
FRBSF WEEKLY LETTER

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Budget Deficits and Foreign Savings

It has recently become popular to point out that foreigners are financing a significant part of our federal budget deficit. Many consider this a fortuitous development that will allow the U.S. to finance a large increase in domestic investment at the same time. The only risk they see is that this foreign saving might disappear as quickly as it apparently developed, and drive U.S. interest rates up in the process.

This *Weekly Letter* explains the foreign savings inflow as another "economic distortion" associated with large budget deficits. More specifically, the inflow results from an increase in our current account deficit brought on by an appreciation of the dollar. The dollar's increased strength comes from the higher long-term interest rates, caused by expectations of large budget deficits, that make U.S. securities more attractive to foreign as well as domestic investors. Because the inflow simply mirrors the deterioration in our trade position with the rest of the world, it involves costs to the economy. Furthermore, this analysis suggests that the withdrawal of foreign savings can only develop slowly and is most likely to be associated with a fall rather than a rise in U.S. interest rates.

Deficits and long-term rates

Budget deficits affect long-term interest rates because financial markets are forward-looking. That is, interest rates are strongly influenced by expectations of developments in inflation, business cycle growth and government deficits over the next five to ten years.

As an example, take the actions of Congress and the Administration to cut tax rates and increase defense spending in 1981. By raising expectations of future deficits, they also raised long-term interest rates even though the actual deficit in 1981 was substantially less than those in the period 1982-83. Indeed, the 20th century peak in long-term Treasury interest rates occurred in September 1981 (some weeks after the largest tax cut in history became law) even while the inflation rate was declining and the economy was in a recession. In addition, tight monetary policy until mid-1982 raised short-term interest rates relative

to long-term rates and thus also contributed to generally higher interest rates at that time.

Chart 1 illustrates how the gap between inflation and long-term nominal interest rates has widened substantially since early 1981. Surveys of financial market participants indicate long-term expectations of inflation have been in the 6.5 to 7 percent range for the last two years. This suggests that *real* long-term interest rates have been substantially higher since 1981.

Interest rates and exchange rates

In general, the longer the maturity of the underlying U.S. dollar-denominated asset, the larger the exchange rate response will be to a rise in interest rates. This relationship is based on accepted interest rate arbitrage conditions that provide a link between long- and short-term markets. It is based on two offsetting factors that affect the foreign demand for U.S. securities: real interest income and exchange rate risk from holding U.S. assets.

The higher is the real interest income from owning U.S. relative to foreign assets, the greater will be the foreign demand for U.S. assets. But, the greater the risk of exchange rate loss a foreigner may suffer from holding dollar assets, the less will be the foreign demand for U.S. assets. A rise in U.S. real interest rates will quickly increase the foreign demand for U.S. assets and drive the current exchange value of the dollar above its future expected value. At the point when the extra interest earned on U.S. assets just matches the extra exchange rate loss expected from future dollar depreciation, there will be no further incentives for foreigners to increase their demand for U.S. securities, and the dollar exchange rate will reach at least temporary balance.

The net of these two factors explains why long-term rates have a bigger impact on the exchange value of the dollar than short-term rates. If U.S. 3-month interest rates increase by 1 percent, then the extra interest rates abroad will be one-quarter of a percent for three months. In this short-term case, the exchange rate must only rise by one-quarter of a percent now and be expected to fall by the same amount over the next three months for

the exchange rate loss to just match the extra interest income. However, if U.S. 10-year interest rates rise by 1 percent, they would increase the extra interest income by 10 percentage points over comparable foreign assets. For the exchange rate loss to match this extra interest income, the exchange value of the dollar must rise by 10 percentage points now and be expected to decline by one percent per year over the next ten years.

Expectations that budget deficits will rise significantly over the next 10 years tend to raise interest rates on 10-year securities. They also drive the exchange value of the dollar up by approximately 10 times the rise in the interest rate. As can be seen in Chart 2, the weighted average exchange value of the dollar started to rise substantially in 1981, at about the same time that real interest rates started to rise.

If, as a first approximation, one assumes that the exchange rate will return to its purchasing power parity (PPP) value in the long-run, deviations of exchange rates from PPP could be explained by real interest rate differentials between the U.S. and abroad. A 2.5 percent increase in U.S. real 10-year rates over foreign 10-year rates would explain an exchange rate 25 percent above PPP in mid-1982 and one which stays about 25 percent "over-valued" through early 1984 (see Chart 2).

