

MAKING MONETARY POLICY

Remarks by

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## Making Monetary Policy

Monetary policy is one of the most discussed, but least understood of the major influences on the U.S. economy. At one time or another, the Federal Reserve has been blamed for the rising price of goods, declining stock market prices, high interest rates, low levels of employment, dollar devaluation, and so forth. In spite of increased public awareness of the important influence the Fed's actions have on the economy, the methods by which this influence is exercised are poorly understood. The purpose of my remarks today is to shed some light on this process. What I have to say represents my personal view, and is not necessarily the view of the Federal Reserve System.

In recent years the System has developed progressively more formal methods of specifying its objectives and quantifying the links between Federal Reserve actions and their impact upon financial markets, and real economic variables such as prices, income and employment. This progressively more quantitative and precise approach, in turn, has focused attention on problems that could be ignored in the days when "the tone and feel of the market," were the principal guides to policy.

One such problem is that the ultimate objectives of policy must be clearly distinguished from interim objectives associated with policy implementation. Ultimate policy goals are related to target levels of employment, income, prices and the balance of payments. Interim objectives are related to implementing such goals. Intermingling these two areas can lead to no end of confusion in the discussion of policy. I hope to avoid

that confusion by clearly indicating ahead of time that my remarks will be limited to a discussion of policy implementation, not ultimate objectives. I would like to do two things in this regard: first, to describe in a very general way the various stages involved in implementing monetary policy; and second, to focus on one stage of the implementation process in a fairly detailed way.

The monetary policy process can be conveniently divided into the four stages, illustrated in Table I of the materials you have received. These stages depict the links between Federal Reserve actions and their final impact upon employment, prices and income. The first stage involves Federal Reserve actions, and is self explanatory. It consists of the things the Congress has authorized the Federal Reserve to do. The second stage concerns operating targets which the Federal Reserve can affect directly through the policy instruments summarized in stage one; therefore, presumably it can control these targets within a very short period of time. The third stage deals with intermediate targets which measure the response of financial markets to changes in the operating targets of stage two; the Federal Reserve's control over intermediate targets is indirect and can be effective only within a longer time frame. The fourth stage involves the final targets of income, employment and prices; control here is even more indirect and depends upon the stability and predictability of the relationship between real and financial markets.

The implementation problem in monetary policy is centered on the selection of the mix of operating and intermediate targets best suited to achieve final targets. Virtually all the controversies in the area of monetary policy can be defined in terms of this framework.

# MANAGING MONETARY POLICY

## Federal Reserve Actions

1. Open Market Operations
2. Reserve Requirements
3. Discount Rate
4. Other (Reg. Q, Margin Requirements, etc.)



## Operating Targets

1. Free Reserves
2. Fed. Funds Rate
3. Reserves against Private Deposits (RPDs)
4. Monetary Base



## Intermediate Targets

1. Money Stock ( $M_1$ )
2.  $M_2$  ( $M_1$  plus time deposits of comm. banks) \*
3.  $M_3$  ( $M_2$  plus S&L & mutual savings deposits)
4. Bank Credit
5. Monetary Base
6. Treasury Bill and other Money Market Rates



## Final Targets

1. Prices
2. Employment
3. Income
4. Balance of Payments

\*Time deposits exclude large negotiable certificates of deposit.

## The Stages of Monetary Policy Making

Federal Reserve Tools. The Federal Reserve has a variety of tools for implementing policy. They include open market operations, reserve requirements, the discount rate, Regulation Q interest ceilings on member bank deposits, and margin requirements on security purchases. The relative importance of different tools has changed over time with changing circumstances. Originally it was thought that the discount rate would be the primary avenue of Federal Reserve influence on the economy; however, with the development of more sophisticated financial markets and the expansion of the national debt, open market operations in U.S. government securities has assumed the dominant role in policy implementation.

Operating Targets. As noted earlier, operating targets are variables over which the Federal Reserve has a high degree of control within a very short period of time. Since the Federal Reserve has a variety of tools which effect financial markets in different ways, one purpose of an operating target is to provide a scale with which to gauge the net effect of "changing the dials" on these tools. Information on the operating targets must be available promptly and continuously so that the monetary authority can know, on balance, whether it is moving in the direction dictated by policy. I will be discussing the role and selection of operating targets in some detail later on, so we shall leave this topic for the moment.

