of a relevant model just how government deficits may be expected to impact the economy. No matter that few offer any empirical data to sustain their judgments.

So budget deficits cause inflation. Budget deficits raise interest rates. Budget deficits bring on the trade deficits. Budget deficits crowd out investment. Budget deficits are an irresponsible mortgage on the future. And budget deficits caused the October 1987 stock market crash and now threaten further financial cataclysms! Is there truth in any of these assertions? Or does it all depend?

Budget deficits do matter and their effects, contrary to Barro’s “Ricardian equivalence theorem,” can be substantial. As most economists have recognized for at least half a century, budget deficits can, however, be too small as well as too large. To know which, you have to measure them right. And you have to analyze their role in the world in which we live. Pure Walrasian and rational-expectation market-clearing models may prove more useful for academic advancement than for promotion of economic health.

I need not repeat many of the objections to the equivalence theorem raised by Bernheim and Gramlich and addressed by Barro in this symposium. However, there is

■ *Robert Eisner is William R. Kenan Professor of Economics, Northwestern University, Evanston, Illinois.*

one overriding objection that cannot be overstressed. We simply do not live in a Walrasian, market-clearing world, and all our economic agents—as opposed apparently to some economists—know it. Aside then from all the issues of uncertainty as to who might pay any future taxes occasioned by a current deficit, real world economic agents have no reason to assume that there will be any additional tax burden at all. With the existence of what, in the older vernacular, we used to call simply “less-than-full-employment”—the so-called “natural” (God-given?) rate of unemployment belongs perhaps with those who accept the doctrine of creationism—increases in current consumption need not involve any borrowing from the future or from any future generation of taxpayers. The consumption is supplied from otherwise unutilized resources.¹ With the consumption then will come more, not less investment. The economy will move to a higher growth path. Extra taxes in the future, if there are to be any, may then readily be paid out of higher future incomes.

I believe there are serious problems with our fiscal policy. These relate to fundamental national priorities and the provision of public goods, now and for the future. But the current size of the federal deficit is not “our number one economic problem,” if indeed it is a problem at all.

¹One should properly be startled by Bernheim's assumptions of market clearing and an economy that “gravitates towards a full employment equilibrium” on which his arguments for the “neoclassical paradigm” depend, after his suggestion that “Keynesians are to be applauded for recognizing the importance of unemployed resources.” He then adds, “Without a complete (or “fully satisfactory”) theory of unemployment, Keynesian analysis is an exercise in blind faith.” Would that all economic analysis were held to such a standard!

Where indeed is that full employment equilibrium of Bernheim's “long run”? Even the current “low” official unemployment rate of 5.4 percent is a full two percentage points above what it was some 20 years ago. Have we become accustomed to rationalizing our failures? There can hardly be many who doubted the existence of unemployed resources in December 1982 when the rate of unemployment was 10.7 percent. There should not have been many in the subsequent years when too many of our colleagues informed us that that natural rate was 6.5 percent or even more. With unemployment now well below that, the appropriate reaction, I should think, is not that we must *now surely* be at the full (or “natural”?) employment equilibrium, but rather a certain humility at our past errors.

It should be added that despite Bernheim's insistence that the Keynesian view requires a significantly “myopic” or liquidity-constrained population, Keynes never argued that consumption depended only on current disposable income. At least this reasonably unreconstructed Keynesian has long accepted with enthusiasm the major thrust of the life cycle and permanent income theories of consumption. One hardly need be myopic to increase consumption in the face of increases in current disposable income, and to increase it all the more if the prospects of continuing deficits raise expected disposable income along with a public debt very rationally viewed as private wealth. The failure by consumers to foresee *added* future tax burdens as a consequence of current deficits should be credited not to myopia but simply a lack of the faith (or old-time religion or plain old dogma?) that seems to have captured a number of economists.

Bernheim sees the view that “Keynesian analysis concerns the short run while Neoclassical analysis concerns the long run” as “close to the truth” but “misleading.” He sees a permanent deficit as determining “national saving in some ‘full employment’ equilibrium.” However glib Bernheim finds the characterization, the long run is a succession of short runs. Long run equilibrium models for dynamic economies in perpetual states of short run disequilibria can prove analytically useless and disastrous as guides to policy. The reduction of budget deficits and current consumption, as we shall note below, is clearly associated with less current investment. That such short run sacrifice will lead to long run success is again better supported by acts of (Calvinist?) faith than empirical evidence.

On Measures of Deficits, Government Liabilities and Assets

One might think it obvious that in order to talk about budget deficits, one must first have an accurate measure of their size. But the measurement of budget deficits has generally been a highly ignored issue. Here are some of the most fundamental problems.

First, the national income accounts measure of budget deficits, furnished by the Bureau of Economic Analysis, is a handier economic tool than the official "unified" budget. This measure focuses on current income flows and avoids some of the nonsense of counting sale of real or financial assets as "receipts" (or as offsets to expenditures) and the purchase of financial assets as "outlays." Such sales and purchases are essentially portfolio changes, having no first-order effect on the net debt or net worth of government or the private sector. The unified budget and the NIA budget can differ by nontrivial amounts. In fiscal 1985 the deficit on a national income accounts basis was indeed \$28 billion less than the unified budget deficit. The difference was only \$7 billion in fiscal 1986 and \$1 billion in 1987 but was \$11.7 billion in 1988.

Second, while what goes on within the beltway is important, Washington is not the only seat of government in the United States. Along with the fiscal 1988 federal deficit of \$141.5 billion on a national income accounts basis, there was a state and local government aggregate *surplus* of \$54.4 billion. It would certainly seem in order to take this into account, if only because the federal deficit was swollen by grants-in-aid to state and local governments totalling \$108.6 billion. Including the non-federal surpluses knocks the total government deficit for fiscal 1987 down to \$87.1 billion, or about 1.8 percent of GNP.

