

Free Reserves and Monetary Policy

By Bryon Higgins

Since October 6, 1979, the Federal Reserve System has implemented monetary policy by focusing primarily on the relationship between growth of bank reserves and growth of money and credit. The increased importance of reserves in policy implementation has led to closer scrutiny of the role of discount window borrowing and excess reserves in analyzing the relationship between Federal Reserve actions and monetary growth.

Free reserves, which are defined as excess reserves minus discount window borrowing, play a crucial role in determining the growth rates of the monetary aggregates. However, many observers have misinterpreted the appropriate use of free reserves in monetary analysis and policy implementation. The level of free reserves is not, as some have assumed, the best gauge of the stance of monetary policy nor the best proximate objective to guide open market operations. Nevertheless, the concept of free reserves is extremely useful in analyzing the effect of policy actions on the growth of money and credit. Moreover, information on the behavior of free reserves is useful in the process of implementing monetary policy.

The purpose of this article is to analyze the proper role of free reserves in monetary analysis and the proper use of free reserves in policy implementation. The role of free reserves in

determining monetary growth is discussed in the first section. The second section examines the importance of free reserves under alternative operating procedures for the conduct of open market operations. In the final section, the appropriate use of free reserves in the implementation of monetary policy is analyzed.

FREE RESERVES AND MONETARY GROWTH

The rate of monetary growth is determined by interaction of factors affecting the demand for and the supply of money. The amount of free reserves banks want to hold—that is, the demand for free reserves—is a major factor influencing the supply of money and can therefore have a major impact on monetary growth. To understand how free reserves affect monetary growth, it is necessary to analyze the determinants of the demand for and the supply of money.¹

The demand for money depends on the levels of GNP and interest rates. Households and

¹ For simplicity, bank deposits are considered to be equivalent to money. Although some definitions of money include currency and certain deposits at nonbank financial institutions, bank deposits constitute the largest portion of most measures of money. In addition, the Federal Reserve accommodates the public's desired mix between currency and deposits. Therefore, the analysis is not substantially affected by failing to take account explicitly of assets other than bank deposits.

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firms hold money as a medium of exchange for buying and selling goods and services, and the aggregate value of those goods and services can be measured by the level of GNP. Therefore, the demand for money increases as GNP rises. The incentive to economize on money balances is directly related to the yield on alternative assets. Thus, the demand for money declines as the level of interest rates increases.

The supply of money by banks depends on the amount of reserves provided through Federal Reserve open market operations and on the demand for free reserves by banks. The effects of these two factors on the supply of money may be shown by deriving a money supply function from analysis of the sources and uses of member bank reserves.

The sources and uses of total reserves, TR, are shown in equations (1) and (2).

$$(1) TR = RR + ER$$

$$(2) TR = NBR + BR$$

Equation (1) shows the two uses of reserves. Reserves used by banks to meet legal reserve requirements are defined as required reserves, RR. Reserves used by banks for purposes other than fulfilling minimum legal requirements are defined as excess reserves, ER. Equation (2) shows the two sources of reserves. The first source of reserves is borrowing, BR, from the Federal Reserve at the discount window. Those reserves not borrowed from the System are termed nonborrowed reserves, NBR. Federal Reserve open market purchases are the primary source of nonborrowed reserves.²

² Although numerous technical market factors—such as Federal Reserve float and Treasury balances—influence nonborrowed reserves, the Federal Reserve tends to offset through open market operations the undesired impact of these technical factors on reserve availability. In practice, therefore, net open market purchases of securities by the Federal Reserve are by far the most important determinant of nonborrowed reserves.

Since the total sources of member bank reserves must equal the total uses of member bank reserves, nonborrowed reserves plus borrowed reserves must be equal to required reserves plus excess reserves. This is shown in equation (3).

$$(3) RR + ER = NBR + BR$$

Equation (4) shows that required reserves are equal to nonborrowed reserves minus free reserves. The equation is obtained by rearranging the terms in equation (3) and substituting free reserves, FR, for excess reserves minus borrowed reserves.

$$(4) RR = NBR - FR,$$

where $FR = ER - BR$.

