

---

# FRBSF WEEKLY LETTER

November 23, 1984

## Interest Rates and the Federal Deficit

Earlier this year, the Congressional Budget Office (CBO) and the Office of Management and Budget (OMB) released separate projections of the federal government's outlays and receipts between now and 1989. Although both sets of projections imply continued large deficits, they contain significant differences. Whereas CBO estimated that the overall budget deficit will increase year-by-year to reach \$278 billion by 1989, the OMB projected a modest decline to \$144 billion.

The huge difference (\$134 billion) between these alternative projections of the 1989 deficit results from different forecasts of both the expenditures and the receipts sides of the budget. However, one item — outlays for interest payments on the public debt — accounts for half of the difference between the two. The CBO projects that expenditures on interest payments will rise from \$111 billion in 1984 to \$214 billion in 1989, while OMB expects these outlays to rise only to \$147 billion.

The remainder of the difference between the two deficit predictions results from different estimates both of future tax receipts and of non-interest outlays. The OMB assumes a more ebullient economy over the coming five years and hence projects larger tax receipts and smaller outlays on transfer payments than does the CBO. Indeed, in the Administration's scenario, the budget exclusive of interest outlays is projected to show a small (\$3 billion) *surplus* in 1989, implying that *all* of the deficit in that year will represent interest payments. Even in the CBO projections, the deficit excluding interest payments is not expected to rise, so that all of the *increase* in the total projected deficit represents rising interest payments. The chart illustrates the two sets of projections.

### Interest rates and deficit growth

The significantly lower estimates of federal interest payments in the OMB forecasts primarily reflect the Administration's more sanguine view of future interest rate trends. The OMB estimates assume, for example, that the interest rate on Treasury bills will decline steadily to reach five percent by 1989. Although the average interest rate on the outstanding debt is expected to decline less rapidly — because much of the debt consists of longer

term securities — this assumption is more optimistic than that used by the CBO, which assumes that the average interest cost of the debt will remain roughly constant at its present level — nine percent — through the remainder of the decade.

Assumptions about future interest rates are critical to deficit forecasting because the general level of interest rates not only determines the cost of paying interest on the *current* debt but also influences the pace at which the debt will rise in the *future* and hence how fast the interest cost of the debt will rise. The last in turn influences the size of the future deficits. For example, if the government budget *exclusive* of interest payments were always exactly balanced — but all interest payments were financed by borrowing — the government debt and hence its outlays on debt interest would grow at a rate equal to the interest rate. This would mean, for example, that at an interest rate of nine percent, the debt and the interest payments on it would double within eight years, whereas it would take fourteen years if the rate of interest were only five percent. Obviously, the debt and the interest on it will grow faster than the rate of interest if the budget exclusive of interest payments is also in deficit. By the same token, the debt will grow more slowly than the rate of interest to the extent that the other part of the budget is in surplus.

If the CBO and OMB deficit projections are adjusted to remove the difference in interest rate assumptions, the gap between the two projections of the 1989 deficit is reduced by about \$50 billion. Even after this adjustment, the CBO estimate of 1989 interest outlays is some \$17 billion higher than that of the OMB because the non-interest portion of the deficit also is higher in the CBO scenario and additional debt is required between now and 1989 to finance this portion.

### Internal consistency?

Since the CBO and OMB forecasts of the future inflation rate are quite close, their different interest rate projections do not result from differences in inflation premiums. Instead, the disagreement over interest rates implies different views of the future course of *real*, or inflation-adjusted, inter-

# FRBSF

est rates. Specifically, the Administration's predictions imply that the real short-term interest rate will decline to about 1.5 percent by 1989—close to its long-run historical average. In contrast, the CBO forecasts that this rate will remain close to four percent—well above its historical norm—throughout the second half of the decade.

