Navigating Through The Interest Rate Morass: Some Basic Principles

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IN ancient times, the Delphic oracle was renowned for providing cryptic, often meaningless, answers to important questions. In recent times, this Delphic tradition has seemingly inspired much of the popular discussion about the causes and consequences of interest rate movements. Without difficulty, one can find comments which indicate that interest rates are simultaneously too high and too low; or, that high interest rates are "caused" both by slower money growth and expansionary money growth; or, to cite one of the more puzzling pieces of analysis, that the dollar will rise in foreign exchange markets because of interest rate movements, whether interest rates rise or fall.[1]

Discussions of interest rate movements and their consequences are frequently misleading and often mistaken. In large part, the errors in such discussions stem from the absence of a theoretical framework with which to assess and evaluate the behavior of interest rates. The purpose of this article is to introduce some basic economic concepts about interest rates. It is intended to provide the reader with the minimal background necessary to analyze some of the more common assertions regarding interest rates.

[1]Our personal favorite is the following: "Said Bache Halsey Stuart Shields in its foreign exchange weekly report, 'If rates go higher it helps the dollar on a real rate of return basis; if rates go lower it reflects confidence that the U.S. will shortly experience a decline in the rate of inflation.' So, either way, the dollar benefits." This appeared in "Dollar Soars in Face of Lower Interest Rates as Focus Shifts to More Fundamental Factors," *The Money Manager* (February 2, 1981), p. 12.

DIFFERENT INTEREST RATES MOVE SIMILARLY OVER TIME

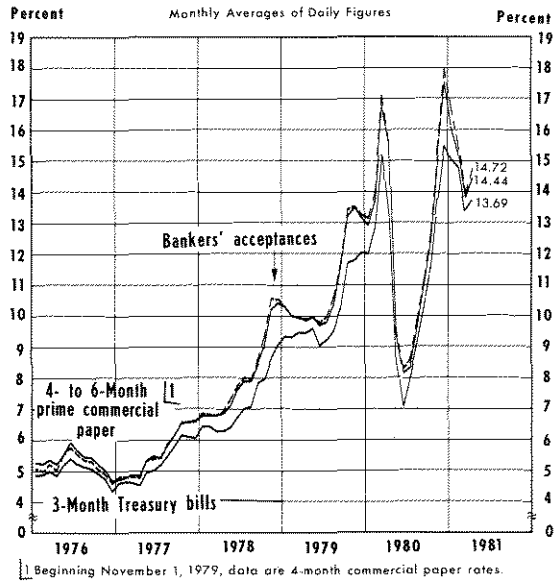
Theoretical discussions of interest rates typically refer to something called "the rate of interest." Yet, there is a wide variety of interest rates, each of which is important for a specific type of financial transaction. Charts 1 and 2 depict the movements of several of these interest rates over the past few years. Three things are immediately obvious: First, there are differences — in some cases, sizable — between the *levels* of these interest rates. For example, Federal Housing Administration (FHA) mortgage rates exceed the yield on state and local Aaa bonds by as much as 300 to 600 basis points during the 1976-80 period (chart 2).[2]

Second, short-term interest rates are generally more variable than long-term rates. For example, the rate on 3-month Treasury bills (chart 1) ranged from below 5 percent (in 1976 and 1977) to over 15 percent (in 1980), a movement of more than 1,100 basis points. In 1980, 3-month Treasury bill rates fluctuated more than 800 basis points. On the other hand, the yield on long-term Treasury securities (chart 2) ranged from 7.20 percent to 12.39 percent over the 1976-80 period, a difference of about 500 basis points. In 1980, the range was 265 basis points (from 9.74 percent to 12.39 percent).

[2]One percentage point is equal to 100 basis points.