Third, the federal accounts make no distinction, in the expenditures contributing to a "deficit," between current expenses and investment. Most of the large corporations in the United States would find themselves in deficit if they had to include capital expenditures rather than depreciation charges in their profit and loss statements.² The Office of Management and Budget classified \$127 billion of projected "Federal, investment outlays" for fiscal 1988 as expenditures on physical assets and another \$80 billion of non-physical investment, for education, training, research, and development (*Special Analyses*, p. D-3). If we were to substitute a reasonable estimate of capital consumption for these \$207 billion of investment expenditures, we would reduce the measure of the federal deficit by another \$70 billion or so. With similar adjustments for state and local budgets, particularly if we were to capitalize the vast expenditures for education and include in the national income account budget only the depreciation of human capital, the entire government budget deficit would disappear. And with it would have to go the oft-repeated charge that our budget

²For example, from 1970 to 1984, the liabilities of General Motors grew 546 percent, from \$4.3 billion to \$27.9 billion, and those of IBM 530 percent, from \$2.6 billion to \$16.3 billion. Both companies have of course been eminently profitable and neither reported "deficits." The gross federal debt over this period grew 361 percent, to the accompaniment of myriad warnings about the federal deficit.

deficits mean that we are reckless with our future. Our public policy may well be mortgaging the next generation, but it is not "the deficit" that is doing it.^{3,4}

Indeed, there is only one way in which we can allow today to injure tomorrow. That is to act today so that tomorrow has less productive capital, and that includes capital of all kinds—business plant, equipment, and inventories and government, household and nonprofit institution tangible capital, and human and intangible capital in all sectors. The impact of budget deficits—and budget deficit reduction—on intertemporal distribution then comes back smack to their impact on net investment, on *all* net investment.

We may get some perspective by sober study of federal balance sheets on the one hand and estimates of the *nation's* capital stock on the other. First, as seen in Table 1, despite year after year of deficits by official, conventional measure, from 1945 to 1980 the net worth of the federal government *rose* from a negative \$44 billion to a positive \$382 billion. The values of its tangible assets of land, structures, equipment and inventories and of its financial assets of gold, securities, mortgages and loans had grown more than its liabilities. Indeed, even ignoring real assets, the federal "net debt,"⁵ the excess of liabilities over financial assets, had grown only from \$230 billion to \$441 billion, far less relatively than the more than 400 percent increases in prices over this period. It is true, however, that net worth turned down again after 1980 as deficits soared—although accounting for the value of federal mineral rights under the land and offshore might still leave it positive (Boskin et al., 1985).

³Sales of public assets of land and mineral rights and other acts of "privatization," if accomplished at bargain basement prices, have the effect of adding to the burden of future taxpayers even as they reduce the current official deficit. By Federal accounting rules we could indeed reduce the deficit to zero by the simple expedient of selling off government assets on a lease-back arrangement. In the initial years the government rental payments could easily be kept enough below assets sales receipts to meet Gramm-Rudman balanced budget targets. Of course, the rental payments would mount each year as more and more assets are sold. And eventually the Government would run out of assets to sell!

⁴It has been suggested that a comprehensive budget should also include the vast amounts of "contingent expenditures" or commitments, of which prospective social security and Federal employee retirement benefits loom largest. We should then, in principle, take their present value and offset them by the present value of corresponding prospective tax receipts. Certainly, it would be important for economic analysts to keep these contingency obligations, which have varying amounts of immediacy, in mind. Including them in calculations of "the budget deficit," however, would appear to be fraught with mischief. Projected expenditures and tax receipts are subject to wide variation with demographic, economic and, not least, legislative changes. The Social Security amendments of 1982, for example, would have created a fiscal 1983 surplus of some \$1.3 trillion (see Eisner, 1986, pp. 36–38), as a consequence of the reduction in the present value of prospective benefits and increase in the present value of prospective taxes.

It would hardly seem that economic agents should be expected to respond to the same extent, if at all, to such changes in uncertain prospects as they would to changes in their assets of explicit government debt. And empirical investigation generally confirms that (see Eisner, 1983, *inter alia*). Very few Americans, except perhaps some of those at the point of retirement, have the vaguest notion of their future Social Security benefits. It is probably most reasonable to assume that they act as if, in the aggregate, their net wealth in contingency obligations is zero, that is, that the government will periodically adjust taxes to benefits. On this assumption, which may be taken as one of "equal ignorance," contingency obligations contribute nothing, one way or the other, to the general budget deficit.

⁵The Federal government and its associated credit agencies are lenders as well as borrowers. To the extent Federal expenditures are financing loans to small business, farmers, students or others, government debt held by the public is matched by the public's debt to the government.

Table 1
Federal Government Consolidated Balance Sheet:
Liabilities and Tangible and Financial Assets

Item	Year and Amount (Billions of Dollars)			
	1945	1960	1980	1984
Tangible assets	186.2	205.8	822.5	1,118.0
Reproducible assets	179.3	187.4	648.1	915.2
Land	6.8	18.4	174.4	202.8
Financial assets	102.8	124.7	720.9	887.4
Total assets	289.0	330.4	1,543.4	2,005.4
Total liabilities	332.6	331.8	1,161.6	2,063.3
Net debt (total liabilities minus financial assets)	229.8	207.1	440.7	1,175.9
Net worth	-43.7	-1.3	381.8	-57.9

Including Federal Reserve and credit agencies, based on market or replacement values.

Source: Eisner (1986), Table 3.3, p. 29.

After the dramatic increases in debt taken out to finance the fighting of World War II, the history of U.S. debt until the early 1980s was one of major reduction in its relevant, *relative* magnitude. The gross federal debt as a ratio of GNP, shown in Table 2, actually fell from 110 percent at the end of 1945 (and 114 percent at the end of 1946) to 26 percent in 1980, before rising to its current level of about 42 percent. And net federal debt per capita fell, in constant 1982 dollars, from \$8639 at the end of 1945 to \$2219 in 1980, before rising to something over \$6000 currently.

The bottom line, though, should be the capital or wealth of the nation. Table 3 provides an estimate of \$23.7 trillion (at the end of 1981) for total capital, of which government and government enterprise capital comprised \$2.7 trillion or 9.4 percent. The largest portion of the total by far, some \$14.6 trillion or 61.6 percent, is accountable, however, to households. And most of that is the intangible or human capital attributable chiefly to government-financed education.⁶

The Real Deficit and Growth, Employment and Inflation

The issues of substituting depreciation for federal investment expenditures, including state and local budgets in the total deficit calculation, and examining net national worth are major. But rather than trying now to manufacture all of the figures

⁶These capital estimates are all constructed on a cost basis, adjusted to current prices. The value of education reflects both market expenditures and the opportunity costs of students 14 years of age and older. A full description of sources and methods is to be found in Eisner (1989).