International trade and foreign savings

When U.S. real interest rates started to rise in 1981, they led to an immediate increase in the desire of foreigners to purchase U.S. securities and, via the exchange rate mechanism described above, to an immediate appreciation of the dollar. Only as the dollar appreciation increased our trade and current account deficit could there develop an *actual* inflow of foreign savings.

The U.S. current account is our broadest measure of trade in goods, services and transfer payments with the rest of the world. In 1981, the current account registered a \$5 billion surplus. By 1983, it was \$40 billion in deficit, and in the first quarter of 1984, about \$78 billion in deficit (at annual rates). While there will always be large gross flows of funds into and out of the U.S., a net foreign savings inflow can occur only when the U.S. current account is in deficit. Only in this way can U.S. residents, on balance, go into debt to foreign residents. This debt is satisfied by selling U.S. assets to foreigners. Driven by the large federal budget defi-

cit, high real interest rates in the U.S. make it more attractive for foreigners to purchase U.S. securities, while the high exchange value of the dollar makes the purchase of U.S. goods less attractive.

U.S. interest rates are now most likely lower than they otherwise would have been had foreign savings inflows not increased significantly in the last two years. As a result, the crowding out caused by budget deficits has occurred in our net export position rather than in domestic fixed investment. This can be seen by comparing two statistics. Business investment as of the first quarter of 1984 is almost 1 percent above its business cycle peak in mid-1981. That is an unusually fast recovery in investment this soon after a recession. On the other hand, real net exports have declined by 3.5 percent of real GNP from mid-1981 to early 1984, when in the same stage of previous business cycles, it has typically increased. The U.S. export and import-competing sectors are now smaller than if they were not being "crowded out" by government deficits.

Future course of foreign savings

How much longer can the U.S. current account deficit and the foreign accumulation of U.S. assets continue? And, are still higher interest rates needed for foreigners to finance the \$150-\$200 billion cumulative U.S. current account deficits forecast for the next two years?

One line of reasoning suggests that foreigners may soon reach a limit on the amount of U.S. assets they desire to hold even at current high U.S. real interest rates. To put \$150-200 billion of their international portfolio into U.S. assets over the next two years presumably would require an increased risk premium. In such a case, only a rise in U.S. interest rates, and/or a fall in the exchange value of the dollar (thereby reducing the risks of a further dollar depreciation) could induce foreigners to continue buying U.S. securities at a rate equal to the size of our current account deficit. However, at least with respect to the period 1984-85, the economic and political stability of the United States argues that foreigners would require relatively small risk premiums to increase their holdings of U.S. securities. Given the highly integrated international capital market, foreign residents are probably as willing to hold an increased share of U.S. assets as New York residents are willing to hold of California assets.

Another line of reasoning suggests that a foreign savings inflow of \$150-200 billion over the next two years, while unprecedented, can be sustained because it would represent only 6-7 percent of the net savings of other industrial countries of the world. If such were the case, the only reason that foreigners would reduce their demand for U.S. assets is if there were a fall in U.S. real interest rates or a rise in the expected rate of U.S. inflation brought on by a change in U.S. monetary or fiscal policy. If Congress and the Administration significantly changed fiscal policy by reducing the budget deficit, they would permit a decline in both real and nominal interest rates. The desire of foreigners to hold U.S. securities would correspondingly decline and result in an immediate fall in the exchange value of the dollar. Real interest rates and exchange rates would fall together, reversing their parallel rise since 1981. This would be a healthy development because it would help eliminate the dollar's current "over-valuation" without the need for a significant easing in monetary policy that may increase fears of future inflation.

The alternative is for financial markets to think that the expected large future deficits would be financed by an increase in the money supply and higher future inflation. Such an expectation would reduce real interest rates by shifting the burden of financing government spending away from industries that are significantly affected by tight credit markets toward those households whose after-tax incomes rise by less than the inflation rate. This decline in real interest rates would probably not be associated with a decline in nominal interest rates, which would ultimately have to increase to reflect the rise in inflation expectations. In this case, foreigners would lose confidence in the real purchasing power of their U.S. assets, as occurred in 1977-78, and therefore reduce their demand for such assets. The exchange value of the dollar would decline promptly as it did in the earlier period.