Chart 1

Short-Term Interest Rates

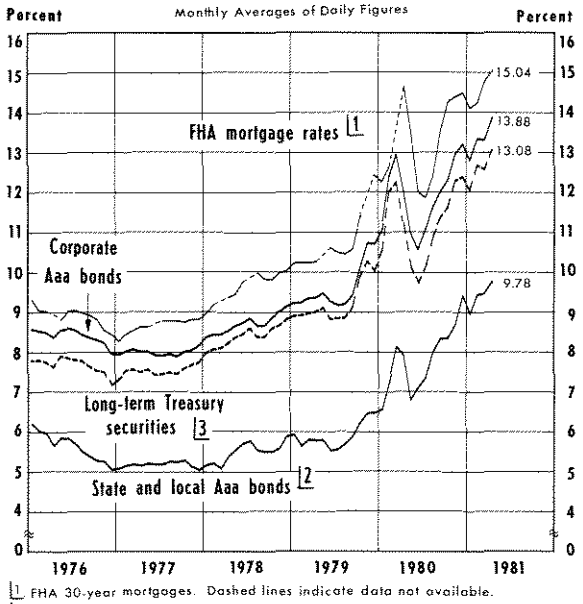


[1] Beginning November 1, 1979, data are 4-month commercial paper rates.

Latest data plotted: April

Chart 2

Long-Term Interest Rates



[1] FHA 30-year mortgages. Dashed lines indicate data not available.

[2] Monthly averages of Thursday figures.

[3] Average of yields on coupon issues due or callable in 10 years or more, excluding issues with federal estate tax privileges. Yields are computed by this bank.

Latest data plotted: April

Third, and most important for this article, although there are differences among interest rates, charts 1 and 2 clearly show one significant feature common to all: *interest rates generally move together over time.* For example, interest rates generally declined throughout 1976, rose steadily in 1977 and 1978, and followed similar up-and-down patterns in 1979 and 1980.

Because this article is concerned with the factors that produce similar movements in *all* interest rates, the discussion focuses on "the rate of interest," rather than referring to specific interest rates.

THE INTEREST RATE: THE PRICE OF WHAT?

Many discussions of interest rates go astray from the start because the rate of interest is never correctly defined. It is generally conceded that the rate of interest is a *price* that is paid or received for something; the problem lies in correctly determining what it is the price of. In this section, we show that it is the price of consuming goods *now* rather than later.

Nominal Prices, Inflation and the Price of Money

The price of anything is simply the rate at which it can be traded or exchanged for something else. The prices that we observe every day are *nominal* prices: they specify the rate at which specific goods are exchanged for *money.* If one gallon of milk can be purchased for two dollars, we typically say that the price of milk is $2.00 per gallon. However, we can also correctly say that the price of money is one-half gallon of milk per dollar. *The price of money in terms of any specific good is simply the inverse of the nominal price of that good.*

Inflation occurs when there is a general rise in the nominal prices of all goods and services over an extended period of time. This movement is typically measured by increases in various indices, such as the consumer price index (CPI) or the GNP implicit price deflator. When nominal prices of goods and services are generally rising, these indices display similar behavior.

Just as the price of money in terms of a specific good is the inverse of that good's nominal price, the price of money in terms of a composite measure of all goods and services is obtained simply by calculating the inverse of the general price index. Thus, inflation can be considered as a general rise in the nominal prices of goods and services or, equivalently, as a general fall in the price (or value or purchasing power)

Table 1
GNP Implicit Price Deflator and the Price of Money: 1970-1980

Year	GNP Implicit Price Deflator/100 (1972 = 1.00)	Price of Money[1] (1972 = 1.00)
1970	.91	1.10
1971	.96	1.04
1972	1.00	1.00
1973	1.06	.94
1974	1.15	.87
1975	1.26	.79
1976	1.32	.76
1977	1.40	.71
1978	1.50	.67
1979	1.63	.61
1980	1.77	.56

[1]The "price of money" is the inverse of the numbers shown in column 2.

of money. The relationship between one general measure of prices (the GNP implicit price deflator) and the price of money over the past decade is shown in table 1. The price (or value) of a dollar fell from 1.00 in 1972 to .56 in 1980 in terms of the nominal prices of goods and services. This indicates that a dollar could be purchased in 1980 for about half the goods and services that it cost in 1972.