Table 2
Measures of the Federal Debt

Year	Gross Federal Debt Held by Public		Net Debt per Capita
	Billions of Dollars	% of GNP	1982 Dollars
1945	232.2	110.2	8,639
1946	241.9	113.9	7,227
1960	237.2	46.0	3,576
1970	284.9	28.1	2,815
1980	715.1	26.2 ^a	2,219
1984	1,312.6	34.5	4,496
1986	1,746.1	40.9	5,963
1987	1,888.1	41.3	
1988	2,050.0	41.8	
Change, 1945-1980	+ 479.9	- 84.0	- 6,420
Change, 1980-1984	+ 597.5	+ 8.3	+ 2,277
Change, 1984-1986	+ 433.5	+ 6.4	+ 1,467
Change, 1986-1988	+ 303.9	+ 0.9	

Adapted and updated from Eisner (1986), Tables 2.3 and 2.5, pp. 18-19, 21.

^aPercent of third quarter GNP for this and subsequent years. For years up to 1970, where fiscal years ended June 30, percents were of corresponding calendar year GNP.

relevant to those issues, I should like to focus at this point on a simpler but crucial measure: the otherwise unadjusted federal budget deficit, itself, corrected for inflation.

As Paul Pieper and I have indicated in a series of papers—starting with Eisner and Pieper (1984)—and as I have elaborated in *How Real Is the Federal Deficit?* (Eisner, 1986) and elsewhere—we must look at the *real* deficit. This means, for many critical purposes, a measure of the deficit that corresponds to real changes in the government's debt, and hence to changes in the public's perception of the value of its holdings of that debt.

The change in the real value of the net federal debt may be viewed as the sum of three components: the nominal deficit exclusive of offsetting changes in financial assets and liabilities; changes in the nominal market value of existing financial assets and liabilities due to changes in nominal interest rates; and changes in the real values due to changes in the general level of prices (inflation). When we add these "interest effects" and "price effects" to the federal budget surplus (or subtract them from the deficit) we get a measure of the *real deficit*. The real deficit corresponds to the change in the real value of the net government debt, which it should be noted is not at all the nominal deficit divided by a price deflator. That measure, the real value of the nominal change, appears to be an arithmetic construct devoid of economic content.

Table 3
Capital Stocks, 1981

Component of Capital	Billions of Current Dollars
Business	6,085.9
Tangible	5,528.9
Intangible (R & D)	557.0
Nonprofit	248.2
Government	2,220.4
Government enterprise	476.3
Household	14,626.0
Tangible	3,949.7
Intangible (human)	10,676.3
Total	23,746.4

Source: Eisner (1985), Table 13, p. 47.

The real deficit, until the last six years of the Reagan Administration, was very different from the nominal one that drew all the attention. As shown in Table 4, the \$153 billion of nominal deficits during the four Carter years, from 1977 through 1980, were actually surpluses totaling \$72 billion. Rising prices, reducing the real value of the dollar, was serving as an inflation tax on the holders of government obligations. Rising interest rates, in part associated with *rising* rates of inflation, further reduced the market value of outstanding debt. In effect, measures of the official, nominal deficit include in expenditures nominal rather than real interest payments. They fail to impute as offsetting receipts the component of nominal interest payments which goes only to compensate holders of Treasury debt for their capital losses, and the Treasury's gains.

The nominal *high-employment* deficits, which averaged 0.53 percent of GNP from 1977 through 1981, correspond to real high-employment surpluses averaging 1.76 percent. All this suggests the need for some substantial revision of economic history and perhaps of the economic theory inspired by a misreading of the facts. In the words of Robert Lucas and Thomas Sargent (1981, pp. 295-296), the lesson of the 1970s was that "massive government budget deficits and high rates of monetary expansion" were accompanied not by decreasing unemployment but by *growing* unemployment *and* growing inflation. It was indeed the failure of the Keynesian paradigm in this regard to which Lucas (1981, p. 2) points as the motivation for his own search for a new macroeconomic model.

But viewing the real budget surpluses we are led rather to conclude that it was aggregate demand, in the face of the inflationary supply shocks of soaring petroleum prices and rising raw material prices on world markets, that failed after all. These exogenous forces brought on an inflation tax that reduced the real value of private wealth in the form of government debt, aggravating a loss due to the lower market

Table 4

**Nominal and Real Budget Surplus or Deficit on National Income Account,
Billions of Dollars, and Nominal and Real High-Employment Budget
as Percent of GNP**

Year	Surplus or Deficit			
	Actual Billions of Dollars		High-Employment As Percent of GNP	
	Nominal	Real	Nominal	Real
1977	-45.9	-0.6	-1.06	1.30
1978	-29.5	32.9	-0.73	2.15
1979	-16.1	32.1	-0.08	1.91
1980	-61.2	7.6	-0.65	1.97
1981	-64.3	-18.3	-0.11	1.45
1982	-148.2	-177.2	-1.06	-2.01
1983	-178.6	-101.2	-1.72	0.62
1984	-175.8	-154.1	-2.51	-1.92
Totals				
1977-80	-152.7	72.0		
1981-84	-566.9	-450.8		
Means				
1977-81	-43.4	10.7	-0.53	1.76
1982-84	-167.4	-144.2	-1.76	-1.10

Derived from Eisner (1986), Table B.7, p. 192, and Table 8.3, p. 87.

values associated with rising interest rates. It was then relatively tight fiscal policy, combined with the new tight monetary policy initiated in 1979, both continued through the first half of 1982, which brought us to 10.7 percent unemployment by December of that year.

What is the appropriate underlying theory? Going back to Pigou, Haberler, Lange and Patinkin, increased real holdings of government obligations by the private sector—money or interest-bearing—create an excess demand for goods. This must drive up output or prices or both. In the somewhat more recent formulation of Modigliani's life cycle theory of consumption, they enter as an increase of wealth in the individual's budget constraint. As he or she tries to maximize lifetime utility or welfare, the increased wealth is allocated to present and future needs and thus serves to generate increases in current and planned future consumption.

In terms of portfolio allocation theory, increased holdings of government debt also generate a demand for real, income-earning assets.⁷ This, along with rational

⁷If returns to government debt and to real assets were highly correlated, government debt would be a substitute for real assets. But so long as they are not perfect substitutes, an increase in real wealth resulting from an increase in government debt would result in some increase in the demand for real assets.

