

**For use in AMs of
Sunday, May 11, 1980**

A VIEW OF INTEREST RATES

Remarks by

**Henry C. Wallich
Member, Board of Governors of the Federal Reserve System**

at a

Seminar with the Central Monetary Authorities of the Gulf States

Manama, Bahrain

May 10, 1980

A VIEW OF INTEREST RATES

Remarks by

Henry C. Wallich
Member, Board of Governors of the Federal Reserve System

at a

Seminar with the Central Monetary Authorities of the Gulf States

Manama, Bahrain

May 10, 1980

I am honored by the invitation you have issued to me to address the Seminar of the Central Monetary Authorities of the Gulf States on the subject of interest rates.

Recent Developments in U.S. Interest Rates

Interest rates on assets denominated in dollars, the largest single pool of financial assets in the world, recently have been at historically unique levels. In mid-March the term structure of rates displayed a sharp downward tilt, unusual in its severity even at peaks of interest-rate movements, with short-term rates exceeding long-term rates by 3 or 4 percentage points. Rates have been unusually volatile, with CD rates moving from 13.5 to 18.0 percent at the peak and down again to 12.5 within a span of 10 weeks. Long-term U.S. Government bonds have moved as much as 5 points in a day. Spreads among different market instruments of the same maturity have been exceptionally wide, with 3-month commercial paper 200 to 250 basis points above 3-month Treasury bills. Risk premia reflecting quality differences have widened, although lately some of these spreads have diminished again.

Since reaching all-time highs earlier this year--primarily in late March and early April--most U.S. interest rates have dropped sharply over the past month, responding to the incoming data that indicate the economy is entering a period of recession, as well as to the weakness displayed by the monetary aggregates. The largest declines in rates have been in the short-term maturity area. The federal funds rate, which traded above 19 percent a month ago, has been close to 14 percent on several recent days. Similarly, in the 3-month maturity area, rates on Treasury bills, commercial paper, and CDs have all dropped 5-1/2 to 6 percentage points below their peak levels. Most commercial banks, on the other hand, have lowered their prime lending rate only 1-1/2 percentage points over the past month to 18-1/2 percent and in some cases to 18 or 17-1/2 percent; as a result, the differential between the prime rate and money market rates exceeds the maximum that occurred, for example, in 1974.

In the long-term maturity area, Treasury and corporate bond yields have fallen about 2 percentage points below their peaks, while yields on municipal bonds have dropped about 1-1/2 percentage points. The declines in bond yields have prompted a near-record amount of new corporate debt obligations for the week of April 27, and a very large volume of publicly offered corporate bonds is expected to be sold during May.

The decline in short-term relative to long-term yields has resulted in a considerable flattening of the yield curve. For example, Treasury yield curve is now roughly flat from six months on out. This curve had been downward sloping since September 1978.

Federal Reserve Objectives

Many observers have attributed these developments to Federal Reserve policy. Certainly the Fed has influenced the course of events in some degree. I would remind you, however, that the Federal Reserve policy is, and has been for many years, oriented primarily toward the control of the money supply. The Federal Reserve seeks to implement publicly announced targets expressed in terms of the rate of growth of various monetary aggregates, principally transactions balances, transactions balances plus various highly liquid near-monies, and an even broader concept of the money supply, respectively referred to as M-1A and M-1B, M-2, and M-3. Bank credit represents an additional target. Interest rates are determined by the interaction of the more or less steady supply of money and credit and the demand therefore. A strong economy, or a high rate of inflation, makes for strong demand and tends to push up interest rates. A weak economy, and especially diminishing inflation, tend to drive them down. In a sense, therefore, the level of and fluctuation in interest rates are a by-product of a stable money supply policy.

The Federal Reserve has employed a money-supply target as its primary objective since 1970, and it is somewhat surprising to me, therefore, to find that Fed policy has been so widely interpreted by the market in terms of interest rates. Perhaps one reason, for which the Federal Reserve itself has been responsible, has been the use of the federal funds rates as a means of controlling the growth of the money supply. By establishing a given funds rate, and thereby influencing other short-term rates, designed to generate the desired growth of the money supply at the prevailing level of demand, the Federal Reserve was able in principle to achieve as firm a

control of the money supply as by alternative methods. But this procedure had the effect of focusing market attention, and perhaps even the attention of the Federal Reserve, on the funds rate. There was a danger that the funds rate would be moved too slowly to prevent deviations of monetary growth from the target. Under this system, the Federal Reserve at times yielded to the temptation of postponing rate changes when they appeared painful, or when unusual uncertainty surrounded the move.