Equation (4) may now be used to obtain a money supply function. The amount of required reserves that is associated with a given value of the money stock depends on reserve requirements established by the Federal Reserve. If the average reserve requirement is γ , the ratio of the money stock to required reserves is $1/\gamma$, which can be thought of as the money-required reserves multiplier.³ Thus, equation (4) can be rewritten as a money supply function,

$$(5) M^S = \frac{1}{\gamma} [NBR - FR].$$

The money supply function in equation (5) shows that an increase in nonborrowed reserves

³ To understand the importance of free reserves, it is more useful to focus on the required reserves-money multiplier than the total reserves-money multiplier or the monetary base-money multiplier. For a more complete analysis of reserve requirements and money multipliers, see J. A. Cacy, "Reserve Requirements and Monetary Control," *Monthly Review*, Federal Reserve Bank of Kansas City (May 1976).

—resulting from open market purchases by the Federal Reserve—increases the supply of money. The equation also shows that an increase in free reserves reduces the supply of money.

Due to the linkage between the money supply and free reserves, the supply of money depends positively on market interest rates. An increase in market interest rates encourages banks, in adjusting their reserve positions, to hold fewer excess reserves and to undertake more discount window borrowing. The accompanying decline in free reserves—which equal excess reserves less discount window borrowing—increases the amount of reserves available to support expansion of the money supply. In other words, when market interest rates rise, there is an increase in the amount of reserves available to support expansion of the money supply because fewer reserves are used as excess reserves and because discount window borrowing is used as an additional source of reserves. Thus, an increase in market interest rates leads to a reduction in free reserves that, in turn, leads to an increase in the money supply. For this reason, the supply of money depends positively on interest rates.

The money stock is determined by interaction of the supply of and demand for money. In equilibrium, the supply of money, M^s , must be equal to the demand for money, M^d , as is shown in the following equation.

$$(7) M^s = M^d$$

Substituting the supply of money relationship from equation (5) into equation (7) yields:

$$(8) M^d = \frac{1}{\gamma} [NBR - FR]$$

Equation (8) shows that, for given values of nonborrowed reserves and the money multiplier, the money stock is mutually deter-

mined by the public's demand for money and banks' demand for free reserves. Since interest rates affect both money demand and free reserves, interest rates adjust as necessary to maintain equality between the supply of and demand for money.

Determination of the money stock by supply and demand factors is depicted graphically in Figure 1. The demand for money curve is shown as a negative function of the interest rate, r , and the supply of money curve is shown as a positive function of the interest rate. The position of the money demand curve is determined primarily by the level of income. The position of the money supply curve is determined by the amount of nonborrowed reserves furnished by the Federal Reserve relative to the portion of the demand for free reserves that is unrelated to market interest rates.⁴

The positions of the money supply and money demand curves depicted in Figure 1 would result in a money stock of M_e and an interest rate of r_e . A higher level of income would lead to an increase in the demand for money and thus a higher interest rate and money stock. An increase in nonborrowed reserves or a decline in the demand for free reserves that is not related to market interest rates would result in a greater supply of money and thus a higher money stock and a lower interest rate. Therefore, a change in any of the factors affecting the supply of or demand for money causes a change in both interest rates and the money stock.

⁴ Numerous factors other than market interest rates affect banks' demand for free reserves. For example, the Federal Reserve's discount rate is a principal determinant of discount window borrowing and would therefore affect the position of the money supply curve. An increase in the discount rate would increase the demand for free reserves and thereby reduce the amount of money banks are willing to furnish at every level of market interest rates. Therefore, an increase in the discount rate would result in a leftward shift in the position of the money supply curve.

