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Evaluating Money Market Conditions

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*Remarks to the Southern California Chapter
of the Bank Administration Institute
Pasadena, California, September 12, 1973*

I appreciate this opportunity to share with you some of my thoughts on an issue which is dear to the hearts of commercial bankers, bond dealers, brokerage firms and Federal Reserve watchers throughout the world—how to evaluate Federal Reserve actions on the basis of current money market conditions. It is my opinion that there continues to be a great deal of confusion in both banking circles and the general public about how the Federal Reserve participates in money markets in the process of achieving its economic stabilization goals.

There are two major groups of opinion about how to interpret and evaluate money market conditions. One group looks at the price of money and credit measured by interest rates, and the other group looks at the quantity of money and credit. If we lived in a world of complete knowledge about the structure of our economic universe, both the interest rate approach and the money and credit approach would give us substantially the same information. Unfortunately, such is not the case. We live in a world where we have an overabundance of facts, and a scarcity of understanding, about various markets in the economy and their interaction with one another. In these circumstances,

we need guidelines, based upon experience and research, to serve as indicators of the effects of one market on another—in this case the effect of money markets on the rest of the economy.

Money market rates

Those who focus on short-term interest rates in evaluating money market conditions have a view of the world which goes something like this: Rising interest rates increase the cost of borrowed funds, and thus reduce the demand for those goods which are sensitive to interest rates, such as business investment in plant and equipment, and consumer spending for durable goods—automobiles, major appliances, and, of course, the most durable consumer good of all—housing. According to this view of the world, high interest rates forecast a slowdown in economic activity, while low rates are associated with an expansion in economic activity.

At the same time, interest rate watchers believe the primary cause of interest rate movements is related to the behavior of the Federal Reserve in controlling the supply of funds. They believe that high or rising interest rates are due mainly to restrictive Federal Reserve actions, while low or

falling interest rates are due to easing Federal Reserve actions.

This interest rate approach to analyzing money market conditions was widely accepted until recent years. However, it has gradually lost favor as a measure of both Federal Reserve actions and an indicator of monetary influences on the rest of the economy, because the evidence simply has not supported this relationship. Until very recently, the highest interest rates in recent U.S. history were experienced in the 1969 credit crunch. That should have been translated, according to this prescription, into the worst recession in recent U.S. history. As a matter of fact, although 1970 was a period of recession it was by historic standards a mild one. Going back further, we observe that high and rising interest rates were only weakly related to slowdowns in the economy. The great depression of the early 1930's was associated with the **lowest** interest rates in U.S. history, and they did not do much to stimulate an economic recovery.

Why are interest rates such a poor indicator of the effects of the monetary sector on the rest of the economy? The reason is fairly straightforward. Interest rates, as the price of money, are determined not only by the supply of funds made available by the Federal Reserve System but also by the demand for funds determined by various sectors of the economy. This demand can be broken into two components—a business cycle element and an inflation expectations element. Over the business cycle, the demand for funds to meet the needs of trade and finance tends to push rates up sharply during the boom and to push them down during a business recession. The research evidence developed on this issue strongly suggests that the cyclic variations in money market rates are dominated by business demand rather than by Federal Reserve policy. However, the systematic counter-cyclic movement of short rates—high in boom periods and low in recession periods—has misled many people into interpreting it as a reliable indicator of Federal Reserve actions.

The second element in determining money market rates is inflation expectations. Various researchers have found that under most circumstances every one percent increase in inflation