Since October 6, the Federal Reserve has employed an alternative technique. Reserves have been supplied in amounts that, given the reserve requirements for different types of deposits, enable the banks to generate the desired volume of money. It was recognized that the new technique, because of the greater rigidity of reserve supply, was apt to make interest rates more volatile. It has worked well so far, however, in keeping the aggregates on track. This may be the reason why there has been a widespread misconception in the market that the Federal Reserve had shifted only recently from an interest-rate to a money-supply target.

It may indeed be hard for the market to accept that interest rates are not the proximate objective of Federal Reserve policy. To the market, the money supply is a statistical abstraction. Interest rates are the reality which governs quotations, contracts, profits and losses. Moreover, it is, of course, true that the economy is steered by interest rates and not by the money supply as such. The money supply is merely a means of establishing interest rates conducive to avoiding inflation when inflation itself has made the level of rates that would accomplish this goal very hard to diagnose. There is no direct effect running from the money supply to the economy. The effect runs via interest rates. We do not have some kind of black box where money supply goes in and GNP or inflation comes out.

The Federal Reserve's power over interest rates would be small even if it tried to conduct its policy in terms of interest rates rather than the money supply. Over short periods of a few months and perhaps even quarters, to be sure, the Federal Reserve can influence interest rates, particularly at the short end, by speeding up or slowing down the supply of money and credit. Over longer periods, however, such actions are likely to be counterproductive. Monetary action has effects on the price level. Faster growth of money accelerates inflation. Inflation, as we have had adequate occasion to observe, raises interest rates. With a lag of not many quarters, therefore, any effort by the Federal Reserve to push down short-term interest rates by increasing the growth of money and credit likely would be followed by higher interest rates than before. The same general principle applies on the downside.

Over long-term interest rates, the power of the Federal Reserve, like that of any other central bank, is even smaller. Long-term rates are determined largely by expectations of the future rather than by present conditions, especially, of course, future economic activity and inflation. If an acceleration of the money supply, designed to bring down interest rates, causes the market to expect higher inflation soon, the market will not wait until the inflation materializes. Long-term interest rates, therefore, may well move up rather than down when the central bank engages in an expansionary policy.

Indirectly, of course, the Federal Reserve can influence interest rates through its monetary policy. It can do so by influencing the rate of inflation. Declining inflation will bring down interest rates. To accomplish

this objective, of course, it is necessary to conduct a sufficiently tight monetary policy in order to reduce inflation. Other measures, including a tighter fiscal policy and avoidance of governmental price-raising actions, are needed. Given the right policies directed toward diminishing inflation, interest rates can be expected to come down also. Once again, the expectational factor may speed up the downward movement of interest rates particularly at the long-term end of the rate structure.

The Outlook for Interest Rates

Asking a central banker is not necessarily the best way of informing oneself about the outlook for interest rates. The market provides a more objective and more readily available source of information. It does so through the term structure of interest rates and, in the United States, through quotations for Treasury bill futures.

The calculation of forward short-term interest rates from the yields on securities of different maturities encounters a variety of technical difficulties and, perhaps for that reason, it is not practiced much, to my knowledge, beyond the range of U.S. Treasury bill maturities, i.e., up to one year. The use of prices of Treasury notes maturing through September 1982 produces a rather jagged series that, as of April 18, looks as if the market expected rates to bottom out toward the end of 1981 and to rise thereafter, as shown in Table 1. A more detailed prediction is given by the market for Treasury bill futures through March 1982. As of April 18, this series indicated a drop to the 10 percent area for 90-day bill rates in late 1980 and early 1981, with a slight tendency to rise thereafter. The absolute rates forecast by the Treasury bill futures market are, of course, very variable. Evidence of the changeability of the pattern of

TABLE 1

THREE MONTH FORWARD AND FUTURES RATES, APRIL 18, 1980^{1/2}/
(discount basis)

	1980				1981				1982	
	June	Sept.	Dec.	March	June	Sept.	Dec.	March	June	Sept.
Forward Rates Using Treasury Notes	13.12	9.94	11.29	9.69	10.01	12.39	8.83	9.50	10.72	14.42
Futures Market Rate	11.72	10.83	10.37	10.16	10.16	10.26	10.26	10.30		
Forward Rates Using Treasury Bills	12.25	12.20	9.75							

1. Forward rates for Treasury notes and bills were calculated by first converting all spot rates to an effective annual yield, then computing the effective forward rate, and finally by reconvertng the forward rates to a discount basis. Futures rates are also reported on a discount basis. Futures contracts are for 91-day bills. Maturities on forward rates varied between 90 and 92 days.

