

Research Department
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Inflation Premiums, Budget Deficits

Productivity growth in the United States has been on a declining trend for some time. During the first twenty years after World War II, output per man-hour in the private non-farm business sector rose at an average annual rate of just under 2½ percent. But from 1965 to 1973 the increase was only 1½ percent, and from 1973 to 1979 it was less than 1 percent a year. (Indeed, in 1979 productivity actually turned negative.) Weakened productivity performance has stunted growth in real income and contributed to inflation by reducing the supply of goods relative to the stock of money.

According to one popular explanation, governmental borrowing has helped create this poor productivity performance by "crowding out" private capital formation. The Federal government has run relatively large budgetary deficits over the last decade. These deficits must be financed by borrowing, which absorbs saving that could otherwise have financed the accumulation of capital and contributed to productivity growth in the private sector. Thus, the argument goes, excessively large deficits of the Federal government have "crowded out" private capital formation by bidding away loanable funds from business borrowers.

There is nothing wrong with the argument in theory. The only question is whether it is consistent with the actual facts. Superficially it appears to be. In the 1950's and early 1960's, Federal budget deficits in some years tended to be offset by surpluses in others, providing an overall balance. But in 1965-73 the Government averaged a deficit equal to 0.7 percent of the gross national product; and in 1973-79 the average deficit jumped to 1.7 percent of GNP. The facts appear obvious, but there is a problem in interpreting them because inflation distorts our measurement of the deficit's net absorption of saving.

Cause of distortion

The distortion arises from the existence of

inflation premiums in interest rates. It is well known that nominal interest rates reflect 1) a real component that is independent of the rate of inflation, and 2) an inflation component that incorporates both borrowers' and lenders' expectations of inflation. The higher the expected rate of inflation, the higher the rate of interest that borrowers are willing to pay and that lenders require to protect the purchasing power of their sacrifice in current consumption. Inflation premiums can distort the deficit, because a substantial portion of Government expenditures represents payments of interest on the national debt, and also because the largest part of these payments currently consists of inflation premiums.

The usual measurement of the deficit overstates the Government's net absorption of saving, because borrowing for the payment of inflation premiums is self-financing. Inflation premiums constitute income to the holders of Government debt, all of which must be saved if they are to maintain the real value of their wealth. Since this added saving is returned to the capital markets, Government borrowing to pay for inflation premiums is self-financing and therefore does not bid away loanable funds from private borrowers. Consequently, to the extent that deficits are generated by borrowing to pay inflation premiums to the holders of Government debt, there is no crowding out.

An example will illustrate this point. When there is no expectation of inflation and the Government budget is balanced, all private saving flows into private capital investment; and there is no crowding out. Compare that with a situation in which all behavior is the same in real terms—except that a 10-percent rate of inflation is expected, and nominal interest rates are therefore 10 percent higher. Households now receive larger money incomes because of the payment of inflation premiums to them by the Government, and

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by business borrowers as well. Most importantly, as rational individuals they must save all of the increment to their incomes from the inflation premiums in order to maintain the same level of real wealth as they would have done in a non-inflationary environment. Thus, on the supply side of the capital market, household incomes and the resultant savings made available to the market are increased by the size of the inflation premiums paid by Government.

On the demand side, if real taxes and expenditures are to be the same as before, the Government must borrow in order to pay the inflation premiums on its debt. But this does not put any net pressure on the capital market because households are making available to the market an exactly equal increment of saving out of their higher incomes. So on balance, the borrowing of the Government does not bid away loanable funds from private borrowers or cause any actual crowding out of private capital formation. Moreover, even though the Government budget is still balanced in real terms, as traditionally measured it shows a deficit equal to the inflation premiums paid.

How large a distortion?

The distortion in budget figures caused by inflation premiums can be quantified in the following way. Since the average maturity of the Federal debt is only two to three years, inflation premiums are reflected in nominal interest rates within a year or so. If we use the previous year's increase in consumer prices as a measure of expected inflation, and multiply that measure by the size of the debt, we can arrive at the total amount of inflation premiums paid on Federal debt in any one year. To obtain a consistent measure of the degree to which the Federal budget absorbs private savings—or the extent of crowding out—we then deduct total inflation premiums from budget deficits (or add them to surpluses).

In the early 1960's when inflation was low, inflation premiums were trivial; and the

Federal budget was roughly balanced, with or without adjustment for such premiums. However, by the late 1960's and 1970's the adjustment made a significant difference (see chart). The Federal budget, as traditionally measured, moved into an average deficit equal to 0.7 percent of GNP in 1965-73 and 1.7 percent in 1973-79. But with the subtraction of inflation premiums from the deficit, the Federal budget actually averaged surpluses equal to 0.5 percent of GNP in 1965-73 and 0.3 percent in 1973-79—about the same as the average surplus in the early 1960's. Rather than being a net absorber of funds, the Federal government has continued to be a modest net supplier, when adjustment for the effect of the payment of inflation premiums on private savings is made.

