Research Department
Federal Reserve
Bank of
San Francisco

August 26, 1983

FRBSF Weekly Letter

Real Rates and Recovery

The economy is recovering. A preliminary government estimate put real GNP growth at an annual rate of 9.2 percent during the second quarter. Industrial output has been growing at a double digit rate since bottoming out at the end of last year. More recently, employment has begun to pick up. Retail sales have risen as well. Furthermore, the prospects for continued gains over the near term appear good. The index of leading economic indicators continues to rise month after month. On July 1, income tax rates were reduced, boosting disposable income to yet higher levels. Survey measures indicate that consumer sentiment has turned strongly optimistic, and final demand has strengthened enough to draw down industrial inventories, setting the stage for further increases in production.

Yet in spite of this and other encouraging economic news, there is much discussion about whether the current recovery will be short-lived and incomplete in the sense that another economic downturn will begin before idled labor and business capacity have been re-employed. The deterrents to robust recovery in this view are the currently high real interest rates and the prospect of sharply rising real rates as the economy revives.

In this *Letter*, we present two measures of short-term real interest rates. We then examine whether real rates are unusually high for this stage of the business cycle and point out the relation between the decline in these rates and the faster growth of the monetary aggregates since last year. We conclude with the implications of the current real rates for the extent and composition of the recovery and for monetary policy.

Measuring the real rate

The definition of the real rate of interest is the market, or nominal, interest rate minus the inflation rate. The expenditure decisions of households and businesses depend on the real rate of interest they expect to receive or to pay but that rate cannot be known for certain until the actual inflation rate over the period in question is known. Since most financial agreements specify a fixed nominal interest rate, borrowers and lenders subtract the inflation rate they *expect* over the term of the loan or the deposit to arrive at the real rate they may pay or receive.

A relatively low-cost way to forecast upcoming inflation is to use the recent, actual inflation rate. This method, while sufficiently accurate when inflation is somewhat stable, may be misleading if unusual circumstances arise or if we are near turning points in the business cycle. Since 1970, for example, the imposition and removal of general price controls, the deregulation of specific prices, and the sudden changes in oil prices administered by OPEC may each have made past inflation an inaccurate predictor of coming inflation in specific periods. Likewise, as the economy moves from contraction to expansion, actual current and expected future inflation rates may both rise above actual past inflation rates. In this situation, expected real rates calculated by subtracting actual past inflation instead of the expected future inflation rate may overstate the rates financial market participants perceive.

Moreover, different measures of inflation in the form of different price indexes may also signal very different inflation rates during the transition from high to low inflation and in times when there are large changes in relative prices. During 1979 and 1980, for example, consumer prices, as measured by the consumer price index, rose at an annual rate three and one half times faster than that of prices for all output. Conversely, in the two quarters since the business cycle trough at the end of 1982, consumer prices rose at an annual rate three percent lower than that of the deflator for GNP. These differences in

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inflation rates are due to the differences in the relative importance of various goods whose prices are measured for the indexes. The CPI focuses more on the cost of consumer credit and food, for example, while the GNP deflator puts larger weights on capital equipment.

Which index is more appropriate for calculating real interest rates depends on the composition of goods that the loan will be used to finance. But whatever the differences in inflation rates the various indexes signal, they tend to dwindle the longer the period of comparison. In this *Letter*, we focus solely on consumer prices for simplicity, recognizing that many business borrowers may be just as interested in the broader measure.

Quarterly values of two measures of inflation-adjusted interest rates are plotted in Chart 1. The thin line is the real rate obtained by subtracting the inflation rate over the past year from the three-month Treasury bill interest rate. The thick line represents the real rate estimated when the inflation rate predicted for the upcoming quarter by an econometric model is subtracted from the same T-bill rates. Although these two estimates of the real rate would be similar over long periods of time, they can differ substantially over short periods. Rates based on the econometrically predicted inflation rates were higher in 1982 and considerably lower since last fall than the alternative, more readily calculable measure.

Chart 1 also indicates that although they have risen in the most recent periods, real rates, when calculated with the model-based expected inflation measure, are now much lower than they were a year ago. Therefore, to the extent that the current recovery further raises expectations of higher future inflation (relative to the low recent rates of inflation), expected real borrowing and lending rates will be lower, and more stimulative, than those based on recent actual inflation.

Are rates unusually high?

Popular and professional discussion has suggested that real, short-term interest rates, though lower now than in recent years, remain high for this stage of the business cycle. Often, at a business cycle trough and in the early stages of recovery, such rates are not much above zero, but Chart 1 indicates that in the first half of 1983 real rates were closer to three percent.

The evidence in Chart 2 supports the idea that real rates are "unusually" high. The values of the expected, real, one-year interest rates come from subtracting the average inflation rates expected (by a group of economists) as of each June and December for the upcoming twelve months. These real rates have been cyclically adjusted by subtracting the typical postwar level of such rates at each stage of the business cycle. Thus, the thin line in Chart 2 measures the deviation of real rates from their typical level, given business conditions at each of the dates. It suggests that, by last summer, rates were very much higher than is typically the case given the low level of economic activity. Since that time, real rates have fallen sharply, but the estimate for June 1983 is still more than two percentage points above the norm.