By remembering this inverse relationship between the nominal prices of goods and the price of money, you will avoid making the most persistent error that pervades interest rate discussions. The interest rate is frequently, but erroneously, called the price of money. A simple comparison of the movement of interest rates (charts 1 and 2) with the movement of the price of money (table 1) demonstrates the fallacy inherent in this view. The price of money declined consistently throughout the 1970s. Interest rates, on the other hand, generally increased over this period. Whatever price the interest rate represents, it is clearly not the price of money.[3]

[3]Nor is it the price paid for the use of money: "Experience shows that nearly every student of economic science has . . . acquired a number of crude and usually false ideas on this important subject. Such, for instance, is the idea that interest is the price paid for the 'use of money' . . ." Irving Fisher, *The Rate of Interest* (New York: The Macmillan Co., 1907), p. 3.

Relative Prices and Economic Behavior

A *relative* price of one good measures the rate at which that good can be directly exchanged for another good. When money is used in the process of exchange, relative prices between goods are not immediately observed; they are easily calculated, however, as the ratio of the nominal prices of any two goods. For example, if the nominal price of milk is $2.00 per gallon and the nominal price of eggs is 50 cents per dozen, the relative price of milk (in terms of eggs) is four dozen eggs per gallon of milk.

Changes in relative prices, not those in nominal prices per se, are the ones that affect economic behavior. If wages rise relative to the prices of machinery, employers will reduce their use of labor and substitute more capital goods in production. If the price of American cars (including costs of operation) rises relative to that of foreign cars, consumers will purchase fewer U.S.-produced autos and more foreign-produced cars. When the price of beef rises relative to that of chicken or pork, we consider it only rational to purchase more of the relatively cheaper meats and fewer of the more expensive steaks. This response to relative price changes is so universal and thoroughly documented that it is called the "law of demand."

The Interest Rate: The Relative Price of Earlier Availability

The interest rate is the price that we see quoted in lending and borrowing transactions in credit markets. It is generally expressed as the *premium* that must be paid in an exchange between current and future *dollars*. For example, if you can borrow $100 now in exchange for $110 to be paid to the lender in one year, the rate of exchange between future and current dollars is 1.1 dollars in one year per dollar of credit now. This rate of exchange is generally designated by the implied rate of interest — in this example, 10 percent. This is why the rate of interest is called the price of credit.

However, this designation obscures the significant role that the interest rate plays in economic decisions. The interest rate would exist even in the absence of financial markets. Stripped of the mystique associated with complex financial transactions, the interest rate is simply the price paid for obtaining the use of goods

now — it is the price paid for earlier availability of goods and services.[4]

Consider what this concept reveals about its impact on the decisions that people make. As the price paid for earlier availability, the interest rate measures the rate at which people exchange the use of goods and services today for their use at some time in the future. If, for example, the annual rate of interest is 10 percent and nominal prices are not expected to change, every dozen eggs, ton of steel and quart of milk you use today "costs" you 1.1 times that amount of eggs, steel and milk that you would have had next year if you had only saved (refrained from using them) now.

We noted previously that an increase in the *relative* price of anything that we buy will induce us to buy less of it and more of other things that are now relatively cheaper. An increase in the interest rate means that the cost of consuming goods today rises in terms of the future goods that must be given up. Because the interest rate is the price that reflects the options available to individuals through time, it is the one price that pervades all of the economic decisions that people make. Specifically, the decisions that, in the aggregate, determine the economic progress of a nation — how much to save and invest — are fundamentally related to the rate of interest that people expect to prevail. It is no wonder that interest rate movements provoke such widespread concern.

THE EXPECTED RATE OF INTEREST IS ALWAYS POSITIVE

The rate of interest that people *expect* to receive from saving and investing is always positive. There are two primary reasons that this is so. The first reason concerns the fact that resources can be used productively over time. The second reason is that people have "positive time preference."