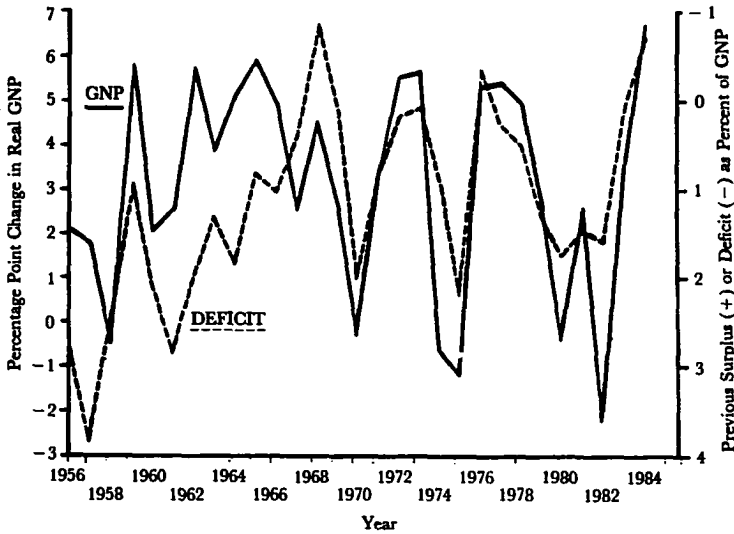


Fig. 1. Adjusted Deficit and Change in GNP

business behavior in the face of anticipations of increased future consumption, generates increased investment demand as well. And indeed there are other channels by which demand may be increased. In models of credit and equity rationing (for example, Stiglitz and Weiss, 1988; Greenwald and Stiglitz, 1988), deficits from either tax reductions or increases in government outlays create essentially riskless collateral and lead to more private expenditures, both by firms and individuals.

Whether this increased demand can be effected in real goods depends upon whether the economy is capable of increased production. And this comes back to the issue that provoked modern macroeconomics half a century ago, and which remains critical to any policy decisions today. That is the issue of unemployment and unused resources. If there is no involuntary unemployment and there are no idle resources, increased demand cannot generate more output; it can only bring higher prices. This is apparently the world of Milton Friedman (1968) and then Lucas, although they allow for various short run real effects as economic agents are slow or asymmetrical in their assimilation of information. But if you doubt that somehow our economy has generally been at its "natural rate" of employment, you may not be shocked to learn that real structural budget deficits have over the last several decades proved stimulatory to the economy.

And that is exactly the fact. As Figure 1 makes abundantly clear, the greater the real or inflation-adjusted high-employment federal deficit from 1955 to 1983, the greater was the next year's increase in GNP. The less the deficit, or the more the surplus, the less was the subsequent increase in GNP, or the more the GNP tended to

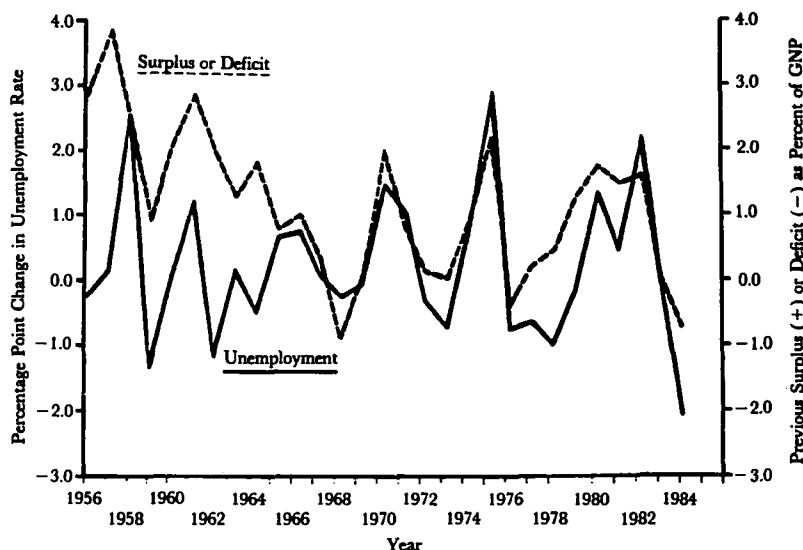


Fig. 2. Adjusted Surplus and Change in Unemployment

decline. And since more rapid increases in output are associated with declines in unemployment, and less rapid increases (or decreases) with increases in unemployment, a corresponding close fit is seen between the curves in Figure 2 for the adjusted budget surplus and subsequent changes in unemployment.

While the charts tell the story, all this is demonstrated more rigorously in the regression results of Table 5 where, for both the relatively noninflationary period from 1956 to 1966 and the more inflationary years from 1967 to 1984, the previous real high-employment budget surplus was significantly negatively related to changes in output and employment. Over the years 1966 to 1983, each percentage point that the inflation-adjusted or real high employment budget was in deficit was associated on the average, the following year, with 2.491 percentage points of growth in real GNP and 1.087 percentage points of decline in unemployment. The corresponding figures in the earlier years, when the economy was generally growing at rates closer to capacity and with less employment slack, were 1.731 percentage points for GNP growth and 0.566 percentage points for reduction in unemployment.^{8,9,10}

But that is only part of the story. Budget deficits have not only been related positively to growth of GNP as a whole, but also to growth of its components of both

⁸This has not, it should be added, been a spurious consequence of coincidental monetary policy. Real changes in the monetary base have indeed also been associated positively with changes in real GNP (although actually not correlated with the structural budget deficits), but multiple regressions involving both the adjusted federal deficit and the real change in money supply (included in Table 6) leave the deficit parameters robust, and with pride of place.

Table 5

Real High-Employment Budgets and Changes in GNP and Unemployment

Dependent Variable (Y)	Regression Coefficients ^a				Significance Level of Difference in Regressions	\hat{R}	D-W
	1956-66		1967-84				
	b_{01}	b_{12}	b_{02}	b_{12}			
DGNP	7.187 (1.125)	-1.731 (0.516)	4.421 (0.447)	-2.491 (0.416)	0.0001	.622	2.10
DUN	-1.175 (0.585)	0.566 (0.269)	-0.455 (0.233)	1.087 (0.216)	0.002	.494	2.27

Source: Eisner (1986), Table 9.1, p. 97.