Intermediate Targets. The second stage in policy implementation is that of intermediate targets. They, like operating targets, are

variables drawn from the financial market. However, intermediate targets generally are more broadly based in the sense that they include the assets and liabilities of a wide range of financial institutions and the general public. The best known intermediate target is the  $M_1$  definition of the money supply -- currency held by nonbank public and adjusted demand deposits. However, there are others:  $M_2$  which adds to  $M_1$  the time deposits of commercial banks, less large negotiable certificates of deposit;  $M_3$  which adds in addition, the shares of saving and loan associations and the deposits of mutual savings banks; and finally, bank credit, which consists of the total loans and investments of commercial banks. An important distinction between these aggregates, is that the first three are alternative measures of the money stock, while the last is a measure of credit which is a conceptually different variable.

In addition to the intermediate targets just mentioned, there is a large body of professional opinion which believes that the monetary base is a legitimate intermediate target as well as being a useful operating target. The monetary base is composed of items in the Federal Reserve's own balance sheet, and also is called "high powered money," "outside money," or "demand debt of the government" by some economists. Finally, market interest rates, such as the Treasury bill rate or the commercial paper rate have at one time or another been used as intermediate targets.

A common element among the intermediate targets (except the monetary base) is that their quantity is jointly determined by the behavior of the Federal Reserve, the banking system, and the general public. This has

two implications for managing monetary policy: first, these intermediate targets cannot be tightly controlled in a very short time period by the Federal Reserve; in fact, that is why the System must rely on operating targets. However, over a longer time span of, say three to six months, intermediate targets can be strongly influenced by the actions of the Federal Reserve. A second aspect of intermediate targets is that, because they represent broad based holdings of assets by the private sector, they are important links between financial markets and real markets.

Final Targets. This brings us to the final target of policy implementation, that is, the ultimate goal of achieving desired levels of income, prices, and employment. There are important technical issues involved in setting these final targets, such as the controversy which rages over the existence and measurement of trade-offs between employment and inflation. However, today's discussion is focused on the earlier stages of policy implementation. Because of the importance of selecting operating and intermediate targets which provide the best handle on final targets, the Federal Reserve is continually reviewing this and related questions in an attempt to improve policy implementation. That type of review is my principal topic, and therefore I shall assume that the ultimate targets are given in the present discussion.

The Federal Open Market Committee is one of two primary policy-making bodies of the Federal Reserve. It has responsibility mainly for influencing the volume of member bank reserves through open-market purchases or sales of U.S. Government securities with a view of achieving its final targets. The F.O.M.C. consists of

the seven members of the Board of Governors, plus at any given time, five of the twelve Presidents of Federal Reserve Banks. It meets once a month in Washington, D.C. to review economic and financial conditions to adapt earlier policy decisions to changes in current and prospective economic developments. On the basis of these discussions, a written directive is issued to the Trading Desk at the Federal Reserve Bank of New York to indicate whether policy is to be changed, and to establish certain ranges in which the operating targets and intermediate targets should move. For operating targets, the range is specified for the short run; for the intermediate targets the range is established for a somewhat longer period of time.

As an example, I might quote from the most-recently published Directive of the F.O.M.C. (these directives are made public only with a 90-day lag. After reviewing recent and prospective developments, the Directive ended with the following section:

"In light of the foregoing developments, it is the policy of the Federal Open Market Committee to foster financial conditions conducive to abatement of inflationary pressures, a sustainable rate of advance in economic activity, and continued progress toward equilibrium in the country's balance of payments.

To implement this policy, while taking account of the forthcoming Treasury financing and of international and domestic financial market developments, the Committee seeks to achieve bank reserve and money market conditions consistent with moderate growth in monetary aggregates over the months ahead."

Now that we have reviewed the general implementation process, I would like to focus the remainder of my remarks on the question of selecting an appropriate operating target.

### Selecting an Operating Target

To be useful, the operating target the FOMC selects must satisfy at least three criteria: 1) the Federal Reserve must be able to exercise a high degree of control over the target in a short time period, 2) data on the target must be available promptly and frequently to permit monitoring of control, and 3) the operating target must have a predictable relation to some intermediate target. Let's see how the various operating targets listed in Table I meet these criteria.