Figure 1

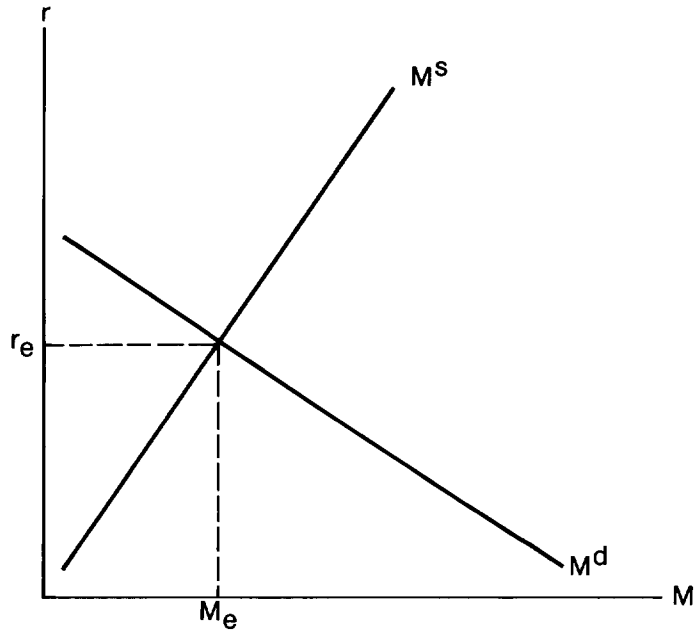
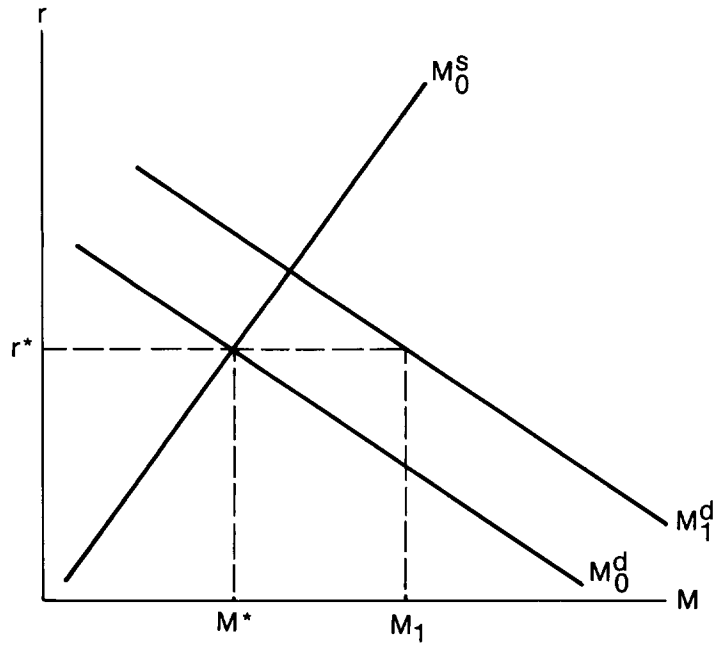


Figure 2



THE IMPORTANCE OF FREE RESERVES UNDER ALTERNATIVE MONETARY CONTROL PROCEDURES

Different operating procedures can be used to control monetary growth. For most of the past decade, the Federal Reserve used an interest rate approach, which relied heavily on the predictability of money demand relationships. Since October 1979, however, the Federal Reserve has used a reserve aggregate approach to monetary control. The reserve approach relies much less on predictability of money demand relationships. The behavior of free reserves was relatively unimportant under the interest rate approach but is very important under the reserve aggregate approach.

The Interest Rate Approach

Under an interest rate approach to monetary control, open market operations are conducted to maintain a key short-term interest rate at the level believed to be consistent with the desired rate of monetary growth. Any change in the demand for reserves by banks is accommodated by adjusting nonborrowed reserves to keep interest rates constant. Assume, for example, that the Federal Reserve chooses an interest rate target of r^* , as shown in Figure 2. To maintain the interest rate at r^* , the Federal Reserve will supply an amount of nonborrowed reserves that is equal to the amount of required reserves and free reserves demanded at that rate. Moreover, since the supply of nonborrowed reserves adjusts to accommodate banks' demand for reserves, banks will supply whatever amount of money the public desires to hold at the fixed level of interest rates.