^aOrdinary least squares; standard errors are shown in parentheses.

consumption and investment. We may note in Table 6 that each percentage point of real high-employment deficit was associated with growth of consumption the next year amounting to 0.642 percentage points of consumption. It was also associated with growth in gross private domestic investment equal to 1.383 percentage points of GNP. The evidence is thus that deficits have not crowded out investment. There has rather been "crowding in." And this should come as no surprise except to those devotees of "the new macroeconomics" who have embraced the old Euclidian world where employment and output are fixed (at those nefarious "natural" rates). We are in fact not only on the rising slope of the infamous Laffer curve but also on the rising slope of the curve for investment implicit in Lange's old (1938) article on the optimal

⁹The split in the time series may also be related to the general slowdown in growth in GNP, apparently associated with productivity. The earlier years were generally characterized by greater growth in GNP, less inflation and lower real budget deficits or greater surpluses. Within each period, as may be noted in the regression results, greater deficits were followed by greater increases in GNP.

¹⁰The size of the budget deficit is of course not the only parameter of fiscal policy that may be expected to affect aggregate demand, output and employment. Government expenditures for goods and services are themselves a component of GNP while interest and transfer payments will stimulate the economy only to the extent that they are spent. Thus, a given budget deficit will contribute less to aggregate demand if its interest and transfer payment components are greater. Some expenditures, as for roads and bridges, may prove complimentary with some private expenditures, as for cars and trucks, and substitutes for some others, such as railroad freight cars. And various taxes and tax subsidies are intended to discourage or encourage specific expenditures or consumption or investment in general. Our equations are clearly only reduced forms, and estimated parameters are affected by (probably changing) relations among unspecified variables and equations.

Table 6
Real High-Employment Budgets, Changes in Monetary Base,
and Changes in Components of GNP

$$DCOM_t = b_{01}X_1 + b_{02}X_2 + b_1PAHES_{t-1} + b_2DMB_{t-1}$$

$X_1 = 1, X_2 = 0$ for $t = 1962, \dots, 1966$
 $X_1 = 0, X_2 = 1$ for $t = 1967, \dots, 1984$

$DCOM$ = change in component as percent of GNP
 $PAHES$ = price-adjusted high-employment surplus as percent of GNP
 DMB = real change in monetary base as percent of GNP

Component (COM)	Regression Coefficients ^a						
	Constants		PAHES _{t-1} (b ₁)	DMB _{t-1} (b ₂)	\hat{R}	D - W	rho
	1962-66 (b ₀₁)	1967-84 (b ₀₂)					
Consumption	3.401 (0.675)	2.339 (0.303)	-0.642 (0.263)	2.39 ^o (1.51 ..)	.580	1.91	.092
Investment	2.613 (1.176)	1.135 (0.541)	-1.383 (0.414)	3.587 (2.411)	.570	1.99	.282
Government	1.195 (0.558)	0.483 (0.270)	-0.113 (0.172)	-0.660 (0.981)	.354	1.52	.473
Net Exports	-1.615 (1.273)	-0.766 (1.012)	0.399 (0.137)	1.625 (0.811)	.512	1.45	.836
GNP	6.208 (1.296)	3.371 (0.585)	-1.568 (0.479)	7.172 (2.830)	.735	2.03	.174
Domestic Demand	7.405 (1.506)	3.934 (0.675)	-2.141 (0.560)	5.149 (3.295)	.767	1.93	.155

Source: Eisner (1986), Table 9.8, p. 110.

^aLeast squares with Cochrane-Orcutt, first-order autoregressive corrections; standard errors are shown in parentheses.

propensity to consume.¹¹ Where more resources are available, and perverse monetary policy does not raise interest rates so as to preclude their use, more consumption may indeed be expected to be associated with more investment. The life cycle model, as we have noted, and Friedman's permanent income theory as well, both imply that

¹¹Lange pointed out that increasing consumption may be expected to have two effects on investment. On the one hand, following the Keynesian analysis—although one would expect a similar result in a neoclassical framework—it would raise income, the transactions demand for money and interest rates. The rise in interest rates would indeed tend to reduce investment—the familiar crowding out. But as income rose there would, on the other hand, be demand for more capital to produce the associated increase in output, thus an increase in investment. The "optimal propensity to consume," which would maximize investment, would be reached when the marginal negative effects on investment of higher interest rates reached equality with the positive marginal effects of greater output. In the new classical and neoclassical worlds of natural or full employment, with changes in output generated only by changes in supply, there is only the negative interest effect. In the Keynesian (real) world where employment and output vary as a consequence of changes in aggregate demand, there is usually, unfortunately, plenty of room for increased production so that investment is likely to be crowded in, rather than crowded out, by increased consumption.

deficits will bring more consumption now and in the future. This should lead rational producers to try to produce more to meet current consumption demand but also to undertake more investment to provide the capital to produce more in the future.¹²

It is true that the deficits have also related negatively to net exports. The private wealth corresponding to increased public debt has meant more consumption of foreign goods as well as domestic goods and hence larger imports.¹³ Although United States budget deficits have contributed to increases in current account deficits (along, of course, with net investment by foreigners in the United States) our corresponding capital account surplus is not all bad for the rest of the world, despite chronic complaints from international financial circles. In other work with Pieper (Eisner and Pieper, 1987), I have found that U.S. real budget deficits have been significantly and substantially related to subsequent increases in gross domestic product over the years 1971 to 1982 in the major OECD countries: Canada, France, Germany, Italy, Japan and the United Kingdom. Indeed, each percentage point of U.S. deficit (as a percent of GNP) was associated on the average with about 1.7 percentage points of foreign increase in GDP.

In fact, the now widely repeated argument that the United States has become "the world's largest debtor nation" proves on consideration to be somewhat confusing and confused. For one thing, net investment income as late as 1987 was a whopping positive \$20.4 billion which, unless rates of return on U.S. investment abroad were far higher than foreigners' returns on investment in the U.S., suggests a *prima facie* contradiction of U.S. net debtor status. Part of the explanation may be that U.S. direct investment abroad is generally older than foreign investment in the U.S. and considerably reflects earlier, lower price levels. In that case, U.S. assets abroad would be undervalued and might even exceed the value of foreign assets in the United States.¹⁴

¹²Prudence in accepting anyone's regression results, including one's own, is always in order. I do not claim mine are unimpeachable. Fully specified structural equations in full models have their advantages. They also bring their problems, but I am working on them and encourage others to do so. I have less enthusiasm for vector autoregressions.

