Research Department
Federal Reserve
Bank of
San Francisco

November 11, 1983

FRBSF Weekly Letter

Saving, Investment, and Deficits

The Federal budget deficit normally tends to decline in cyclical economic expansions because tax receipts rise and expenditures (such as unemployment compensation) fall with the increase in the level of economic activity. Currently, the Congressional Budget Office estimates that the Federal budget deficit would fall from 6 percent of GNP in 1983 to 5 percent in 1984 and 1985, and 3 percent in 1986, if the budget resolution adopted in June were implemented.

To evaluate the economic impact of these budget projections, we must put the numbers in perspective. Among the most important issues are the following: 1) How atypical are these deficits compared to the usual pattern of Federal borrowing over the business cycle? 2) How big are the deficits in comparison to normal savings flows from which they are financed? 3) To what degree are savings flows likely to respond to the high demand for them created by large deficits?

This *Letter* addresses these questions by focusing on the supply and demand for saving. The evidence suggests that, despite the projected decline in Federal budget deficits as a percent of GNP, the deficits would continue to exert strong upward pressure on real interest rates and to crowd out activity in interest-sensitive sectors of the economy.

Supplies of saving

Saving is defined here net of depreciation according to the concepts of national income accounting. The two largest suppliers of saving are persons and businesses. Net personal saving equals personal income after taxes less personal consumption of goods and services (including purchases of durables other than housing), interest paid by consumers to business, and personal transfer payments to foreigners. Net business saving is simply equal to undistributed corporate profits.

Since the 1950s, net business saving as a percent of GNP has displayed no significant trend. It has followed a regular cyclical pattern, rising in expansion and falling in recession, and has equalled about 2½ percent on average. Net personal saving has followed no particular cyclical pattern, but is remarkable for its recent trend. After averaging nearly 5 percent of GNP in the late 1960s and reaching 6 percent in the early 1970s, it dropped to slightly over 4 percent of GNP in 1977 and has remained at about that percentage ever since.

It is arguable that the decline in net personal saving was primarily due to the rise in the marginal tax rate for the average household, which reduced real after-tax interest rates and blunted the incentive to save. Indeed, rising marginal tax rates combined with nominal interest rates that lagged behind inflation produced negative real after-tax interest rates in the last half of the 1970s. Since then, however, real after-tax interest rates have risen to their highest postwar levels, yet the personal saving rate has failed to rise. One is led to conclude that other factors have been largely responsible for the decine in the personal saving rate.

Although patterns of saving by the two largest suppliers have depressed saving as a percent of GNP, the total supply of saving has actually remained relatively constant. Total saving has received significant boosts from its two remaining sources—state and local government and foreign capital inflows. Since the early 1970s, state and local government has been a substantial net supplier of funds to the credit market because of surpluses in the operation of pension funds. In the early postwar period, these surpluses tended to be offset by deficits on other accounts, but as state and local government expenditures grew in relation to GNP (doubling between 1948 and 1982), overall budget surpluses came to predominate.

Research Department
Federal Reserve
Bank of
San Francisco

From a balanced budget position in the late 1960s, state and local government moved to budget surpluses of over 1 percent of GNP in the 1970s.

In addition, foreigners have recently become net suppliers of saving to the credit markets. Between 1977 and 1978, higher prices for oil and the U.S. economy's faster growth in comparison to other countries combined to turn the U.S. trade surplus into a deficit. As a result, the international exchange value of the dollar fell until a sufficiently large inflow of foreign capital was attracted to balance the U.S. payments position. Since 1981, high real interest rates produced by an expanding Federal budget deficit have combined with an anti-inflationary monetary policy to boost net capital inflows even more. For 1983, these inflows are expected to reach over 1 percent of GNP.

The total of these four sources of net saving is shown in the uppermost line in the accompanying chart. For 1983, net capital inflows plus state and local government surpluses are estimated to supply an amount of saving equal to nearly 3 percent of GNP. However, the total supply of net saving will be no greater than its postwar average of about 8 percent of GNP because of the recent downward trend in personal saving and the cyclically low business saving.

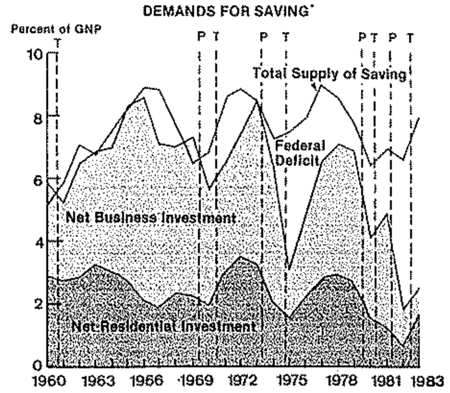
Demands for saving

Demands on the total supply of net saving can usefully be divided into three categories —net residential investment, net business investment in plant and equipment and inventories, and borrowing to finance the Federal budget deficit—also shown in the chart.

In business cycle expansions, net business investment takes a growing share of the supply of net savings, as capacity utilization increases and inventories are restocked. Normally, demands of the business sector are accommodated by cyclical increases in business saving and reductions in Federal borrowing as government expenditures such as unemployment compensation fall and tax receipts rise. If this were to happen in the current economic expansion as it did in the 1971-73 and the 1975-78 upturns, the pressure on real interest rates would be limited, and residential investment would be able to grow over most of the cyclical expansion. But if Federal borrowing as a percent of GNP were to remain the same, or even increase, as it did in the period 1963-67, the resulting pressure on real interest rates would produce an early decline in residential construction.