The strategy for monetary control with an interest rate approach is also depicted in Figure 2. Assume that the desired money stock is M^* and that the expected position of the money demand curve is M_0^d . In this situation, the Federal Reserve would set an interest rate

target of r^* and would anticipate furnishing enough nonborrowed reserves to establish the money supply curve at M_0^s . However, if the anticipated level of nonborrowed reserves turns out to be inconsistent with the interest rate target, nonborrowed reserves would be adjusted as necessary to maintain the interest rate at r^* . Thus, under an interest rate approach to monetary control, the Federal Reserve conducts open market operations to maintain the interest rate at the level thought to be necessary to induce the public to hold the desired quantity of money.

The behavior of free reserves is not important when the Federal Reserve uses an interest rate approach to monetary control. Since open market operations accommodate banks' demand for reserves, a change in the demand for free reserves has no impact on monetary growth. For example, an increased demand for free reserves would reduce the amount of reserves available to support the money supply and would thereby place upward pressure on market interest rates. However, the upward pressure on interest rates would be offset automatically by an increase in the supply of nonborrowed reserves in whatever amount is necessary to maintain the money supply curve and interest rates at the initial levels. Because of the accommodating changes in nonborrowed reserves, the increased demand for free reserves has no impact on interest rates or monetary growth. Therefore, one of the beneficial aspects of an interest rate approach to monetary control is that unanticipated changes in the demand for free reserves do not adversely affect the ability to achieve the desired rate of monetary growth.

A second reason free reserves are not important under an interest rate approach is that they do not absorb any of the effects of shifts in money demand. Instead, changes in nonborrowed reserves completely accommodate

changes in required reserves associated with shifts in the demand for money. However, complete accommodation of changes in money demand to prevent deviation from the target interest rate has undesirable consequences for monetary control. For example, an unexpected shift in the money demand curve to M_1^d in Figure 2 would cause an increase in the money stock to M_1 , well above the desired level of M^* . Since the Federal Reserve would increase nonborrowed reserves to accommodate the increased demand for required reserves that accompanies the surge in money demand, there would be no increase in interest rates to dampen the undesirably rapid monetary growth. Thus, use of an interest rate strategy allows the full effect of changes in money demand to be reflected in the rate of monetary growth. To the extent that the demand for money is unpredictable, therefore, an interest rate approach to monetary control can result in large deviations from the desired rate of monetary growth.⁵

The Reserve Aggregate Approach

Under the reserve aggregate approach to monetary control adopted in October 1979, open market operations are conducted to provide the amount of nonborrowed reserves believed to be consistent with the desired rate of monetary growth.⁶ Changes in banks' demand for required reserves are not accommodated by

⁵ In some circumstances, it might be desirable to change the monetary growth target itself in response to changes in money demand. For example, if a shift in the money demand curve were caused by an unexpected change in the public's liquidity preferences that was unrelated to income, the original monetary target would no longer be consistent with attaining the desired level of income, which is often presumed to be the best summary of ultimate policy goals. However, in this article it is assumed that deviation from the initial target rate of monetary growth results in deviation from the desirable growth in income.

adjusting nonborrowed reserves. Instead, interest rates must adjust to equate banks' demands for free reserves and required reserves to the fixed supply of nonborrowed reserves.

A number of factors must be taken into account in determining the appropriate level of nonborrowed reserves. The first step in deriving reserve targets is to estimate the growth in required reserves that would be associated with the desired rate of monetary growth. The anticipated level of excess reserves is then added to the estimated required reserves to obtain a target path for total reserves. Finally, the expected level of borrowing is subtracted from the total reserve path to obtain a target path for nonborrowed reserves. Achieving the path level of nonborrowed reserves is the primary objective of open market operations under the recently adopted reserve approach to monetary control.

The strategy for monetary control with a reserve aggregate approach is depicted in Figure 3. If the desired money stock is M^* and the expected position of the money demand curve is M_0^d , the Federal Reserve's objective is to determine the quantity of nonborrowed reserves that will yield a money supply function corresponding to M_0^s . As pointed out above, prospective levels of excess reserves and discount window borrowings must be estimated to determine the appropriate nonborrowed reserve path. In other words, the Federal Reserve relies on implicit estimates of the demand for free reserves in establishing a nonborrowed reserve path that is consistent with the desired rate of monetary growth.