Free Reserves. The operating target with the longest tradition in the Federal Reserve System is free reserves. Free reserves are reserves held by member banks in excess of required reserves, less their borrowings at the discount window. Of course, if member bank borrowings exceed their excess reserves, then free reserves are negative -- and are known as net borrowed reserves. The System can control free reserves quite closely using three types of transactions: it can expand or contract total member bank reserves by open market operations; it can determine required reserves by changing reserve ratios; and it can affect member bank borrowings by changing the discount rate and its administration of the discount window. With this triple control, the Federal Reserve can make free reserves whatever it wants them to be in a very short time period. In the past, it was reasoned that expanding or contracting free reserves would cause banks to expand or contract bank credit, which in turn would lead to an expansion or contraction in real economic activity.

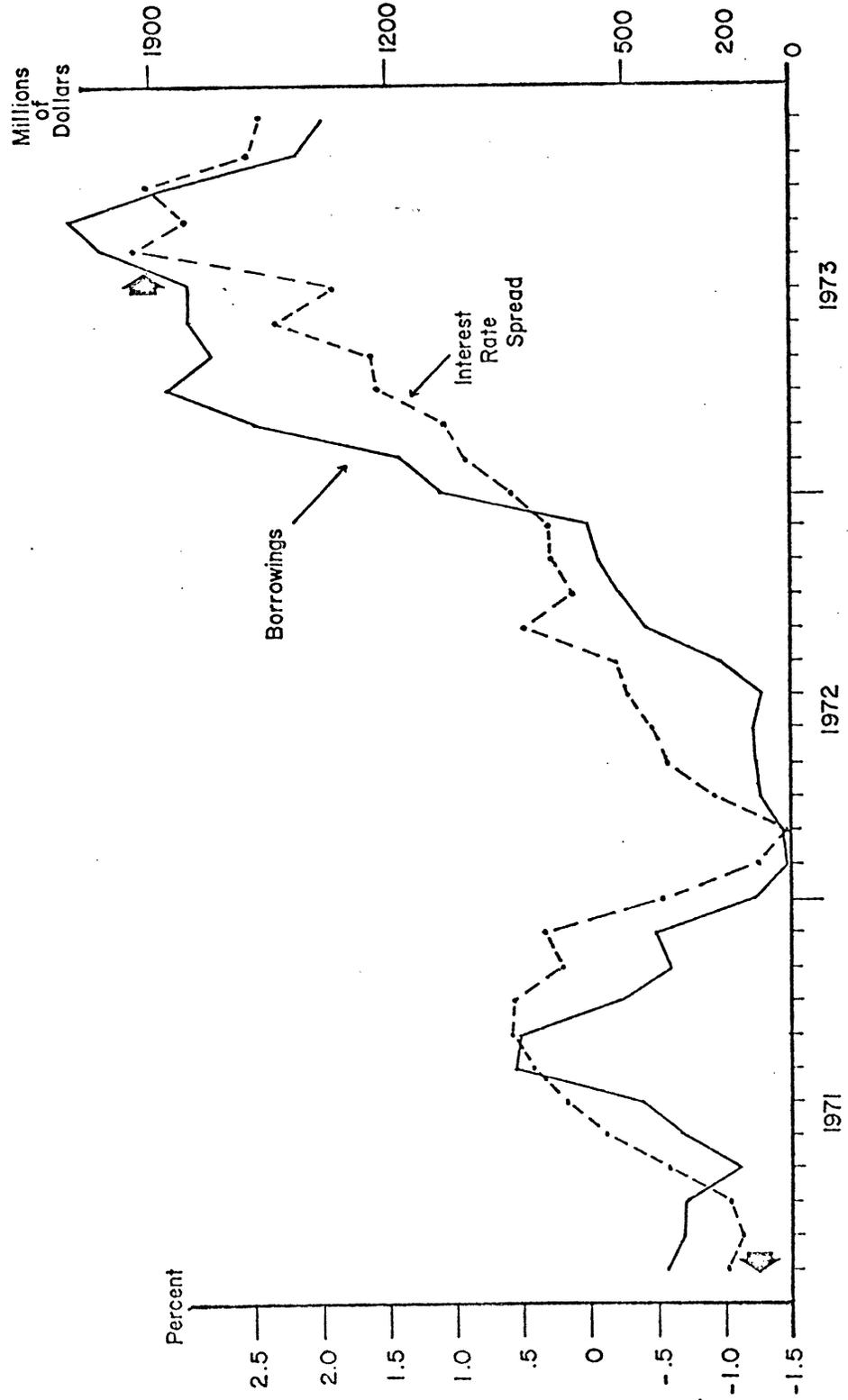
There were several things wrong with this logic. The most obvious is that the volume of bank credit is related primarily to the volume of total reserves, rather than to the volume of free reserves.