In the early postwar period the Federal government was a supplier of saving (through budget surpluses), rather than a demander. However, since the 1960s, Federal borrowing has come to absorb a growing proportion of available saving. During the 1975-79 expansion, the Federal budget deficit absorbed 30 percent of net saving, compared to 15 percent in the 1971-73 expansion and only 5 percent in the 1961-69 expansion. Federal borrowing continued to absorb 30 percent of net saving in 1981 partly because the recovery from the 1980 recession was incomplete. But even if net saving were to move up to 9 percent of GNP in the future, as business saving rebounds from a cyclical low, under current policies the Federal budget deficit would still absorb over 50 percent of it between 1983 and 1986.

If the supply of saving increases in response to higher interest rates, it may relieve some of the upward pressure on interest rates. But the evidence indicates that saving is relatively unresponsive to interest rates. In the first place, we know that the upward trend in Federal deficits has been accompanied by a downward trend in net private saving and no change in the total supply of net saving. And, second, what we know about the various components of saving does not suggest a large response to changes in real interest rates either.



* = 1983 estimates by the Federal Reserve Bank of San Francisco
P = Peak
T = Trough of recession

Economists dispute not only the size of the response of domestic private saving to real interest rates but also whether the response is positive or negative. The most widely accepted view is that this response is positive, but not very large. My own estimate is that domestic private saving increases 0.2 percent of GNP for every one percentage point increase in real after-tax short-term interest rates because of a decline in the demand for consumer durables other than housing. A one percentage point increase in real after-tax rates would bring forth new domestic private saving equal to only 4 percent of projected Federal deficits.

Net capital inflows are a more responsive source of net saving but are unlikely to take a great deal of pressure off interest rates. Over the 1950-80 period, the real after-tax commercial paper rate (on a bond equivalent yield basis) averaged zero percent, while the U.S. net capital outflow averaged one quarter of 1 percent of GNP. Because real interest rates rose sharply in 1981 and 1982, the real after-tax commercial rate will likely average about 2 percent for 1983, and the net capital inflow should be about 1½ percent of GNP. Using these relationships as a benchmark, a 1 percentage point change in real after-tax short-term interest rates would appear to attract net foreign capital inflows equal to nearly 1 percent of GNP.

However, this kind of calculation overstates the extent to which foreign capital inflows respond to higher real interest rates in the longer run. Part of the current capital inflow is temporary because it consists of a shifting of assets within current portfolios. Once these portfolio shifts have been completed, the size of foreign capital inflows will be diminished because they will be limited to only a portion of current flows of foreign saving.

The outlook

Unless the Federal government undertakes tax and expenditure policies to reduce the projected Federal deficits, real interest rates are certain to remain high and could well rise even further. The level of Federal borrowing standardized for movements over the business cycle would remain high. As a percent of GNP, Federal borrowing is projected to fall only slightly faster than in previous business cycle expansions. By 1986, when the civilian unemployment rate is expected to be down to 7.5 percent, Federal borrowing would still absorb 33 percent of total net saving.

Moreover, the growth of business demands for saving is likely to be stronger than normal for several reasons. These are: 1) accelerated shifts in the composition of the economy's output, which require the creation of new production facilities, 2) accelerated shifts in the geographical location of business, also requiring new facilities, and 3) the spur to modernize obsolete or otherwise inefficient or inadequate capital provided by the Economic Recovery Tax Act of 1981. The impetus given to business demands for saving by these factors will reinforce the normal tendency for real short-term interest rates to rise in a cyclical expansion. Because of the strength of business demands, the brunt of the crowding out of private investment would fall upon residential investment and, to a lesser extent, purchases of consumer durables.

Adrian W. Throop

Research Department
Federal Reserve
Bank of
San Francisco
Alaska • Arizona • California • Hawaii
Idaho • Nevada • Oregon • Utah • Washington

BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 10/26/83	Change from 10/19/83	Change from year ago Dollar	Percent
Loans (gross, adjusted) and investments*	162,213	188	– 389	– 0.2
Loans (gross, adjusted) — total#	142,168	170	87	0.1
Commercial and industrial	43,209	239	– 2,287	– 5.0
Real estate	57,347	30	– 27	– 0.0
Loans to individuals	24,919	89	1,515	6.5
Securities loans	2,790	301	486	21.1
U.S. Treasury securities*	7,537	52	908	13.7
Other securities*	12,507	– 34	– 1,383	– 10.0
Demand deposits — total#	40,305	–1,251	1,554	4.0
Demand deposits — adjusted	28,670	– 876	599	2.1
Savings deposits — total†	65,783	– 403	33,967	106.8
Time deposits — total#	68,453	504	– 32,021	– 31.9
Individuals, part. & corp.	62,803	506	– 27,447	– 30.4
(Large negotiable CD's)	16,978	– 4	– 20,502	– 54.7

Weekly Averages of Daily Figures	Week ended 10/26/83	Week ended 10/19/83	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves (+)/Deficiency (–)	58	23	125
Borrowings	16	0	3
Net free reserves (+)/Net borrowed(–)	42	23	122

* Excludes trading account securities.
# Includes items not shown separately.
† Includes Money Market Deposit Accounts, Super-NOW accounts, and NOW accounts.

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