Free reserves are important under the

⁶ For a more detailed description of the new operating procedures, see "Description of the New Procedures for Controlling Money," hearings on the conduct of monetary policy before the House of Representatives Committee on Banking, Finance, and Urban Affairs (February 29, 1980).

recently adopted nonborrowed reserves approach in part because unexpected changes in the demand for free reserves pose problems for monetary control. The success of the reserve aggregate approach in achieving the desired rate of monetary growth can be impaired by unexpected changes in the demand for free reserves. For example, with a constant supply of nonborrowed reserves, an increase in free reserves would be associated with an undesirable decline in the supply of money. The effects of an increase in the demand for free reserves and the associated decline in the supply of money are shown in Figure 4. The decline in the money supply curve from M_0^S to M_1^S would result in an increase in interest rates from r_0 to r_2 and a decline in the money stock from the desired level, M^* , to M_2 .

The extent of deviation from the desired money stock resulting from a change in the demand for free reserves depends in part on the interest sensitivity of the demand for free reserves. If banks' demand for free reserves

were relatively unresponsive to interest rates, the money supply curve would be very steep, and changes in free reserves would have a large impact on monetary growth. If the demand for free reserves were very sensitive to interest rates, on the other hand, the money supply function would be relatively flat, and free reserve disturbances would have only a small effect on the money stock. The extent to which monetary growth is insulated from unexpected changes in free reserves under the reserve aggregate approach, therefore, depends to some extent on the degree to which banks adjust their demand for free reserves in response to changes in interest rates.

The second reason free reserves are important under the nonborrowed reserve approach is that they cushion the impact on the money stock of unexpected changes in the public's demand for money. Equation (8) shows that changes in money demand are associated with changes in free reserves if the level of nonborrowed reserves is held constant.