A second thing wrong with the free reserve target was that it assumed the banking system is loath to satisfy reserve requirements with borrowed reserves. This, in fact, is true for individual banks because the Federal Reserve will invite them to leave the window if they stay too long. However, it is not true of the banking system as a whole where the major factor explaining member bank borrowings is profitability. When the discount rate is below alternative market interest rates, member banks tend to develop a revolving line at the discount window. Different applicants appear each week, but the total volume of reserves supplied to the banking system through the window remains high as long as borrowing is profitable. Table II in the hand out shows how monthly member bank borrowings have moved in line with the spread between the discount rate and an alternative market rate since 1971.

As the banking system does not react differently to borrowed reserves than it does to other sources of reserves, the major premise of the free reserve concept is invalid. Thus, it is not surprising that free reserves do not have a strong predictable relation to the major intermediate targets of money and credit.

RPD's. Because of the defects just described, the free reserve target has been replaced by broader measures of member bank reserve positions. For example, reserves to support private deposits, or RPD's, were accepted as an operating target by the FOMC two years ago. RPD's are defined to exclude reserves against U.S. government deposits and interbank deposits on grounds that we are attempting to gauge the behavior of the nonbank public. The RPD operating target is superior to free reserves because it recognizes that the injection of both borrowed and nonborrowed reserves are equally stimulative to the economy.

Table II  
 MEMBER BANK BORROWINGS  
 and  
 INTEREST RATE SPREAD\*



\* INTEREST RATE SPREAD IS THE  
 FEDERAL-FUND RATE MINUS THE  
 DISCOUNT RATE

RPD's, however, still are less than an optimal operating target. At the practical level, RPD data are available only once a week with approximately a ten day lag, and thus do not permit continuous monitoring of the effects of Federal Reserve actions. At a more fundamental level, there is no well established body of economic theory relating RPD's to intermediate targets and the real economy. Thus, while RPD's are superior to free reserves, they do not meet all of the criteria of a good operating target.

Fed Funds Rate. Another operating target with a long tradition is the Federal Funds rate. This is the interest rate on reserves held by one member bank in its Federal Reserve account, but loaned to another member bank on a very short term basis.

The Federal Reserve can control the Federal Funds rate on a day-to-day basis, but can not control this rate over, say a three month period, in the face of opposing market forces. In the very short run, the demand for Fed funds is fixed, and the Federal Reserve can uniquely determine the rate through its control of the supply of reserves. However, over a longer time horizon, private market forces are constantly changing, leading to a change in the demand for Fed funds. This, of course, is just another example of a long run demand curve being more elastic than a short run demand curve. If the Federal Reserve attempts to maintain a fixed Fed funds rate in the face of rising demand for reserves by member banks, it would be necessary for the System to inject new bank reserves into the market, say, through open-market purchases of Government securities; in the long run this would be inflationary. With a decrease in private demand, the rate could be kept constant only by a decrease in open market purchases, which would be deflationary.

The Fed funds rate is determined in the long run, i.e., three or four months, by the same forces which dominate other short-term interest rates. As such, it is jointly determined by the actions of the Fed, the financial system, and the general public. Because it is not under Federal Reserve control for this longer time period, it can not be considered an effective operating target. The link between the Fed funds rate and the intermediate targets, as measured by the monetary aggregates, is very weak and provides the Federal Reserve with little guidance in its achievement of these intermediate targets.

Monetary Base: The last operating target on my list is the monetary base, which consists of the demand liabilities of the Treasury and Federal Reserve. On the basis of research inside and outside the System, the monetary base appears to satisfy the basic criteria for a good operating target: because the base is composed primarily of items in the Fed's own balance sheet, it can be tightly controlled by the System; this attribute also makes reliable information regarding the level of the monetary base available on a very current basis. In addition, there appears to be a close relation between changes in the monetary base, and changes in the monetary aggregates which are the most widely accepted intermediate targets. Finally, there exists a well developed and widely accepted theoretical framework within which changes in the monetary base can be analyzed in terms of its effects on financial and real markets. Thus from both an operational and a theoretical standpoint, the monetary base has many of the characteristics of a superior operating target. I shall spend the remainder of my time discussing the monetary base as an operating target.