2. Treasury note forward rates are for the last day of the month. Futures contract delivery dates occur in the third week of the month. Forward rates for Treasury bills are for June 19, September 18, January 2, 1981.

Source: Government Finance Section, Division of Research and Statistics, Board of Governors of the Federal Reserve System.

forward rates expressed in Treasury bill futures is provided in Table 2, covering the period February 15 to April 30, 1980. Basically, they are nothing but quotations for securities futures reflecting rapidly changing market opinion. With every substantial shift in the Treasury bill spot rate, the whole schedule of rates tends to shift. Indeed, the movement in forward rates frequently is larger than the movement in the spot rate. Recently this tendency seems to have become accentuated, possibly implying mounting uncertainty about the future. The general direction in which these forward rates are pointing, nevertheless, is of interest. As of May, they point toward a decline in rates during 1980, and a flattening out into 1981. The decline predicted following May, however, is substantially less than the decline that had already occurred from the peak rate of 90-day bills on March 25, 1980, at 16 percent to 10.4 percent on April 30, 1980.

Interest Rates and Inflation

Inflation, and expectations of inflation, clearly represent the dominant sources of interest-rate determination. The relationship between interest rates and inflation seems to be well recognized now around the world. In most countries, interest rates seem to move broadly with changing expected rates of inflation. Inflation differentials among countries reflect broadly, although with important variations, differences in current or perhaps expected inflation.

The economic logic underlying this relationship was investigated 80 years ago by Irving Fisher. Fisher, however, observed that interest rates followed the direction of prices with long lags, of the order of 10-20 years. That was probably a plausible market reaction in an age when people thought of prices as essentially stable and had no up-to-date price



TABLE 2

**Weekly Average Rate in Treasury Bill Futures Markets and
Comparable Implicit Forward Rates Derived from Spot Market Bid Yields¹**

	3-month bill rate	Futures Contract for Delivery in Month of:						
		1980				1981		
		June	Sept.	Dec.	March	June	Sept.	Dec.
February 15	12.36							
Futures Market Rate		12.33	11.67	11.28	11.06	11.00	10.98	11.00
Implicit Forward Rate		12.60	12.59	--	--	--	--	--
March 28	15.55							
Futures Market Rate		15.17	14.24	13.54	13.16	12.81	12.71	12.64
Implicit Forward Rate		15.70	14.59	14.99	--	--	--	--
April 11	14.30							
Futures Market Rate		12.96	11.90	11.14	10.72	10.50	10.54	10.47
Implicit Forward Rate		13.71	13.72	12.58	--	--	--	--
April 18	13.57							
Futures Market Rate		12.07	11.12	10.51	10.23	10.16	10.19	10.21
Implicit Forward Rate		12.60	12.74	10.52	--	--	--	--
April 25	12.18							
Futures Market Rate		11.16	10.38	9.90	9.69	9.70	9.80	9.78
Implicit Forward Rate		11.99	11.27	9.80	--	--	--	--
Most Recent Daily (April 30)	10.39							
Futures Market Rate		10.10	9.51	9.24	9.15	9.21	9.28	9.24
Implicit Forward Rate		10.82	10.79	10.58	--	--	--	--

1. Forward rates are derived from yields on Treasury bills only.

indexes if any. Today, with widespread expectations of inflation, and price indexes published monthly, the nexus logically should be much closer.

The mechanism that establishes the linkage of interest rates and inflation rates is a plausible one. When prices rise, borrowers can afford to pay more, and lenders must charge more to preserve the value of their assets in real terms. Borrowers can expect to repay in depreciated currency. Lenders usually have alternatives -- instead of lending, they can invest in common stocks, in real estate, or in commodities such as oil. The market nowadays quickly develops new instruments which make available to the lender the highest rate that any borrower is willing to pay.