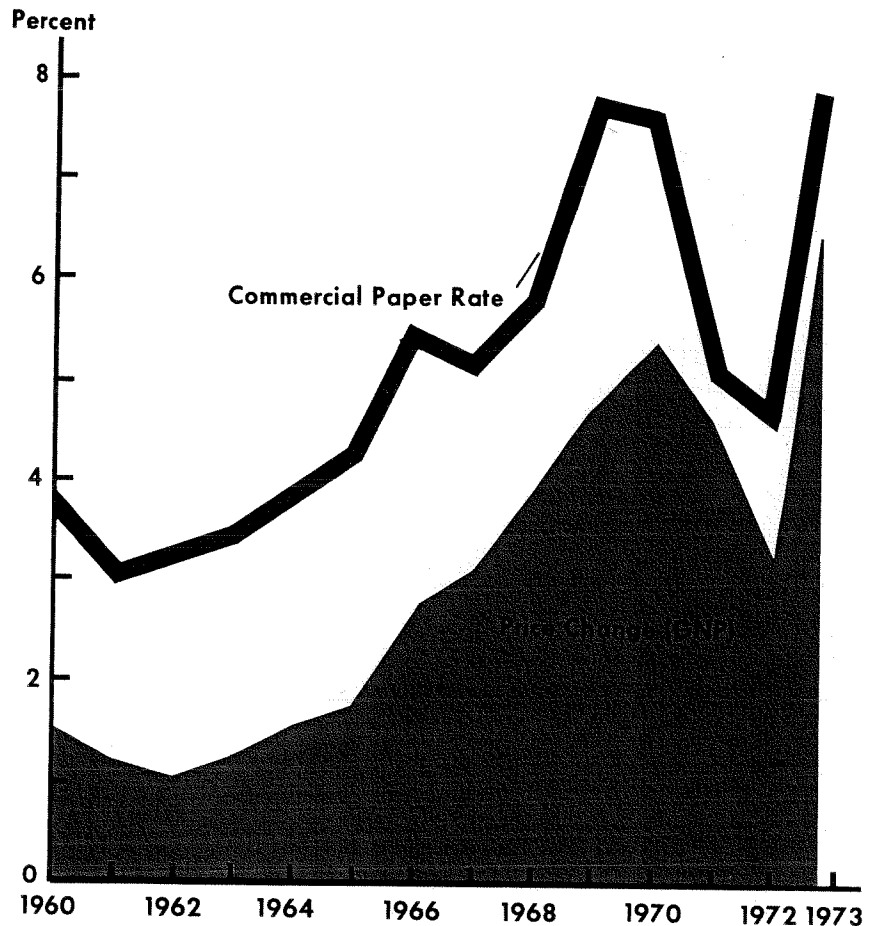
expectations is associated with roughly a one percent increase in interest rates. Interest rates now, and in 1969 at the peak of the last business cycle, are much higher than in previous business cycle peaks, due to the much higher level of inflation we have had over the last five years in comparison with previous business cycles.

In this circumstance, high interest rates are not as depressing on business investment or other interest sensitive spending. The borrowers of these funds expect to pay back with dollars of a lower purchasing power, and the higher interest rate merely compensates the lender for the decline in the real value of his capital. Thus, the real interest rate, the market rate adjusted to eliminate the inflation premium, is only moderately higher now than in previous business cycles. Let me give you some examples using the four to six months commercial paper rate—the market rate peak in October 1959 was 4.7 percent; in October 1966, 6.0 percent; in December 1969, 8.8 percent; and August 1973, 10.3 percent. However, if we make the reasonable assumption that expectations of inflation over the next three to six months are approximately determined by the actual inflation of the past year,

then the real interest rate would have been about as follows: In October, 1959, 4 percent; in October 1966, 4 percent; in December 1969, 4 percent; and in August 1973, 5 percent. These calculations should not be taken as exact because they are only indirect measures of inflation expectations. Nevertheless, they provide a rough indication of the increasing gap between the observed money market interest rate and the real rate in this period of long-term inflation. It is the existence of the inflation premium that has convinced many observers that money market rates are poor indicators both of Federal Reserve actions and of monetary influences upon the economy.