### Monetary Base as an Operating Target

Economists have long recognized the major role the central bank's balance sheet plays in implementing monetary policy. However, different authors have used different terms to describe it: to Irving Fisher it was simply "money"; to Gurley and Shaw it was "outside money"; to Milton Friedman, it was "high powered money"; and to James Tobin it was "demand debt of the government." The monetary base, therefore, is a concept which has received a great deal of attention and study from the economics profession.

The assets of a central bank are the main sources of the monetary base, and its liabilities are the principal uses of the monetary base. Table III of the material given to you shows the U.S. monetary base as of October 3, 1973. The liabilities, or uses of the base, are in the form of:

- 1) commercial bank deposits at the central bank,
- 2) commercial bank holdings of "vault cash," and
- 3) currency in the hands of the non-bank public.

Items 2 and 3 are held in the form of Central Bank and U.S. Treasury Notes. These liabilities are assets of commercial banks and the public. The first two items comprise the main reserves of the banking system, and the third item is the currency component of the public's holdings of money.

The assets or sources of the monetary base are in the form of government, private and international securities. The composition of these assets will differ among central banks, depending upon conditions in individual countries. In the United States, a large government debt widely held by banks and the public has made it convenient for the Federal

Reserve to hold most of its assets in the form of government securities; a much smaller share of the Fed's assets are in the form of gold certificates, and more recently IMF Special Drawing Rights; very little of the Fed's assets are in the form of private debt. The Treasury has a (limited) monetary role in this country related to its issuance of coins and the outstanding stock of "greenbacks" still in circulation. The Treasury also holds deposits at the Federal Reserve and at commercial banks, and movements between these accounts can influence the monetary base. Thus, in the United States the central bank balance sheet is properly measured as a consolidated Treasury and Federal Reserve "monetary account." Again, the balance sheet for the first week of October 1973 is given in Table III.

The use of all three of the Federal Reserve's basic tools for implementing monetary policy affects the monetary base in one way or another:

- 1) Open market operations change the Federal Reserve's stock of government securities.
- 2) Discount window operations change the volume of Federal Reserve discounts and advances to member banks.
- 3) Reserve requirements change the amount of commercial bank reserves available to support new deposits and hence new loans and investments. This is measured in the monetary base concept by the "Reserve Adjustment," which converts into billions of dollars the effect of reserve requirement changes. The reserve adjustment permits us to use the monetary base as a continuous time series.

Table III

Consolidated Treasury-Federal  
Reserve Monetary Account  
Week Ending October 3, 1973  
(\$Billions, S.A.)

<u>Sources</u>		<u>Uses</u>	
<u>Federal Reserve Credit</u>		Member Bank Deposits at the Federal Reserve	28.1
① Holdings of Gov't Securities	78.0		
② Discounts & Advances	1.5	Currency Held by Banks	8.4
Float	2.5		
Other Federal Reserve Assets	<u>1.0</u>	Currency Held by the Nonbank Public	<u>59.4</u>
Total Federal Reserve Credit	83.1		<u>96.4</u>
Gold Stocks & Special Drawing Rights	10.8		
Treasury Currency Outstanding	8.6		
Less:			
Treasury Cash Holdings	.4		
Treasury Deposits at Federal Reserve	1.8		
Foreign Deposits at Federal Reserve	.3		
Other Deposits at Federal Reserve Plus Federal Reserve Liabilities & Capital	<u>3.7</u>		
<u>Total Source Base</u>	<u>96.4</u>		
③ Reserve Adjustment	<u>5.9</u>	Reserve Adjustment	<u>5.9</u>
Monetary Base	<u>102.3</u>	Monetary Base	<u>102.3</u>

By manipulating each of these variables, the Federal Reserve can maintain effective control of the monetary base. Those components of the base which are determined by technical and market factors, and therefore are not under direct Fed control such as float, can be offset by open market operations. This offsetting behavior occurs whether or not the Federal Reserve looks at the monetary base as an operating target. The Federal Reserve's operational arm, the New York Trading Desk, has traditionally, and as a matter of course, offset "market influences" like float through "defensive operations." Some problems can arise in estimating float and other noncontrolled items on any given day because they can occur in any one of the 37 operating offices of the Fed throughout the country. However, measurement errors generally are corrected within a day or so, and do not represent serious impediments to control over a period as short as a week.