Resources Have Productive Uses

The interest rate is always positive because resources can be used in ways that increase their value over time. Today's steer can be slaughtered now or placed on a feed lot to grow in weight and size, yielding more beef and a larger hide in the future. There are a wide variety of goods which grow in value over time. Some goods, (e.g., steers, trees, wheat) physically grow larger over time; other goods (e.g., whiskey, cheese, wine) improve in quality with age. Still other goods (e.g., steel, coal, oil, labor) can be converted into capital goods (e.g., machines, trucks, autos). Since we live in a world in which more wheat, smoother whiskey and more trucks in the future are the costs of consuming wheat, whiskey and leisure time now, the price of earlier availability — the rate of interest — is always positive.[5]

People Have Positive Time Preference

People prefer consuming goods presently to consuming similar goods in the future. This is called positive time preference.[6] It means that people value the present use of resources (goods) more highly than they value the future use of resources. Since this is the case, they must be induced to forego the present use of resources by the payment of a positive rate of interest. Because of positive time preference and because it is possible to use resources in ways that are productive (increase their value) over time, people who give up the use of resources now will demand to be paid a positive interest rate for doing so; after all, they could always keep the resources themselves and receive the potential gains directly. Similarly, people who want to use resources (e.g., steers) currently, either to consume them (as steaks) or invest them (on feed lots) will always have to pay a posi-

[4]For a comprehensive discussion of interest rates, see Armen Alchian and William R. Allen, *Exchange and Production: Competition, Coordination, and Control* (Belmont, California: Wadsworth, 1977), pp. 424-59.

[5]This view has a considerable history and is widely held among economists. Irving Fisher, *The Theory of Interest* (New York: Kelley and Millman, 1954), p. 192, argues: "In the real world our options are such that if present income is sacrificed for the sake of future income, the amount of future income secured thereby is greater than the present income sacrificed . . . Nature is, to a great extent, reproductive . . ." See also Jack Hirshleifer, *Price Theory and Applications* (Englewood Cliffs, N.J.: Prentice-Hall, 1976), pp. 399-408 and pp. 415-32; Fisher, *The Rate of Interest*, p. vii; Frank H. Knight, *Risk, Uncertainty and Profit* (New York: Kelley and Millman, 1957), p. xli; and Frank H. Knight, "The Business Cycle, Interest, and Money: A Methodological Approach," *Review of Economics and Statistics* (May 1941), p. 221.

[6]See, for example, Eugen von Bohm-Bawerk, *Capital and Interest* (South Holland, Ill.: Libertarian Press, 1959), p. 259; Jack Hirshleifer, *Investment, Interest and Capital* (Englewood Cliffs, N.J.: Prentice-Hall, 1970), p. 117; and Mancur Olson and Martin J. Bailey, "Positive Time Preference," *Journal of Political Economy* (February 1981), p. 1-25. Olson and Bailey state in their conclusion: ". . . the case for positive time preference is absolutely compelling . . ."

For a standard textbook discussion of the issue, see Daniel Orr, *Property, Markets, and Government Intervention* (Pacific Palisades, Cal.: Goodyear Publishing Co., 1976), p. 175: "Almost any individual, if pressed with careful questioning, will declare that he would prefer to receive a dollar today, rather than tomorrow. After all, receipt today permits all the alternatives that receipt tomorrow does . . .; and other alternatives are opened up by the choice to take the dollar today . . ."

tive rate of interest; competition among prospective borrowers alone will assure this.[7]

EX ANTE AND EX POST RATES OF INTEREST

The previous section points out that the expected rate of interest is always positive; people will not forego the present use of goods (save or invest) unless they expect to receive a positive return from doing so. The expected rate of interest, the rate that determines the extent of saving and investment, is sometimes called the *ex ante* rate of interest. This interest rate is forward looking; it is this anticipated return that motivates individuals to make specific economic decisions regarding how resources will be used.

This rate of interest must be carefully distinguished from the actual rate of return that is ultimately received. The rate of return actually earned as a consequence of each decision is called the *ex post* rate of interest. The *ex post* rate is the *hindsight* rate of interest, and, as such, can be negative, positive or zero. Because it is unknown at the time the decision is made, the *ex post* interest rate is irrelevant for determining economic decisions. There is no way to undo past actions.