Bernheim's reserves regarding my reduced forms, however, seem strained. It does not seem overwhelmingly credible that my inflation-adjusted high employment surpluses were negatively related to subsequent real increases in aggregate demand for the fortuitous reasons he adduces. Bernheim's argument is essentially that exogenous policy-makers reduced those surpluses (increased deficits) in recessions in the mistaken notion that they would stimulate the economy. In fact, he suggests that they did not, but cyclical variations were such that just one year after they took these actions, real GNP and its components did recover for reasons that had nothing to do with fiscal policy.

My results for consumption are after all in line with those he cites approvingly. And since he does admit the existence of unemployed resources, he should not be surprised that deficit-induced increases in consumption are associated with increases in GNP (to which my regressions relate directly, not national income as indicated by Bernheim) and its components.

¹³The surplus on investment income disappeared in the first two quarters of 1988 but, as explained by the Bureau of Economic Analysis, this "reflected a decrease in receipts of income on U.S. direct investment abroad that was more than accounted for by a shift to capital (currency translation) losses associated with appreciation of the dollar" (Dilullo, 1988, p. 33).

¹⁴See Eisner and Pieper (1989).

But second, what is frequently forgotten is that the U.S. "net debtor" (or net creditor) position, since we have few obligations in foreign currencies, is appropriately measured in dollars. As the dollar falls (as it should be allowed to in accordance with market forces and a sensible monetary policy), the value of foreign currency rises and the dollar value of our foreign assets rises. That appreciation in the value in dollars of U.S. foreign investments is a significant corrective to the increase in indebtedness brought on by our current account deficit.

And third, the long run impact of even the unadjusted current account deficits we have been enduring is frequently exaggerated. Assume they continue at \$150 billion per year for five more years—a highly unlikely event if the dollar is allowed to move freely. That would add \$750 billion to our international "net debt." At even a substantial 4 percent real rate of interest, this would entail \$30 billion of net payments to foreigners. With 7 percent growth, GNP would be approximately \$6.7 trillion in five years, so that the net outpayment would come to less than half of one percent of what we are producing. I do not mean to advocate continued current account deficits adding to U.S. "debt" but, to keep matters in perspective, it should be recognized that half of one percent of GNP is not the stuff of disaster. Two-tenths of one percent of unemployment cost us about that amount of real income. The difference between 5.4 percent and the full employment target of 4 percent unemployment amounts to far more.

All this is pertinent to the widely expressed concern over the alleged inadequacy and decline of "national saving," on which Gramlich focusses much of his discussion. For it turns out that the fall is quite fully accounted for by increases in reported capital consumption allowances and, recently and most importantly, negative U.S. foreign investment.

The ratio of GNP to real capital consumption allowances (with adjustment) increased by 3.76 percentage points from 1951 to 1987, causing an equivalent reduction in net investment and net saving. The capital consumption increase apparently stems from shifts in investment from structures to equipment and from equipment such as railroad cars with expected lives of 30 years to trucks with expected lives of 10 years. If we believe investment is properly guided by the lure of profits, may we not expect some at least of the presumed increase in replacement requirements to be offset by increased capital productivity?¹⁵

Real *gross* private domestic investment as a percent of real GNP was 18.0 percent in 1979 and exactly the same figure, 18.0 percent, in 1987, despite a 3.8 percentage point move in the National Income Account federal budget, from a surplus of 0.4 percent of GNP to a deficit of 3.4 percent. Over the same period, however, net exports, which essentially account for net foreign investment, moved from +0.1

¹⁵Suppose we reject the inference that the shifts were productive, arguing that they were brought on by (the now abandoned) investment tax credit for equipment and the huge acceleration of tax depreciation culminating in the tax changes of 1981, and sustained by the high real interest rates of most of the current decade, which may be expected to discourage long-lived investment. The remedy would then appear to lie clearly not in a general lament over the resultant decline in net investment but in the sustained reversal of these policies that brought on the increase in capital consumption.

percent of GNP to -3.5 percent. The move to real structural budget deficit had something to do with this, by stimulating the economy and thereby increasing our imports. But in 1983, when the recession-swollen deficit was 5.2 percent of GNP, net exports were only -0.6 percent—and gross private domestic investment was down to 15.4 percent of GNP.

The large move to negative net exports and negative foreign investment from 1983 to 1987 is very largely accountable to the one-third previous rise, from 100.8 to 132.0, in a trade-weighted index of the real exchange rate for the dollar. The fall in the dollar since early 1985 has increased the value of U.S. assets abroad, thus offsetting the negative foreign investment. If the Federal Reserve were to permit the dollar to fall further, our measured foreign investment, and hence net saving, would increase with the stimulation to our exports. And we would have a further gain in the dollar value of our mainly foreign-currency denominated foreign assets and in the dollar earnings from those assets.

The evidence that budget deficits have caused a decline in correctly measured national saving, even as a percent of GNP, is thus doubtful indeed.¹⁶ And in terms of a comprehensive measure of national saving, including public investment in infrastructure, education and research, misguided efforts to reduce the budget deficit are by far the greatest threat to investment in our future.

Deficits and Inflation

It is widely suggested that structural budget deficits contribute to inflation. This is presumably implied by the assumption that the economy is generally at its "natural" or "non-accelerating inflation rate of unemployment" (NAIRU), unless perverse policy temporarily drives it off that rate. I have mined the data of the last 30 years shamelessly in an effort to test that argument and I challenge others to do likewise. I find no support for the proposition that the federal budget deficit, by any measure, contributes to inflation. If anything, the opposite appears to be true.

As shown in Table 7, when annual observations from 1956 to 1985 are used to regress the rate of inflation on its own lagged value and lagged values of the inflation-adjusted structural deficit and rate of unemployment (with a shift variable

¹⁶ My argument should be distinguished from that of Barro that private saving adjusts to public dissaving. In support of his argument, Barro points to recent Israeli experience where offsetting movements in public and private saving were associated with huge changes in the rate of inflation. With higher inflation there were greater deficits and greater private saving. With lesser inflation there were smaller deficits and less private saving.