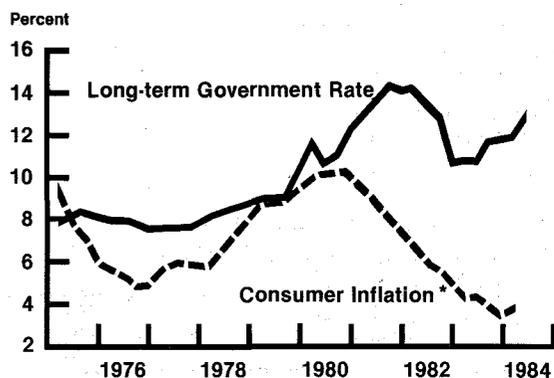
Conclusion

This analysis suggests that the most likely source of a change in the foreign desire to hold U.S. assets would be a change in U.S. monetary or fiscal policy that significantly alters real interest rates or inflation expectations. But while policy changes can quickly affect the desire to hold U.S. assets, actual foreign savings flows can change only slowly, through adjustments in the U.S. current account balance. Thus, exchange rates, but not

U.S. interest rates, could decline quickly in the face of a decline in foreign preferences for U.S. assets. Foreign savings flows would be reversed only slowly as the dollar decline eventually leads to a U.S. current account surplus. This would most likely prevent U.S. interest rates from falling as much as they otherwise would. However, the outflow is not likely to be a strong independent force in raising interest rates.

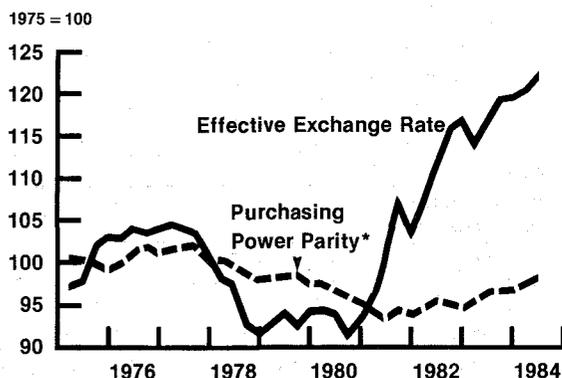
Michael Keran

CHART 1
Long-term Interest Rates and Inflation



* Consumer inflation is measured by percent change of the Personal Consumption Expenditure Deflator over one year earlier.

CHART 2
U.S. Dollar Exchange Rate and Purchasing Power Parity



(Source: Morgan Guaranty 'World Financial Markets')

* Trade weighted index of foreign wholesale prices relative to U.S. wholesale prices.

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Alaska Arizona California Hawaii Idaho

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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount	Change	Change from 12/28/83	
	Outstanding 6/20/84	from 6/13/84	Dollar	Percent Annualized
Loans, Leases and Investments ^{1 2}	180,698	625	4,673	5.5
Loans and Leases ^{1 6}	161,371	617	6,016	8.0
Commercial and Industrial	48,875	354	2,912	13.1
Real estate	60,118	57	1,219	4.3
Loans to Individuals	28,407	127	1,756	13.7
Leases	4,988	— 15	— 75	— 3.0
U.S. Treasury and Agency Securities ²	11,953	14	— 554	— 9.2
Other Securities ²	7,375	— 5	— 788	— 20.0
Total Deposits	187,138	—1,434	— 3,859	— 4.2
Demand Deposits	44,290	— 637	— 4,947	— 20.8
Demand Deposits Adjusted ³	28,482	—1,748	— 2,849	— 18.9
Other Transaction Balances ⁴	12,039	— 396	— 736	— 11.9
Total Non-Transaction Balances ⁶	130,809	— 400	1,824	2.9
Money Market Deposit Accounts—Total	37,361	—1,702	— 2,236	— 11.7
Time Deposits in Amounts of \$100,000 or more	39,403	— 68	1,238	6.7
Other Liabilities for Borrowed Money ⁵	23,661	5,888	654	5.9
Weekly Averages of Daily Figures	Period ended 6/18/84	Period ended 6/4/84		
Reserve Position, All Reporting Banks				
Excess Reserves (+)/Deficiency (—)	45	32		
Borrowings	131	115		
Net free reserves (+)/Net borrowed(—)	— 86	— 83		

¹ Includes loss reserves, unearned income, excludes interbank loans

² Excludes trading account securities

³ Excludes U.S. government and depository institution deposits and cash items

⁴ ATS, NOW, Super NOW and savings accounts with telephone transfers

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

⁶ Includes items not shown separately

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