Money and credit aggregates

Our attention has been focused increasingly on money and credit aggregates as the more appropriate measures of money market conditions and their effects on the economy. It is the quantity of money and credit which measures the **amount** of financing available. Leaving aside the theoretical arguments of the Keynesians and monetarists, why should we rely upon the price of money, which is only an indirect and imperfect indicator, when we have the direct evidence of the activity in money and financial markets? In the present inflationary period, I believe that the



Higher interest rates compensate lenders for inflation—for decline in real value of capital

quantity of money and credit made available to the market, rather than its price, is the more reliable indicator in this regard. Under normal circumstances, money and credit move in the same direction over the business cycle and, therefore, transmit the same information about monetary influences. However, there have been specific episodes when measures of credit (such as bank loans and investments) and measures of money (such as the now-famous M_1 —currency and demand deposits in the hands of the public) have either gone in opposite directions or, if in the same direction, at different rates of change. In these circumstances, money watchers and credit watchers may end up evaluating the actions of the Federal Reserve and the consequent effects on the rest of the economy differently. When such differences arise we need a criterion for selecting one over the other. A reasonable criterion is to select the aggregate which is least influenced by special institutional factors. On this basis a monetary aggregate would seem to be superior to a credit aggregate.

Bank credit

Total credit is often measured in terms of bank credit, but banks are not the only source of credit available to the economy. Other sources include the commercial

paper market, savings and loan associations, investment banks and capital markets. Bank credit represents a sufficiently large share of the total that it is typically a useful indicator of the total movement of credit. However, when there are major institutional forces at work which make bank credit either unusually attractive or unusually hard to get, it will not necessarily be a good measure of total credit. It is precisely at these times when credit and money move in different directions. Let me illustrate. Bank credit slowed sharply in 1966 and again in 1969. In the view of most observers this occurred because market interest rates increased above the ceiling rates on time deposits permitted under Federal Reserve Regulation Q. This caused a substantial runoff of commercial bank deposits into money market instruments which were not subject to Regulation Q. As a result of the runoff of deposits, bank credit in the second half of 1966 increased at only a 2 percent annual rate, down substantially from the 10 percent rate of the previous two and one-half years. In 1969, bank credit grew by 3 percent versus 11 percent in the two previous years.

While this slowing in the growth of bank credit may have been a severe handicap to small businessmen who only had commercial banks as a source of financing, large businesses with access to the commercial paper, money and capital markets were able to meet their needs. For example, in the second half of 1966, the volume of commercial paper increased at a 43 percent annual rate, up from 18 percent in the previous two and one-half years. In 1969, commercial paper increased 52 percent, more than double the growth of the previous two years.

Thus, the major effect of Regulation Q was to distort the normal channels through which credit was made available to the economy, rather than changing the total amount of credit. A person viewing bank credit in 1966 or 1969 would have asserted that the degree of Federal Reserve restriction on the economy was quite severe. While the Federal Reserve was in fact being restrictive, it was not as restrictive as the movement in bank credit implied. The 1967 downturn in the economy was so mild that it was not even labeled a recession and the 1970 downturn was the mildest of all the postwar recessions.

In early 1973 bank credit also was a misleading indicator, but in the opposite direction from the two previous cases. In the first quarter of this year money market interest rates rose relative to the prime rate, making bank credit the cheapest alternative source of funds. As a result, we saw a rapid 18 percent rate of growth in total loans and investments at commercial banks. This was a substantial acceleration from the 12 percent growth rate of the two previous years. During the same six month period, however, there was virtually no growth in commercial paper and only a moderate supply of new corporate debt. While the overall expansion of credit was rapid, it certainly was not as rapid as bank credit figures indicated.

Money stock

This leads us to the last money market indicator, which is the money stock. There are a number of alternative measures of the money stock: M_1 which is currency and demand deposits in the hands of the nonbank public, M_2 which adds to M_1 the time deposits of commercial banks exclusive of large CD's, and M_3 which adds to M_2 the time deposits of thrift institutions. In recent years, the M_2 and M_3 definitions of money have suffered from the same institutional problem as bank credit. Thus, M_1

is the preferred measure at this time. The money stock is determined by the interactions of three groups of decision makers: 1) the Federal Reserve, 2) the commercial banks and 3) the general public.