But with greater inflation, seignorage or the inflation tax would be greater, and thus there would be no inflation-induced rise in the *real* budget deficit or *real* private saving. And with less inflation, and lesser nominal deficits and private saving, the inflation tax would be less. The offsetting movements of measured public and private saving might then merely reflect the fact that private agents are not guilty of money illusion and that both the real government deficit and real private saving, measured to include the inflation tax on monetary debt and assets, were relatively constant. The force of this comment would depend on the amount of seignorage left in an economy where high inflation has vastly diminished real holdings in local-currency denominated assets.

Table 7
Budget Deficits and Inflation

$$DGNPDEF_t = b_{01}X_1 + b_{02}X_2 + b_1DGNPDEF_{t-1} + b_2U_t + b_3PAHES_{t-1}$$

$$X_1 = 1, \quad X_2 = 0 \quad \text{for } t = 1956, \dots, 1966$$

$$X_1 = 0, \quad X_2 = 1 \quad \text{for } t = 1967, \dots, 1985$$

DGNPDEF = percent change in GNP price deflator
PAHES = price-adjusted high-employment surplus as percent of GNP
U = unemployment rate as percent of labor force

<i>Variable or Statistic</i>	<i>Regression Coefficients and Standard Errors</i>		<i>Means and Standard Deviations</i>
<i>X</i> ₁ (1956 to 1966)	2.378 (1.004)	0.248 (0.670)	4.853* (2.646)
<i>X</i> ₂ (1967 to 1985)	3.694 (1.060)	2.392 (1.042)	
<i>DGNPDEF</i> _{<i>t</i>-1}	0.877 (0.185)	0.597 (0.168)	4.849 (2.618)
<i>U</i> _{<i>t</i>}	-0.469 (0.177)	—	5.983 (1.663)
<i>PAHES</i> _{<i>t</i>-1}	0.193 (0.292)	0.350 (0.318)	1.004 (1.228)
<i>R</i> ²	.795	.747	
<i>D-W</i>	2.13	1.74	

*Dependent variable.

again for the relatively higher inflation of the two latter decades of the period), the surplus coefficient is close to zero, and positive. Taken literally (and ignoring the large standard error) it suggests that each percentage point of deficit as a ratio of GNP subtracts 0.2 percentage points from the rate of inflation the next year, and 1.6 percentage points in the long run. Omitting the unemployment variable to test the possibility that the effects of larger deficits on inflation have been picked up in lesser unemployment, which they would have brought about, offers no comfort. The coefficient of the price-adjusted high employment surplus variable is still positive and suggests that each percentage point of deficit subtracts 0.35 percentage points from the rate of inflation the next year, and 0.9 percentage points in the long run.

And lest one think this is all an artifact of my inflation adjustment to the deficit, I can report that relations involving the nominal or unadjusted high-employment deficit are similar, as are those with the actual deficit, nominal and real. Adding changes in the monetary base to the regressions does no good either. There should of course be much more to properly specified structural relations, including variables measuring supply shocks and variables reflecting changing expectations, but it may well be argued that the evidence that structural budget deficits have contributed to inflation has not been found.

The true story is apparently that major inflation of the 1970s and the beginning of the 1980s stemmed not from budget deficits or excess demand but from the major

supply shocks of hugely escalating oil costs and rising prices of agricultural products in world markets. Increases in unemployment were associated with reductions in inflation, but at a cost which many of us might properly find exorbitant, less than half of one percent decrease in inflation in the current year for each one percentage point increase in unemployment, if we wish to take seriously the estimated parameter of -0.469 for U_i in Table 7.

A New View of the Past, and Balance for the Future

What has been going on and where do we go from here? First, budget deficits did not contribute to the inflation of the 1970s, which reached its peak in 1981. This stemmed from the supply shocks in petroleum and world markets for agricultural products, not a surge in demand. The inflation tax converted supposed deficits into substantial real surpluses until the latter half of 1982. It was large structural surpluses, along with tight money, that brought us the worst recession since the great depression of the 1930s and an unemployment rate of 10.7 percent by December 1982.

It was then the huge swing to real deficit in the latter half of 1982, along with the switch to easier money, and the continued deficits thereafter which sparked our substantial economic recovery. It may of course be noted, as was probably reflected in the earlier regression results, that the large deficits were accompanied by a sharp reduction in the rate of inflation as well as interest rates. The recovery has been long but sluggish in considerable measure because of large and growing trade deficits. While these may be laid partly at the door of the deficit-fueled growth of the economy, which raised imports, key responsibility must be attributed to still too restrictive monetary policy. This has kept real interest rates and the value of the dollar too high. With all of its fall over the past four years, the dollar remains at or above the levels of 1980. The major surge in productivity among our key international competitors since 1980 clearly called for a considerably lower value of the dollar.

What does that indicate now? To begin, with all of the nonsense in current calculations of the deficit, "balance" in the conventional sense makes no sense. At the 1988 inflation rate of 4 percent, for example, the inflation tax on the \$2,100 billion of our current federal debt held by the public implies that nominal balance would be a real surplus of \$84 billion. The federal government would be reducing the real value of its debt, and the assets of the public in the form of that debt, by \$84 billion per year, with all that this would imply for consumption, portfolio adjustment, investment, output and employment.

A much better concept of balance, in a growing economy such as ours, with or without inflation, would be one in which the debt-income ratio were constant. The necessary and sufficient condition for this, of course, is that the debt grow at the same rate—no faster or slower—as income. I offer this not as an iron-clad imperative, regardless of circumstances, but rather as a rule of thumb which would, one may note, be equally appropriate for an individual or a corporation.

For the federal government, with GNP growing at about 7.5 percent per year, the debt could then grow at 7.5 percent per year. With the gross federal debt at \$2100 billion, this comes to an increase in debt, and hence a nominal current deficit, of \$157 billion. It may be noted that this "balanced deficit" is almost exactly the actual nominal deficit of \$155 billion for fiscal year 1988 and is exceeded only trivially by the gloomier projections, without further reductions, for 1989. And if we take into account state and local government budgets, we find that for total government we are in substantial surplus. Despite all the furor, total government debt is currently a declining ratio of GNP.¹⁷

This rule of balance should not be engraved in stone—or in the Constitution. Even this measure should at times show a deficit, at times a surplus. It depends on the shape of the economy, on associated monetary policies and on relative needs for public and private investment. At least until the reductions legislated in late 1987 and early 1988, the nation's current federal deficits did appear large for the long run. They implied an increasing ratio of federal debt-to-GNP. Over the long run, it might have been argued then, the federal deficits should be brought down. But that judgment should depend on what is happening to state and local governments. And most fundamentally, it should depend on how much of the nation's resources are being devoted and should be devoted to private versus public investment.