The CBO scenario of a four percent real interest rate on government debt could not be sustained for long unless there were a substantial *surplus* on the non-interest portion of the budget. The reason for this is the arithmetic of interest rates and government debt described earlier. Again, the argument is most easily understood in the case where the non-interest part of the government budget remains in balance. In that case, the real value of the debt will rise at a rate equal to the real interest rate, which in the CBO scenario is four percent. Most economists believe that the long-run annual real growth rate of the U.S. economy is approximately three percent. The CBO estimate of a four percent real interest rate therefore implies that the real value of the public debt will grow faster over time than real GNP. This means that the ratio of debt to GNP will rise steadily.

A rising debt/GNP ratio would put pressure on real interest rates to rise to induce investors to absorb more and more government securities into their portfolios relative to their incomes. It is true, of course, that investors would also be receiving rising incomes in the form of government interest payments, but this would not meet the government's borrowing needs unless all of this increased income were saved and lent back to the government. A rising real interest rate in turn means larger interest payments, which causes the deficit to widen and debt to grow even faster. In this way, a cycle is set up in which interest rates and the deficit feed on each other to produce an explosive situation. This tendency for interest rates and the debt to chase each other ever upward would be even greater if, as the CBO projects, there also is a deficit on the non-interest portion of the budget.

The OMB scenario avoids this disturbing conclusion by positing a steady decline in the real interest rate to a level well below the long-run real growth rate of the economy. This scenario implies that once the non-interest portion of the budget has been brought into balance, the debt/GNP ratio will steadily decline even if all interest payments are made out of new borrowing. Moreover, the drop in the debt/GNP ratio reduces the pressure of government borrowing in the financial markets to finance interest payments, and this in turn helps keep rates moving downward. Thus, whereas the CBO view implies an *upward spiral* in interest rates and deficits, the OMB assumption implies a *downward spiral*. In fact, under the OMB assumption, it would be possible to run a modest deficit on the non-interest portion of the budget and still have a debt/GNP ratio that does not rise.

## Up or down?

Both scenarios appear to be internally consistent. The CBO projection assumes continued high interest rates which produce rising deficits which in turn would tend to keep interest rates up. Conversely, the OMB forecast has declining interest rates and deficits. Which, then, is more likely to be realized over the next five years? Unfortunately, this is a difficult question to answer with our existing knowledge.

In recent years, there has been considerable controversy as to whether the observed high real interest rates have resulted from the emergence of the large and continuing federal deficit, the Federal Reserve System's relatively tight monetary policy, or some other factor such as a rise in the real productivity of capital in the United States. Although most economists accept the view that the emerging deficit has been one important cause (although not necessarily the sole cause) of high rates, there is little *quantitative* evidence available on the relationship between the size of the budget deficit (or the debt/GNP ratio) and the real interest rate, simply because deficits have never been this high relative to GNP during periods of strong economic expansion.

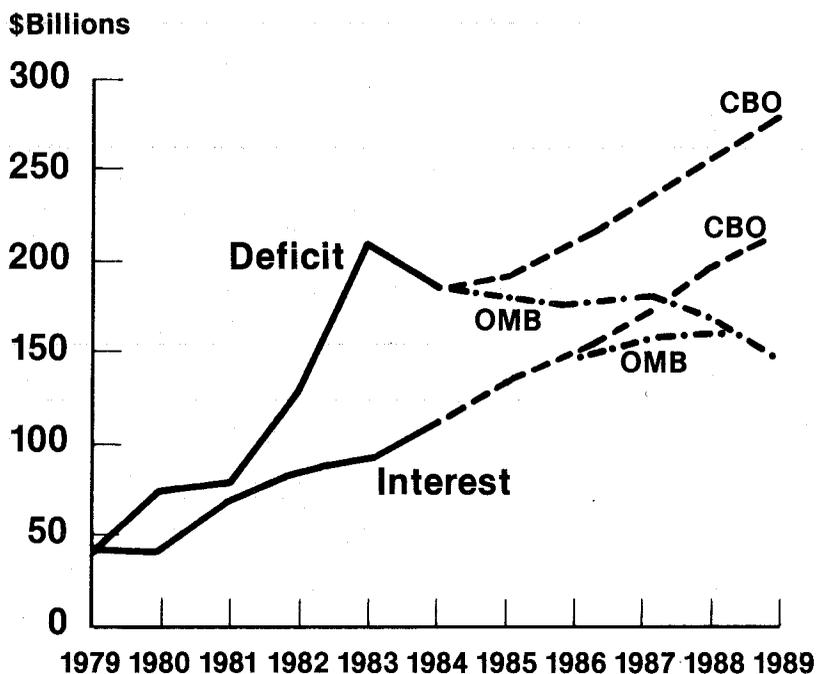
Hence, even if we accept the view that a rising public debt puts upward pressure on interest rates, we do not know the magnitude of this effect. While the OMB and CBO scenarios are each logically consistent, we do not know whether they are quantitatively so. That is, without quantitative information on how deficits affect interest rates, we cannot confirm that the specific *numbers* projected for deficits in each scenario are consistent with the assumed interest rates from which those projections were derived.