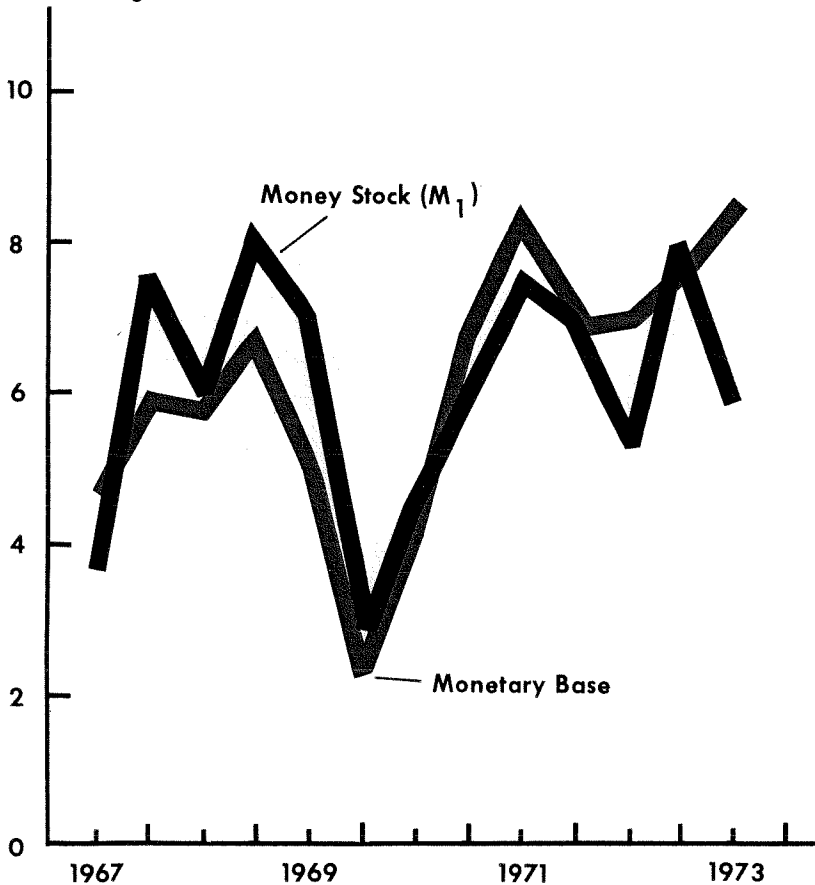
The role of the Federal Reserve is to determine the monetary base for the entire financial system. The term monetary base refers to the balance sheet of the Federal Reserve. On the asset side it is dominated by the portfolio of government securities which the Federal Reserve buys and sells in the open market. On the liability side it consists mainly of Federal Reserve notes (currency) and the deposits of member banks which represent their basic required reserves against their own checking accounts and time deposits. The unique role of the Federal Reserve is its ability to expand or contract its balance sheet as a deliberate act of policy. The Federal Reserve as a central bank has responsibility for issuing currency and regulating the reserves of member banks. It performs this function mainly by monetizing government debt, that is, buying government securities and paying for them with newly created deposits which become the reserves of

member banks. In this way, the Federal Reserve provides the underlying source of liquidity to the entire financial system.

The behavior of banks and the general public, in response to the actions of the Federal Reserve, leads to an adjustment in their portfolio of assets. The banks have a desired level of liquidity on the basis of interest rates and the volume of deposits. The public has a desired level of liquidity on the basis of a variety of factors related to interest rates, the frequency of salary payments, etc. As the banks and the public respond to changes in the monetary base, the money stock is uniquely determined.

Most observers have been impressed by the research of recent years which indicates that Federal Reserve actions in determining the monetary base play the dominant role in determining the money supply. There is only one major episode when the actions of the public rather than the Federal Reserve dominated the money stock. This was during the bank panic of the early 1930's, when the public had a substantial and permanent increase in its demand for currency relative to other assets. As a result, the increase in the monetary base all went into meeting the currency

Percent Change



Federal Reserve, by controlling monetary base, determines M_1 growth and thus influences economy

needs of the public rather than reserve needs of the member banks. At all other times, Federal Reserve control of the monetary base has dominated movements in the money supply.