Long-term interest rates, of course, involve expected inflation over the life of the investment. Nobody can read people's minds, but econometricians have been quite successful, at least as far as the goodness of fit of their regressions is concerned, in approximating inflation expectations on the basis of distributed lags of past rates of inflation. The big macro models employed in forecasting generally use real interest rates in their investment and other equations. The real rate of return on financial assets can be calculated in the same manner.

Real Interest Rates After Taxes

What is noteworthy about calculations of real interest rates is that very often they ignore the tax factor. The tax factor -- taxability of interest received, tax deductibility of interest paid -- aggravates the impact of inflation on interest rates. The inflation premium that is contained in the interest rate is treated by the tax collector, at least in the United States, exactly like the real interest component. Since the inflation premium in effect represents amortization of the debt, this

subjects receipt of debt repayment to taxes and makes amortization tax deductible to that extent. One would suppose, therefore, that lenders and borrowers would take this into account and would want to charge and be prepared to pay, respectively, interest rates higher than the rate of inflation.

Tax rates, of course, differ among different lender and borrower groups. A large part of the lenders is in fact tax exempt, for instance pension funds -- the major buyer of bonds, foundations and endowments of all kinds, and foreign governments, including OPEC. Some other borrower groups are taxable only in part because they have interest payments to deduct against their interest receipts, such as banks and other financial intermediaries. The question then is who is the marginal investor whose funds must be attracted via an adequate interest rate? If that is the tax-exempt investor, one would suppose that a relationship of inflation and interest rates that provides a moderate positive real rate would represent some kind of equilibrium situation. Historically, the interest rate in the absence of inflation has probably been in the range of 1-3 percent. If, on the other hand, the taxable lender is the marginal supplier of funds, who under today's conditions usually still gets a negative real rate after tax, one would have to conclude either that the tendency of interest rates to compensate for inflation is less than complete or that the process of adjustment to positive real rates after inflation has not yet been completed.

In this connection, it is worth noting that during the fairly severe inflation of the late 1940's in the United States, interest rates remained at very low nominal levels and were severely negative in real terms both before and after tax, partly due to pegging of government bond rates by the Federal Reserve. Nobody then seems to have thought of

Irving Fisher's research and his conclusions, or perhaps one might have thought that the lags with which interest rates adjusted to inflation were indeed as long as Fisher had estimated. It may well be, therefore, that in the course of time the adjustment of nominal interest rates to inflation may become more complete so as to take into account interest after tax. In that case, tax-exempt investors would find themselves receiving a windfall. That windfall would be the analog of the windfall received by high tax bracket buyers of tax-exempt municipal bonds, since the interest on these must be high enough to attract not only these top-bracket investors but also middle-bracket investors, owing to the large volume issued.

Interest Rates and International Capital Movements

The market keeps providing new illustrations of the effect of interest rates on capital movements, a topic that, I believe, is of current interest to members of this audience. The topic has a long history. When the Federal Reserve System was created in 1913, it was believed that the 12 Federal Reserve Banks would be able to conduct different monetary policies, through differential discount rates. It was soon discovered that, in a single currency area, like the United States, there can be no interest-rate differentials for highly liquid and mobile funds. Interest rates on money-market instruments in effect have tended to equality throughout the United States.

Under the Bretton Woods system, and even more under the wider margins allowed within the European Monetary System, interest differentials and, therefore, moderately independent monetary policies have been shown to be possible. There exists enough risk of exchange losses, even though relatively small, to restrain unhedged capital flows in pursuit of small interest differentials.

Floating exchange rates allow the widest differentials in interest rates. Because the exchange risk is high, capital does not necessarily flow into the currencies with the highest interest rates. There may be periods, nevertheless, when the exchange risk seems low and when other factors operating on exchange rates, such as current account developments or changes in inflation rates or in cyclical conditions, are more or less dormant. It is in the absence of potential disturbances from these other sources that interest-rate differentials become effective in inducing capital flows. In that case, of course, they also tend to move exchange rates. The recent movement in U.S. interest rates, up and down, and the movements of the dollar over the same period of time, are a case in point.

International Interest Rate Relationships

International interest rate relationships deserve a word of comment at this point. As I have noted earlier, the tendency of interest rates to move with the rate of inflation has manifested itself around the world, lending support to the proposition that this is indeed a validated form of behavior of a market economy. During the recent upsurge of inflation in almost all countries, interest rates also moved up. In part no doubt this reflected a response to monetary policy. But the origins of the upsurge probably have their roots in the response of the markets. This leads to the conclusion that real interest rates around the world are much more similar than nominal interest rates, even though presumably not identical.