exceeds the government's interest payments cannot continue if the economy's real growth rate is less than the real interest rate. Simple arithmetic implies that if the growth rate of the economy falls short of the interest rate, there must be a surplus on the non-interest portion of the budget since otherwise the government must borrow increasing amounts merely to meet its annual interest expenditures. This surplus can only be achieved by either reducing the growth of non-interest expenditures or increasing tax receipts.

What is clear, however, is that in the long-run, a situation involving a total deficit that equals or

Brian Motley

## Federal Deficit Versus Interest on the Debt



Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, or of the Board of Governors of the Federal Reserve System.

Editorial comments may be addressed to the editor (Gregory Tong) or to the author . . . Free copies of Federal Reserve publications can be obtained from the Public Information Department, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco 94120. Phone (415) 974-2246.

Alaska Arizona California Hawaii Idaho  
Nevada Oregon Utah Washington

# San Francisco Bank of Federal Reserve Research Department

PRESORTED  
FIRST CLASS MAIL  
U.S. POSTAGE PAID  
PERMIT NO. 752  
San Francisco, Calif.

## BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities	Amount	Change	Change from 12/28/83	
	Outstanding 11/07/84	from 10/31/84	Dollar	Percent <sup>7</sup>
<b>Large Commercial Banks</b>				
Loans, Leases and Investments <sup>1 2</sup>	186,599	880	10,574	6.9
Loans and Leases <sup>1 6</sup>	167,901	883	12,546	09.3
Commercial and Industrial	51,258	702	5,295	13.3
Real estate	61,274	111	2,375	4.6
Loans to Individuals	30,677	84	4,026	17.4
Leases	5,097	23	34	0.7
U.S. Treasury and Agency Securities <sup>2</sup>	11,595	21	912	8.4
Other Securities <sup>2</sup>	7,103	24	1,060	15.0
Total Deposits	192,009	357	1,012	0.6
Demand Deposits	45,190	340	4,047	9.4
Demand Deposits Adjusted <sup>3</sup>	30,126	826	1,205	4.4
Other Transaction Balances <sup>4</sup>	12,732	453	43	0.3
Total Non-Transaction Balances <sup>6</sup>	134,087	244	5,102	4.5
Money Market Deposit				
Accounts—Total	38,896	344	701	2.0
Time Deposits in Amounts of				
\$100,000 or more	40,984	187	2,819	8.5
Other Liabilities for Borrowed Money <sup>5</sup>	22,626	110	381	1.9
<b>Two Week Averages of Daily Figures</b>	Period ended 11/05/84	Period ended 10/22/84		
<b>Reserve Position, All Reporting Banks</b>				
Excess Reserves (+)/Deficiency (-)	55	13		
Borrowings	133	102		
Net free reserves (+)/Net borrowed(-)	78	89		

<sup>1</sup> Includes loss reserves, unearned income, excludes interbank loans

<sup>2</sup> Excludes trading account securities

<sup>3</sup> Excludes U.S. government and depository institution deposits and cash items

<sup>4</sup> ATS, NOW, Super NOW and savings accounts with telephone transfers

<sup>5</sup> Includes borrowing via FRB, TT&L notes, Fed Funds, RPs and other sources

<sup>6</sup> Includes items not shown separately

<sup>7</sup> Annualized percent change