Borrowing by state and local governments can also cause crowding out, and their budgets should similarly be adjusted for the amount of inflation premiums paid to lenders. Combined state and local budgets, which tended to be nearly in balance in the 1960's, moved strongly into surplus during the 1970's. With rising inflation, larger inflation premiums were paid to holders of state and local debt. The payment of such inflation premiums reduced their measured surpluses. But the reduction in the amount of funds they supplied to capital markets was offset by the added income received by holders of their debt, and hence, by the extra saving undertaken by debt holders. Consequently, traditional measures of state-local surpluses understated the extent to which this sector became a net supplier of funds to capital markets.

Crowding out—no explanation

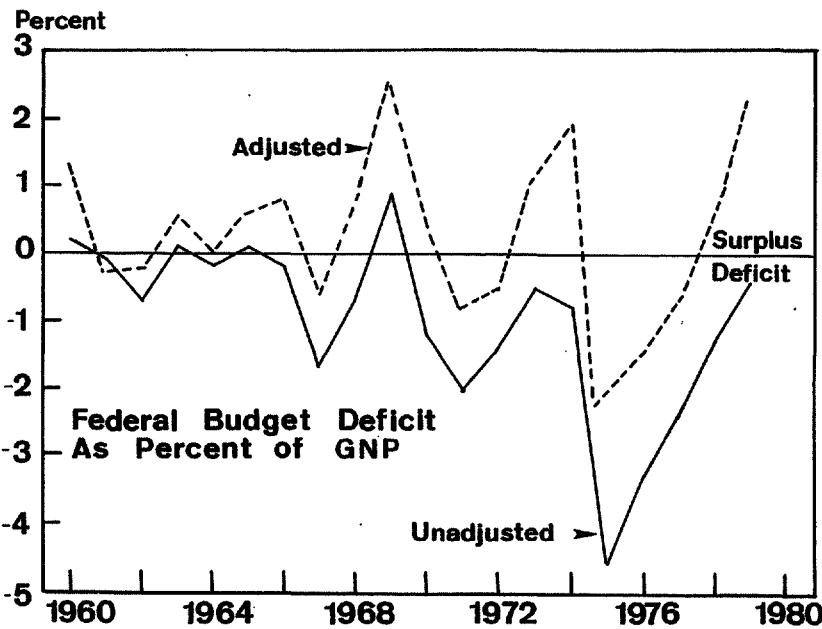
Overall, the crowding-out argument does not appear to be a satisfactory explanation of the recent weakening in productivity growth. Neither has the drop in the aggregate saving rate been large enough to limit private capital formation. To be sure, the rate of personal saving (which is overstated due to inflation premiums) has lately been trending down, reaching a record low of 3.3 percent in the

final quarter of 1979. Still, the growing surpluses of state and local governments have served as an effective offset. With the aggregate saving rate relatively stable, the ratio of total investment in plant and equipment to GNP, not surprisingly, has held fairly steady at the historical figure of about 10 percent.

Rather than a lack of private capital accumulation, some other factor or factors must be responsible for our weakened productivity performance. Leading possibilities include a slowdown in the incorporation of new

knowledge into production techniques and the diversion of a growing share of labor and capital resources to meet mandated requirements for pollution abatement and safety. Experts differ as to the precise importance of such factors. But at least one thing seems clear. Because borrowing to pay for inflation premiums on Government debt is self-financing, traditional accounting procedures give a misleading impression of the extent of crowding out caused by Federal budget deficits.

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities	Amount Outstanding 2/27/80	Change from 2/20/80	Change from year ago	
			Dollar	Percent
Large Commercial Banks				
Loans (gross, adjusted) and investments*	138,334	- 241	+ 16,584	+ 13.6
Loans (gross, adjusted) — total#	115,974	- 176	+ 16,476	+ 16.6
Commercial and industrial	33,736	+ 102	+ 4,335	+ 14.7
Real estate	44,715	+ 158	+ 8,834	+ 24.6
Loans to individuals	24,457	+ 38	+ 3,672	+ 17.7
Securities loans	1,384	- 185	- 213	- 13.3
U.S. Treasury securities*	6,927	+ 5	- 761	- 9.9
Other securities*	15,433	- 70	+ 869	+ 6.0
Demand deposits — total#	42,172	-2,916	+ 1,521	+ 3.7
Demand deposits — adjusted	30,498	- 308	+ 1,512	+ 5.2
Savings deposits — total	27,854	- 277	- 1,823	- 6.1
Time deposits — total#	59,775	+ 779	+ 8,722	+ 17.1
Individuals, part. & corp.	51,067	+ 727	+ 9,613	+ 23.2
(Large negotiable CD's)	21,457	+ 551	+ 2,713	+ 14.5
Weekly Averages of Daily Figures	Week ended 2/27/80	Week ended 2/20/80	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (-)	- 16	78	+ 20	
Borrowings	125	291	112	
Net free reserves (+)/Net borrowed(-)	- 141	- 212	- 92	
Federal Funds — Seven Large Banks				
Net interbank transactions	+2,880	+2,911	+1,995	
[Purchases (+)/Sales (-)]				
Net, U.S. Securities dealer transactions	+ 136	+ 23	+ 364	
[Loans (+)/Borrowings (-)]				

* Excludes trading account securities.

Includes items not shown separately.

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