To see why *ex post* returns, per se, do not affect individuals' decisions, consider the following example. Suppose you are offered an opportunity to bet on the outcome of a coin toss. You are convinced that the coin is a fair coin; moreover, you will be allowed to toss the coin. The following odds are offered: if the coin turns up "heads," you win $100; if the coin turns up "tails," you pay $50. Since, in your estimation, the coin is as likely to turn up heads as it is tails on each toss, your *ex ante* or expected gain is $25 *on each coin toss.*[8]

Because you *expect* to win, you naturally accept the bet. You flip the coin and it turns up tails. You have just lost $50 as a result of your decision to bet. The *ex post* return from having bet reflects the change in your wealth; it is a negative $50.

What does this example show? First, *ex ante* and *ex post* returns can differ significantly because they represent entirely different concepts. Since they address different issues, different information is used in their calculation. The *ex ante* return used to make the decision was related to the various possible outcomes and the probability of each outcome. The *ex post* return, however, reflects solely the change in wealth that actually results from the decision.

Note, further, that the actual return resulting from past decisions is not relevant to subsequent decisions unless it somehow affects the current *ex ante* return. For example, suppose you can continue to bet on the toss of the coin under the same conditions at the same odds. Because you have acquired no information that would lead you to change your expected gain from betting, you would rationally continue to play the game. Your initial loss is what is called a "sunk cost;" it can not be recovered no matter what you do. The only things that are relevant in the process of making decisions are the expected returns of the opportunities that you presently confront.

To summarize, the *ex ante* rate of interest is the one individuals use to make savings and investment decisions; this forward-looking rate guides resource use. The *ex post* rate of interest, on the other hand, is backward-looking; it tells you how well you actually did.

NOMINAL AND REAL RATES OF INTEREST

In general, the interest rates with which we are most familiar (e.g., those quoted in financial markets) are expressed as the rate of exchange between current and future *dollars* rather than between current and future goods and services. These published interest rates are formed in the process of contracting between borrowers and lenders and express the rate at which a loan is *expected* to appreciate (in terms of dollars) over the contract period. Therefore, all interest rates quoted in financial markets are *ex ante* interest rates.

There are immense gains to both borrowers and lenders from specifying contracts in terms of money, the medium of exchange, rather than directly in terms of the actual goods and services; if this were not so,

[7]As Friedrich A. Hayek points out: "There can be no doubt that the existence of such a positive rate of profit [a positive real return] on investments is the main source of demand for loans of money, since command over present money is command over present resources which can be turned into future commodities at a profit. And there can also be little doubt that the existence of such a rate of profit is at least one of the reasons why people who might themselves employ the money profitably, will not be willing to lend it without special remuneration . . ." *The Pure Theory of Capital* (Chicago: University of Chicago Press, 1941), p. 355.

[8]The expected gain (loss, if negative) is equal to the probability of heads (.5) multiplied by your winnings if heads comes up ($100), minus the probability of tails (.5) multiplied by your loss if it comes up ($50). There is, of course, one substantial difference between this example and credit market transactions. The coin toss is a zero-sum game; the expected gain to one individual equals the expected loss to another. In credit markets, both borrowers and lenders expect to gain from the transaction; economic exchange is a positive-sum game.

we would observe considerably more "barter" loans. Specifying these contracts in terms of money, however, introduces an additional complication into the determination of the interest rate. This problem requires a discussion of the distinction between the nominal and real interest rate.[9]

In the absence of an *expected* inflation, the rate of interest on credit transactions will be the same whether money or goods and services are specified in the loans. If nominal prices are expected to remain unchanged, the price of money is likewise not expected to change. Thus, it will not matter whether loan contracts are specified in goods or money; they will yield equivalent interest rates.