If public investment in the education and health of America, in the nation's stock of basic scientific and technological knowledge and in its collective resources and infrastructure are to be increased, continued large nominal deficits may well be in order, and even large real deficits.

It is tempting to suggest, recalling Abba Lerner's old principle of "functional finance," that nominal deficits will never cause permanent real deficits that are too large. If an economy has unemployed resources, a large nominal deficit will increase aggregate demand, both real and nominal, until it reaches full (or "natural") employment. At that point (if not before), inflation will have risen, and will keep rising until the inflation tax, reducing the real value of existing government debt, is sufficient to bring the rate of increase in the real value of that debt—the real deficit—down to equality with the rate of growth in real GNP. Any still greater nominal deficit will then only raise the rate of inflation but not the rate of increase in the real value of government debt and hence not the real deficit. There is hence no further increase in real consumption, and no crowding out of investment, even at full employment. There will, however, be crowding out of investment if the monetary authority acts to reduce the inflation by tightening credit and raising interest rates.

If we are not facing a full-employment, excess-demand inflation, the case for nominal and real deficit reduction, despite what has apparently become dominant conventional wisdom among politicians, press and pundits and, I must confess, considerable numbers of economists, is shaky indeed. If deficits are to be reduced, a prime concern should be avoidance of a recession, and this, as Keynes argued a half

¹⁷The ratio of deficit to GNP, d , consistent with a constant debt-GNP ratio, b , is simply the product of that ratio and the rate of growth of GNP, g , thus expressed as $d = bg$. Hence, for b approximately equal to 0.42 and g at about 7.5 percent, we can maintain a deficit at 3.15 percent of GNP forever without raising the debt-GNP ratio.

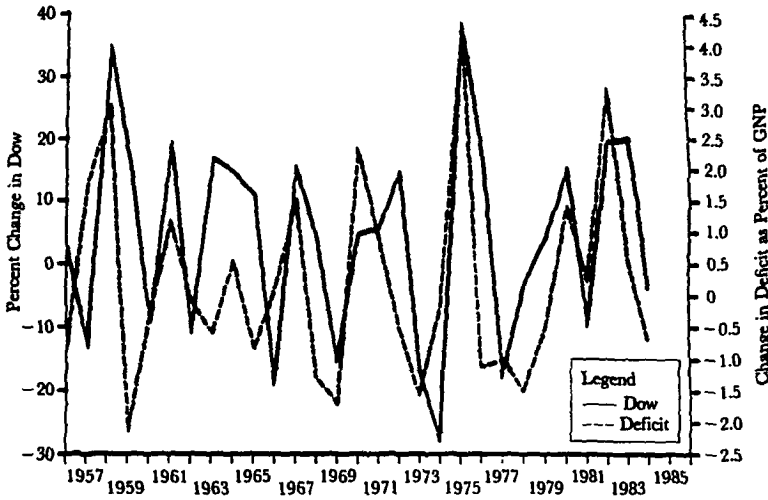


Fig. 3. Changes in Dow Industrials and Price-Adjusted Deficit

century ago, is not to be accomplished by lopping off a boom. Too many of us have allowed our targets of full employment to recede with the political winds and misguided concern for inflation. We may take comfort that, from the 10.7 percent official measure of December 1982, unemployment had declined (as of November 1988) to 5.4 percent. But whatever happened to that "full employment" target of 4 percent unemployment? The unemployment rate was 3.5 and 3.4 percent twenty years ago.

At this time, therefore, the prime aggregate policy instrument should be monetary policy, and it should be more stimulatory. Significant and sustained increases in the monetary base would lower interest rates and encourage a further decline in the dollar.¹⁸ Both gross private domestic investment and exports would thus increase. Not

¹⁸The curious notion that a more rapid growth in the quantity of money can only in the long run raise nominal interest rates and leave the real rate unchanged, again attributable to Friedman (1968), rests largely on the equally curious notion that we are always at that fully market-clearing, "natural," full-employment rate of output. If we are (and all agents know we are), then increases in demand as a consequence of a greater quantity of money can only raise prices. By a further leap of imagination—or of assumption—increases in the quantity of money (or the monetary base) somehow entail equiproportionate increases in all obligations and claims denoted in money, including the very government debt created quite independently by budget deficits. Alternatively, money neutrality in the face of Federal Reserve open market operations can be recused by unreserved acceptance of Barro-Ricardian equivalence; since government debt is not viewed as a private asset, substitution of money for that debt merely adds equivalent amounts to private wealth and proportionately increases nominal spending. For those not fully committed to the equivalence theorem, the proposition that increasing the money supply, in the manner in which this actually occurs in our economy, will have no real effects would appear to be as preposterous as the assumption that since there is some rate of taxation so high that it will kill off all taxable income. We are, in fact, in the current United States economy, on the falling portion of the Laffer curve so that lower tax rates will actually raise tax revenues.

only would the U.S. trade deficit finally come down, but the nominal budget deficits themselves would be reduced. Lower interest rates would contribute directly; each percentage point drop would save the Treasury over \$20 billion in annual interest payments within two or three years, as the debt is rolled over.¹⁹ And the stimulus to the economy would further reduce the deficit as tax revenues rise and unemployment benefit payouts decline.

And what about the stock market? Those who have trumpeted budget deficits as the cause of share price declines would do well to think again. I have for some time now been gleefully passing out copies of charts such as Figure 3 and regressions from my 1986 book showing that increases in deficits were strongly correlated with increases in the Dow. Of course, I can add that the October 1987 crash followed immediately on the news that "the deficit" had declined from \$221 billion in fiscal 1986 to \$148 billion in 1987. Further *reductions* in the deficit might bring new, dismal reverberations on Wall Street!

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¹⁹The real deficit would of course rise temporarily as the *falling* interest rates would raise the market value of outstanding government debt. Once interest rates reached their lower value, both the nominal and real deficits would be less.

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