From the viewpoint of the investor, what is the implication of an approximate equality of real interest rates around the world? The investor, of course, must take into account also exchange-rate movements.

If exchange rates, under a floating-rate system, move proportionately to national rates of inflation, expectations of exchange appreciation and depreciation will equate interest and inflation differentials among countries. Of course, such close adherence of exchange rates to purchasing power parity can be expected at most when other factors influencing exchange rates, such as cyclical developments, structural changes, and differences in growth rates, are absent or temporarily inoperative. Whenever this equality of exchange-rate expectations, interest differentials, and inflation differentials is realized, the investor has little to choose among investments in different currencies. Of course, there may be other considerations of investment policy, such as diversification.

For the investor comparing investment in his own currency with investment in a foreign currency, there may be an additional risk factor. His total return from an investment denominated in foreign currency consists of the nominal interest, plus or minus an expected exchange-rate gain or loss. The exchange-rate component clearly is very uncertain. A risk-averse investor probably would, therefore, give less weight to the expected exchange-rate movement if it is a gain. He would give more weight to the expected movement if it is a prospective loss. Under such conditions, the investor would tend to remain in his home currency, whether he expects the foreign currency to appreciate or depreciate. An investor looking at investments in currencies other than his own, as is probably the case of many OPEC investors, would not be subject to this particular influence.

Portfolio Policies

The foregoing considerations lead me to venture a few comments on aspects of investment by oil-producing countries, realizing that this is a matter on which I have only very limited knowledge. The wealth of an oil-exporting country consists of its oil and other resources in the ground, of its other domestic real capital, and of its financial portfolio. The development of domestic real capital is a matter that far transcends portfolio policy. The combination of oil in the ground and financial investments abroad, however, seems to lend itself to analysis by the principles of portfolio management.

From the point of view of portfolio management, insofar as it is applicable, the objective is to get the highest return for a given degree of risk, or the lowest degree of risk for a given rate of return. One question that would need to be answered, therefore, concerns the expected rate of return on oil in the ground. Several answers would seem to be possible to that question. One is that oil in the ground, as an asset, should produce the same rate of return as other similar assets in order to achieve a competitive equilibrium. There would then remain the question of what assets could be regarded as conceptually similar.

If oil in the ground is regarded as analogous to an equity investment, affected by considerable risk, the rate of return, and therefore the secular increase in price, should be that of an equity investment. In the United States, the rate of return on equity investments has been in the range of 5-10 percent of late, in earlier years somewhat higher.*

If oil in the ground is regarded as a very safe investment, its rate of return presumably should be comparable to that of riskless assets. Historically, as I noted earlier, the real rate of return, after adjustment for inflation, on riskless assets has been of the order of 1-3 percent. That range would then be the measure of a rise in the price of oil that might provide portfolio balance.

Still another view is possible, however, in the light of modern portfolio theory. Assets must be valued not only for their own rate of return, but also for the contribution that they make to the overall risk of the portfolio. That contribution depends on the covariance, i.e., the correlation, of an asset's return with the other investments in the portfolio. If the covariance is negative, a higher price can be paid for the investment and a lower return accepted than if the covariance is positive or zero. In pre-inflationary days, it was not difficult to find assets with negative covariance. Bonds tended to go up when stocks went down during a cyclical movement, and the two types of investment provided good diversification. Today, the picture is far less clear. I would not know how to evaluate the covariance of oil in the ground with a portfolio consisting for the most part of fixed claims in foreign currencies, but I would think that even though somewhat theoretical, the matter is worth pondering:

The Pre-conditions for Lower Interest Rates

In conclusion, I would like to note that my discussion of interest rates has required me to discuss the problem of inflation in almost every context. That lamentable circumstance once more confirms what we all know -- that inflation represents the greatest problem today for the financial world as well as for the real sectors of our economies. One cannot overestimate the importance of coming to grips with that problem. I believe

that this is fully recognized in the United States today, and in particular by the Federal Reserve. This objective has required very high interest rates. But I hope you will agree that the objective is essential, and that, in order to achieve it, a high price is worth paying.

#