The interest rate implied by the rate of exchange between present and future *goods* is called the *real* rate of interest. The interest rate implied by the rate of exchange between present and future *money* is called the *nominal* rate of interest. Because it represents an exchange between money now and money in the future, the nominal interest rate is influenced by the expected change in the *nominal* prices of goods and services over the contract period.

The following example highlights the relationship between the real and nominal rates of interest. Suppose that wheat currently sells for $4.00 per bushel and that you have 100 bushels of wheat. If the annual real rate of interest is currently 10 percent and if nominal prices are expected to remain unchanged, it makes no difference to you whether you lend 100 bushels of wheat now in exchange for 110 bushels next year, or sell the wheat for $400 and lend the proceeds in exchange for $440 next year. Because the two options are identical, the nominal interest rate (the rate on the exchange of current for future money) is equal to the real rate (the interest rate on the direct exchange of current for future wheat).

If, however, the nominal prices of all goods are expected to rise by, say, 5 percent during the year, the nominal rate of interest must rise by 5 percent as well to compensate the lender for the reduced value of the future money that will be received. Thus, although the real rate remains unchanged, the nominal rate of interest rises to 15 percent; it is equal to the sum of the real rate (10 percent) plus the expected rate of inflation (5 percent).

[9]From this point on, the term *"ex ante"* is deleted to simplify the discussion. However, since the discussion is intended to analyze interest rates that affect behavior, references to "the rate of interest" refer to the *ex ante* interest rate unless otherwise noted.

The nominal interest rate observed in financial markets is equal to the sum of the real interest rate and the *expected* rate of inflation over the contract period.[10]

A LITTLE THEORY GOES A LONG WAY

The theoretical discussion of interest rates developed in this article provides a means of interpreting many statements about interest rate movements. Consider, for example, the following popular misconceptions about interest rates.

Error #1: "Slower Money Growth Drives Up Interest Rates." This is perhaps the most widespread misconception that exists about interest rate movements. It derives, in part, from the fallacy that the interest rate is the price of money. If the interest rate were the price of money, then reduced growth of the money supply (relative to the growth in money demand) would indeed cause interest rates to rise. However, as noted earlier, the interest rate is *not* the price of money.

Because the price of money is the inverse of the nominal prices of goods and services, reduced money growth will increase the price of money and reduce the rate at which nominal prices of goods and services are rising. In other words, *slower money growth reduces the expected rate of inflation.* Since the nominal interest rate equals the real interest rate plus the expected rate of inflation, slower money growth will also reduce nominal interest rates.