The evidence of Federal Reserve control of money and the impact of money on the economy has been developed in an impressive way, not only with respect to the United States in the postwar period, but back as far as reliable data on the nation's money and income go. In addition, studies using the data of other industrial countries also strongly support the strategic role of money as an important central bank tool in influencing general economic activity.

In spite of the importance which is increasingly accorded to money, we must try to avoid a money myopia. Some people treat every wiggle in the money supply series as a source of important information about the future course of the economy. This is wrong and should be avoided. The weekly and even monthly money supply data contain a large random element. The money supply behaves like a dog being walked by his master. The dog will dart in and out, to and fro, always straining at its leash to get to the nearest fire hydrant or bush, while the man will walk

straight on his course. If we follow the weekly and monthly data we are following the dog's path, when we should be concentrating on the man. That requires us to look at the money supply data in perspective, averaging out its weekly and monthly erratic variations to understand the underlying trend which alone has an important impact on the economy. Our research and that of others in the Federal Reserve System indicate that it takes at least a six months sustained change in the growth of the money supply to cause a change in general economic activity. For this reason, the Federal Reserve has not attempted to rigidly control the money stock over a period of one or two months. Such short-run control would have led to very sharp swings in interest rates, with the possibility of damaging the structure of financial markets.

There have been a few occasions when even a longer-run measure of money growth has been misleading. We had such an example in the first half of this year. In the first quarter of 1973, the money supply grew at a 1.7 percent annual rate, and many people interpreted this as monetary overkill and excessive Federal Reserve restriction on the economy. Consequently, when in the second quarter the money

supply grew in excess of a 10 percent annual rate, many people were surprised and disturbed at the apparent erratic behavior of the Federal Reserve, and expressed heightened fears about inflation.

However, this specific episode was not due to a change in Federal Reserve policy. If one looked at the rate which the Federal Reserve was expanding its assets—in the form of the monetary base—he would have found that the underlying forces which determine the money supply were developing at the same rate in both the first and second quarters. Nor was there a permanent shift in the desire of the public or the banks to hold more liquidity.

The most probable cause of this stop-go movement in the money stock was a statistical fluke related to Treasury deposits commercial banks. Treasury deposits are not included in the money supply data for the simple reason that they are not a measure of the liquidity of the private sector of the economy.

In the first quarter of this year, there was an international monetary crisis which caused many people, including some who held U.S. dollar deposits, to speculate about a dollar devaluation. This

speculation took the form of selling dollar demand deposits to, for example, the German central bank to acquire Deutsche-mark deposits. The German and other central banks purchased Treasury bills with these newly acquired dollars, causing an inflow of funds to the U.S. Treasury and a consequent increase in Treasury deposits at U.S. banks. In the first quarter, this transfer of deposits from the public to the U.S. Treasury reduced the money supply. In the second quarter the Treasury worked its balances down to more normal levels, resulting in a rise in private demand deposits and hence a rise in the money supply. If one focused on money supply figures alone during the first half of this year, he would have obtained a misleading impression regarding Federal Reserve intentions. However, if one focused on the monetary base, which is dominated by the Fed's portfolio of financial assets, he would have gained a much clearer view of the System's ultimate influence on the money stock.

Current developments

My intention to this point has been to clarify the various ways of looking at money market conditions and to give you my reasons for considering one way superior to another. I would now like to apply this information to an analysis of current money market conditions. Short-term interest rates have in the last month reached their highest level in this century. The Fed funds rate has ranged between 10½ and 11 percent. The prime rate has reached 9¾ percent and even the Federal Reserve discount rate of 7½ percent is at an historic high. These rates all represent substantial increases from those reported as recently as early July.

We have always had sharp increases in money market interest rates during the expansion phase of the business cycle. That is what is happening now. What is new about the current situation is that the levels these rates are reaching represent historic highs. Concern has been expressed in some quarters about what this implies about the future course of the economy.