In viewing monetary policy we should not focus on the individual components of the monetary base, but rather on its total. As mentioned earlier, the composition of the asset side of the monetary base depends upon institutional characteristics unique to the United States -- such as Government debt which is large relative to total debt. On the other hand, the composition of the liability side of the monetary base depends upon the portfolio preferences of banks and the public. What is under the central bank's control and what is of importance in understanding monetary policy is the total size of the monetary base, which can be expanded or contracted by unilateral actions of the central bank.

The Federal Reserve is not subject to the balance sheet constraints imposed on other financial institutions, because it has unilateral control over its liabilities. The reason for this is, of course, the central bank's monopoly in printing currency, in creating new deposits which serve as member bank reserves, and in determining member bank deposits required at the Fed. These powers represent the ultimate source of central bank control over the financial system. Using the monetary base as an operating target brings this role to the forefront and focuses attention on the real source of central bank influence.

The superiority of the monetary base as an operating target depends crucially on the intermediate targets the System uses. In a previous speech, I have stated that I consider the  $M_1$  definition of money to be the preferred intermediate target, although there are also good reasons for considering broader definitions of the money supply. The monetary base appears to have a more stable and predictable relation with the narrowly and broadly defined money supplies than competing operating targets. However, I have an open mind on this issue. If someone can show me an operating target which has a more stable relation to money, and one that satisfies the other criteria for an operating target as well as the base, I certainly would be willing to adopt that target.

In summary, the monetary base appears at present to be the best available operating target because it satisfies all of the criteria mentioned earlier: 1) it is under close control of the Federal Reserve; 2) information to monitor its movements is available on a timely basis; and 3) the monetary base has a predictable relation to the intermediate targets of monetary aggregates.

### Monetary Base as Proxy for Money

The monetary base has much broader implications than those related to selection of an appropriate operating target. As you will recall, the base was also listed in Table I among the intermediate targets of monetary policy. The monetary base has a number of roles as an intermediate target. I will mention only one which is important in a practical short run sense. The monetary base may be a better measure of what is happening to the money supply than the money supply itself in the current year. The reason for this rather curious state of affairs is the large error which can occur in estimating deposits used to compute the  $M_1$  money supply statistics. Only banks which are members of the Federal Reserve System are required to report their deposit data on a weekly basis. Non-member banks report only twice a year, in July and December. As a result, a large component of the money supply must be estimated between the biannual "benchmarks."

Estimates of the monetary base have much smaller error, because most of the data for it are taken from balance sheets of the Federal Reserve and the Treasury. Historically, there is a high correlation between movements in the monetary base and the money supply, and many apparent deviations between the two series have in retrospect been due to errors in estimating the money supply series. Thus, there is some justification for following the monetary base when the two series deviate.

This procedure was valuable to us last year in avoiding misinterpretation of monetary developments. For example, there was a sharp deceleration in the money supply last February and March which was not

accompanied by a slowing in the monetary base. Conversely, the money supply rose very rapidly in May, June and July. Neither of these episodes were related to deliberate shifts in policy, and the monetary base grew at a relatively steady pace throughout this period. Again in the fall of last year, the reported money supply series grew at a much slower rate than that experienced in the summer, while the monetary base decelerated only moderately. We believe that this indicated a moderately restrictive policy, not the excessive restriction asserted by some commentators.

### Conclusion

I have tried in this discussion to do two things. First, to lay out in a very general way my view of the monetary transmission mechanism and to discuss some of the problems the Federal Reserve must face in selecting the appropriate mix of operating and intermediate targets to achieve a final target related to employment, prices and income. My second objective was to focus more narrowly on what is the best operating target for the Federal Reserve. We first discussed the traditional operating targets -- free reserves, Fed funds rate, and RPD's -- and found each in its own way to be defective. We then looked at the monetary base and found that it appeared to be superior to the alternative operating targets considered. The Federal Reserve can exercise a great deal of control over the monetary base within a short time period; data on the base are available quickly, and with relatively small errors; and the monetary base has a fairly stable and predictable relationship to intermediate targets, especially the narrowly defined money stock.

I should emphasize that while these views are shared by a large number of people in the economics profession, both in and out of the Federal Reserve System, they are far from being "universal truth." I currently think the monetary base offers the best alternative operating target. However, if further research in this area were to uncover a superior operating target, I would be the first to propose it. The economics profession in general, and monetary theorists in particular, have a long way to go before we reduce policy to an exact science.