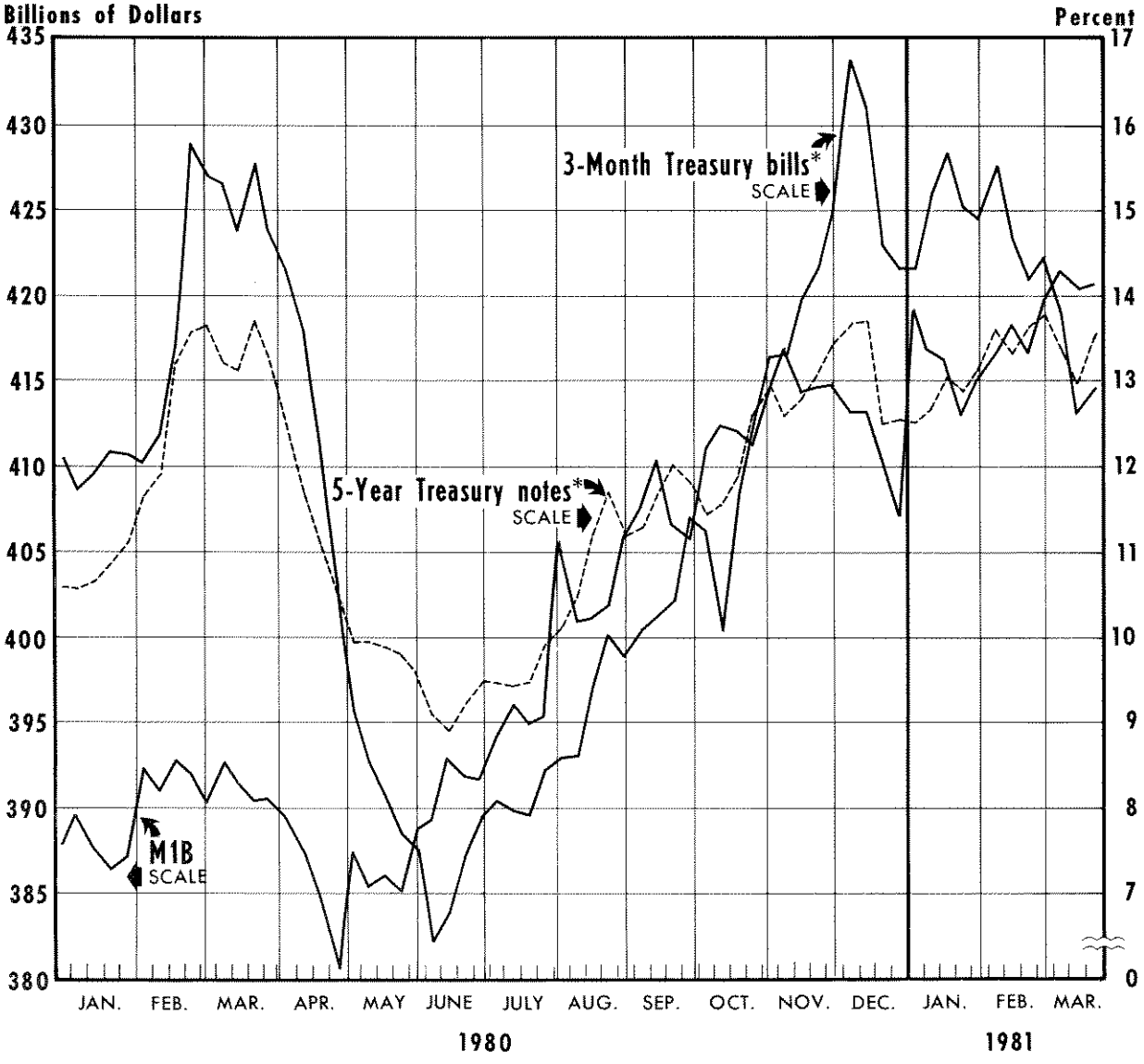
A casual observation of the data indicates the close link between "tight" money growth and low interest rates over long time periods. Over shorter periods, however, there is an ambiguous relationship between movements in money growth and interest rates. For example, as shown in chart 3, we can easily find periods when money growth and interest rates moved in similar directions (e.g., March-April 1980, July-mid September 1980) or in opposite directions (e.g., November-mid December 1980, January-March 1981). What is important here, however, is that we can demonstrate, using this simple theoretical framework, that the initial statement is specious.[11]

[10]The discussion in this article ignores the effects of taxes on nominal interest rates.

[11]A more comprehensive analysis of the relationship between money growth and interest rates would focus on whether the money growth was anticipated or not, whether it was expected to be permanent or not, and whether short-term or long-term rates of interest were being analyzed. These necessary additional qualifications provide further evidence for the vacuousness of the statement, "Slower money growth drives up interest rates."

Chart 3

Levels of M1B and Selected Interest Rates



*Weekly averages of daily market yields.

Error #2: "Higher U.S. Interest Rates Increase the Dollar's Value In Foreign Exchange Markets." Once again, remember that the nominal interest rate equals the sum of the real interest rate and the expected rate of inflation. Unless we know why U.S. nominal interest rates are rising, we cannot possibly tell whether the foreign-exchange value of the dollar will rise or fall. If, for example, U.S. nominal interest rates have increased because the expected rate of inflation has risen, the international price of the dollar will fall; greater U.S. inflation means a lower price of the dollar regardless of the market in which it is traded.