In light of what I have said previously, the current historic high interest rates would appear to be related to the current high rate of inflation which people expect to

continue over the next six to twelve months. It is only natural that lenders will demand, and borrowers will be prepared to pay, a high rate of interest on short-term funds when both groups of people expect a high rate of inflation over the life of the money market instrument. As Arthur Burns, Chairman of the Board of Governors of the Federal Reserve System, said on August 3, before the Joint Economic Committee of Congress, "the underlying reason for the high level of interest rates is the persistence of inflation since 1965. Inflationary expectations have by now become fairly well entrenched in the calculations of both lenders and borrowers." When this inflation premium is subtracted from the current money market rates, the real rate of interest no longer looks so high.

I believe that under the present circumstances the M_1 definition of the money stock—currency and demand deposits in the hands of the non-bank public—is the best overall measure of money market conditions. As with any indicator, it is not perfect and can, on occasions, give misleading information as in the first quarter of this year. However, if we look at the money stock in perspective, it has grown in excess of 8 percent in the last

year and a half. This has been fueled by an 8 percent growth in the monetary base. Thus, the underlying thrust of monetary policy and, therefore, the underlying availability of money and credit to the economy did not slow down in the first half of 1973. It is this expansion which concerned me.

Very recent evidence indicates a slowing in the growth of the monetary base and money stock. In the months of July and August the growth rate in both indicators was down to a 5.5 percent annual rate. If this slowdown continues, the second half of 1973 may represent a real period of monetary restriction and, therefore, a slowdown in the growth of credit made available to the private sector and, eventually, in the rate of inflation.

Credit crunch

I would like to close with a comment on the so-called "credit crunch" phenomena. High interest rates should not be confused with a credit crunch. A crunch is a condition where funds are not available to many classes of borrowers at any price. High interest rates on the other hand are merely a way of rationing the available funds to those who are willing to pay the higher prices. We had a severe credit crunch in 1966 and a less

severe but, nevertheless, painful one in 1969. While both of these were associated with relatively high interest rates, they were not directly caused by high interest rates. Rather, they were caused by the fact that certain financial regulations and institutions impeded the smooth allocation function of financial markets.

In the case of commercial banks it was Federal Reserve Regulation Q which caused a severe disintermediation when market rates exceeded the Q ceilings. The 1966 crunch was eased only when the banks were able to tap an alternative source of funds not subject to Q ceilings, the Euro-dollar market, and the crunch was eliminated only when interest rates fell below the Q ceiling. A similar experience occurred in 1969. However, the crunch was less severe then because the banks, having already gone through this experience once, were prepared to shift to the Eurodollar market rather quickly. In addition, they developed domestic institutional devices, specifically, by issuing commercial paper through one-bank holding company subsidiaries to ease the constraints of Regulation Q. In 1973 the Federal

Reserve has suspended Regulation Q ceilings on large deposits—the type most sensitive to interest rate change. Thus, a major cause of past credit crunches has been eliminated for many commercial banks.

Conclusion

I have tried in the time allotted to give you a brief overview of how money market conditions translate themselves into broader statements about monetary policy and its effects on economic activity. We have found that money market interest rates have become an unreliable guide because of the emergence of a long-term inflationary trend and the resulting inflation premium in interest rates. A 10½ percent interest rate simply does not mean the same when the inflation rate is 6 percent or more as it does when the inflation rate is 2 or 3 percent. Nevertheless, the remarks of Chairman Burns are worth repeating, "the simple truth (is) that inflation and high interest rates go together and that both the one and the other pose perils for economic and social stability in our country."

The movement in the money and credit aggregates is a more reliable indicator of both Federal Reserve actions and their impact on the rest of the economy. On those few occasions when money and credit transmit different information about money market conditions, the money series is superior to the credit series because institutional factors tend to distort the credit measure more than the money stock. The underlying movement in the money stock is dominated by the monetary base which, in essence, represents the assets of the Federal Reserve System, and is the financial constraint on the entire economy. The Federal Reserve, by controlling the monetary base, determines the trend growth in the money supply and through this control has its influence on general economic activity.

With regard to the larger question of what monetary policy should be, I think the growth in money must be targeted in terms of our overall financial and economic goals. On this issue, the role of informed judgment is at the heart of monetary policy decision making.