The thick line in Chart 2 shows the growth of the money supply over the previous half-year relative to its growth over the preceding three years. In the last year, money has grown considerably more rapidly than in the early 1980s, but in spite of this acceleration in money growth, real rates cyclically adjusted or not are still high by historical standards. In the postwar period, no other recovery began with real rates, adjusted or unadjusted for the level of economic activity, this high. Only the upturn that began in 1980 started with real rates approaching these levels, and that recovery was one of the shortest and shallowest on record.

Apparently, easier monetary policy has helped to reduce real interest rates, but the

rates have not fallen to the levels observed in earlier recoveries. The incipient upturn in credit-sensitive sectors such as housing, durables, and inventories, testifies to this reduction in rates. That these sectors remain weak is consistent with rates that have fallen but which remain high.

Conclusion

Current real rates, whether calculated by subtracting recent or forecasted inflation rates from current nominal rates, are high by historical standards for this stage in the U.S. economic recovery. Will they abort the recovery?

It is worth noting that virtually all postwar recoveries have proceeded with an overall upward drift in real interest rates. After all, real rates may rise because of the expanding demands for credit entailed by a recovery. Federal deficits, current and forecasted for the future, may not only tend to keep interest rates high; they may also contribute to stronger aggregate demand since the large cyclically adjusted deficits result from business and personal tax cuts and increased defense expenditures.

Policymakers may want a comparatively deliberate recovery in the hopes that such a recovery would endure longer and allow for a continued unwinding of inflation. Given an expansionary fiscal policy stance, monetary policy that is tight by historical standards and high real interest rates may not be deterrents to a recovery so much as just what is needed to keep total output and inflation from rebounding more strongly than is desired.

Such a policy, however, is likely to affect different sectors of the economy differently. The credit-sensitive demands for business investment, housing, and durables are likely to remain weak in comparison to demands less sensitive to real interest rates. In recent years, changes in tax laws have at least partially offset the effects of high real rates on business capital spending. To the extent that investment increases in response to these tax changes, however, real rates will be bid higher and other sectors will have to grow less.

James A. Wilcox

Chart 1
TWO MEASURES OF REAL RATES

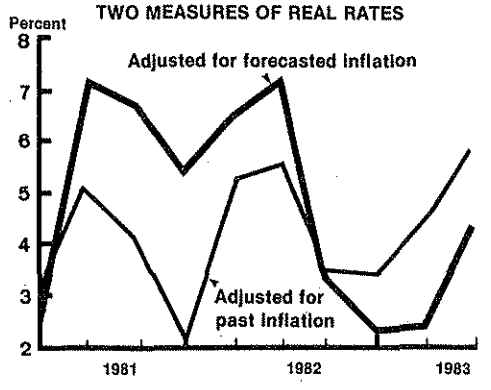
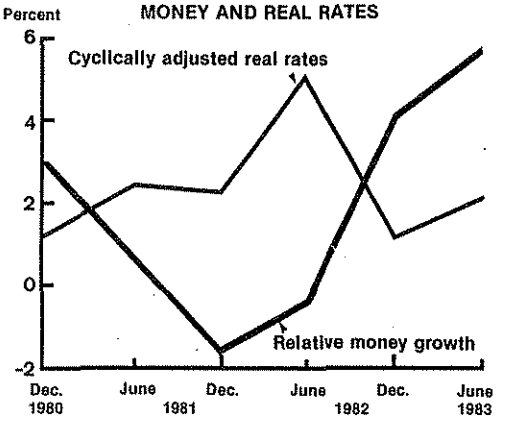


Chart 2
MONEY AND REAL RATES



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BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 8/10/83	Change from 8/3/83	Change from year ago Dollar	Change from year ago Percent
Loans (gross, adjusted) and investments*	161,308	− 702	− 32	− 0.0
Loans (gross, adjusted) — total#	140,371	− 445	− 530	− 0.4
Commercial and industrial	43,436	− 279	− 1,155	− 2.6
Real estate	56,420	155	− 1,134	− 2.0
Loans to individuals	24,049	− 51	695	3.0
Securities loans	2,346	− 67	− 169	− 6.7
U.S. Treasury securities*	7,822	− 200	1,357	21.0
Other securities*	13,115	− 56	− 859	− 6.1
Demand deposits — total#	41,104	−1,674	1,817	4.6
Demand deposits — adjusted	29,785	368	2,170	7.9
Savings deposits — total†	66,383	− 318	35,406	114.3
Time deposits — total#	66,201	408	− 32,997	− 33.3
Individuals, part. & corp.	60,705	388	− 29,123	− 32.4
(Large negotiable CD's)	18,198	63	− 18,856	− 50.9

Weekly Averages of Daily Figures	Week ended 8/10/83	Week ended 8/3/83	Comparable year-ago period
Member Bank Reserve Position			
Excess Reserves (+)/Deficiency (−)	135	125	87
Borrowings	5	122	8
Net free reserves (+)/Net borrowed(−)	130	3	79

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

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