If, on the other hand, U.S. nominal interest rates have increased because the real interest rate has risen, we do not know how the dollar will respond in foreign exchange markets. If advances in U.S. technology have opened up new and highly profitable investment opportunities, both the real and nominal interest rates will rise, and the value of the dollar will

increase as foreign capital is drawn into the United States. However, if major political instability should arise in the United States, both U.S. real and nominal rates of interest will rise, and the foreign-exchange value of the dollar will fall as domestic and foreign investors withdraw their funds from the United States.

In general, the relationship between movements in U.S. interest rates and the foreign-exchange value of the dollar is ambiguous.[12] Changes in U.S. nominal interest rates indicate nothing about how the foreign-exchange value of the dollar will respond. The theoretical framework developed here points out the nature of the ambiguity and indicates the additional information necessary to determine the actual relationship.

Error #3: "The Real Interest Rate Is Negative." There are two different real interest rates: the *ex ante* real interest rate and the *ex post* real interest rate. The *ex ante* real interest rate is the real return that you expect to earn (or pay) when you lend (or borrow). The *ex ante* real interest rate is always positive except in certain bizarre scenarios.[13] People will never willingly save, lend or invest if the expected return is negative.[14]

In the world as we know it, people are generally unwilling to deliberately reduce their wealth. Negative *ex ante* interest rates mean that lenders are *knowingly* transferring some of their wealth to borrowers and that borrowers are *knowingly* increasing their wealth at the lenders' expense. Competition among borrowers to obtain wealth from lenders, and decisions by some prospective lenders to become borrowers instead, eliminate any prospect that the expected interest rate is negative. To be sure, charity does exist. For example, some parents give some of their wealth to their children. However, the impersonal nature of credit markets rules out their serving as charitable institutions.

It is always possible, of course, that the *ex post* real rate of interest for some people is negative; the future, after all, is uncertain. For instance, the actual rate of inflation could be significantly higher than was generally expected. As a result, the *ex post* real interest rate could be negative for lenders, indicating an unexpected wealth transfer from lenders to borrowers. For the borrowers, of course, this unexpected wealth gain means that their *ex post* real return is not only positive, it is considerably higher than they initially expected.

Negative *ex post* real interest rates are, by their very nature, unexpected. Consequently, although they do occur and have real effects on individuals' wealth, they are meaningless for prospective savings and investment decisions.

What can we conclude about the statement, "The real interest rate is negative"? If it indicates that the expected real interest rate is negative, the statement is false; the expected real interest rate is always positive. If it indicates that past lending or borrowing decisions have resulted in unexpected wealth transfers, it reminds us that decisions involving the future are always uncertain.

SUMMARY

Discussions of interest rate movements and their consequences are frequently misleading and often mistaken. In large part, the errors in such discussions stem from the absence of a theoretical framework from which to assess and evaluate the behavior of interest rates.

This article presented a simple theoretical discussion of interest rates. The important distinctions between *ex ante* and *ex post* interest rates on the one hand, and nominal and real interest rates on the other, were introduced and explained.

Finally, the concepts introduced in this article were applied to several commonly observed statements concerning interest rates. The widely-held views exemplified by these statements were shown to be invalid.

[12]This discussion assumes that foreign *ex ante* real interest rates and expected inflation rates remain unchanged. A more comprehensive analysis would incorporate the movements in U.S. interest rates *relative* to foreign interest rates. See, for example, Douglas R. Mudd, "Do Rising U.S. Interest Rates Imply a Stronger Dollar?" this *Review* (June 1979), pp. 9-13.

[13]For example, ". . . a world in which the only provisioning for the future consisted of carrying over initial stocks of perishable food, clothing and so forth and if every unit so carried over into the future were predestined to melt away . . ." would provide the preconditions for a negative *ex ante* real interest rate. The quote is from Irving Fisher, *The Theory of Interest and Capital* (New York: Augustus M. Kelley, 1965), p. 91.

[14]This observation has even reached Congress: "The public simply will not hold securities unless yields exceed expected inflation." Minority Views, *Monetary Policy for 1981*, Fifth Report by the Committee on Banking, Finance, and Urban Affairs, 97 Cong. 1st Sess., H. Rept. 97-10, p. 15.