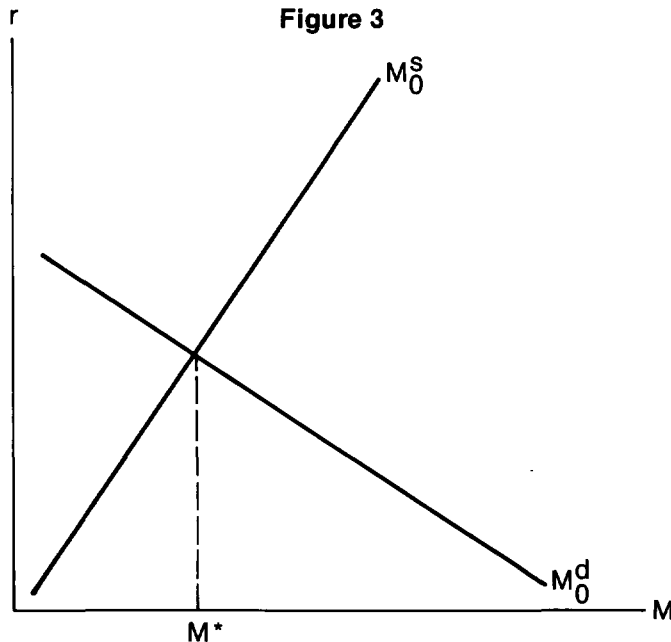


Figure 4

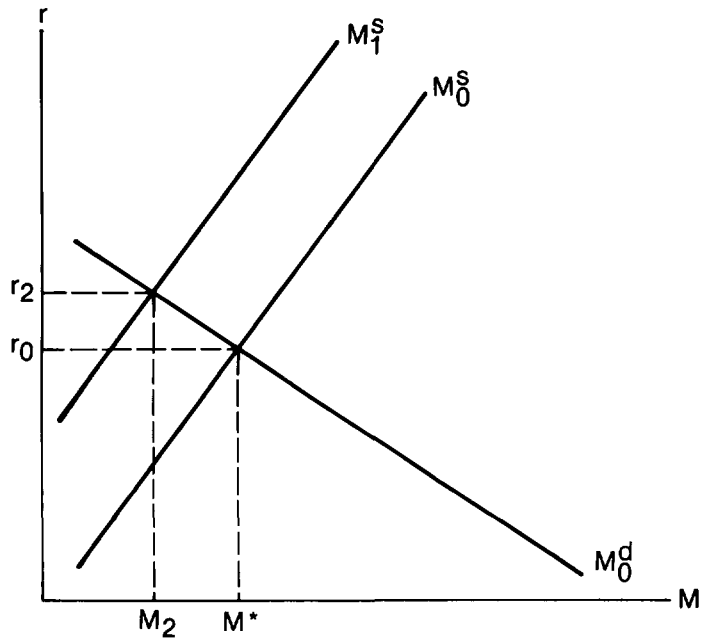
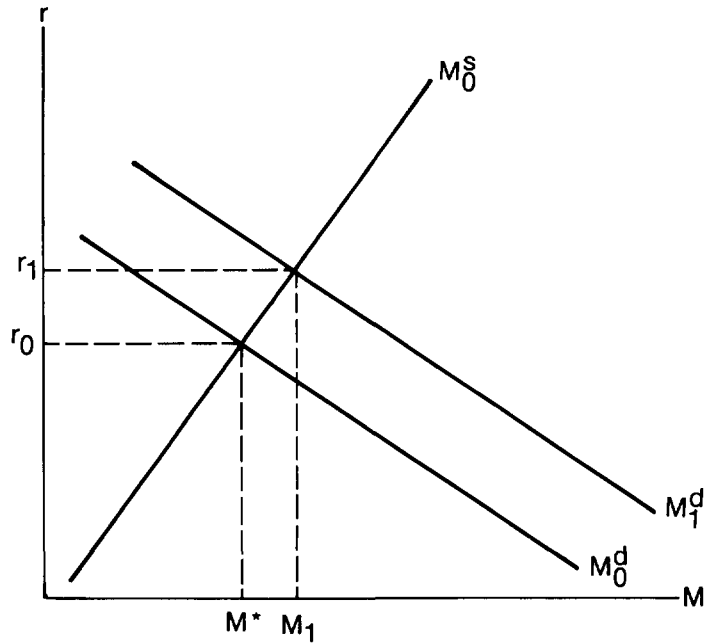


Figure 5



Moreover, the change in interest rates that accompanies a change in free reserves counteracts part of the undesirable impact on monetary growth of an unanticipated change in the strength of money demand. For example, if nonborrowed reserve supply is constant, an unexpected increase in money demand results in a reduction in free reserves. The rise in interest rates necessary to induce banks to reduce their free reserves counteracts part of the strength in money demand, thereby reducing the amount by which monetary growth exceeds the desired rate below what it would be if interest rates did not adjust. Thus, the negative relationship between interest rates and the demand for free reserves provides an automatic mechanism for insulating monetary growth from unexpected changes in money demand when the Federal Reserve uses a non-borrowed reserves approach to monetary control.

The effects of an increase in money demand are shown in Figure 5. The unexpected increase in money demand from M_0^d to M_1^d would result in an increase in the interest rate from r_0 to r_1 and an increase in the money stock from the desired level, M^* , to M_1 . Comparison of Figure 2 and Figure 5 indicates that an upward-sloping money supply function—which results from a constant level of nonborrowed reserves and the interest sensitivity of the demand for free reserves—provides an automatic tendency to offset part of the effect on the money stock of a change in the demand for money.

The size of the deviation from the desired money stock caused by money demand disturbances depends on the interest sensitivity of free reserves. If banks' demand for free reserves were relatively unresponsive to interest rates, the money supply curve would be very steep, and money demand disturbances would have very little impact on the money stock. If the demand for free reserves were very sensitive

to interest rates on the other hand, the money supply function would be relatively flat, and money demand disturbances would have a large effect on the money stock. The degree to which monetary growth is insulated from unexpected changes in money demand under the recently adopted reserve operating approach, therefore, depends to some extent on the interest sensitivity of the demand for free reserves.

To the extent that the demand for free reserves is less predictable than the demand for money, monetary control would be improved by a very interest-sensitive demand for excess reserves and discount window borrowings. The opposite would be true, of course, if money demand disturbances were the chief impediment to monetary control. In either case, though, the importance of understanding the behavior of free reserves has been enhanced by adoption of a reserve aggregate approach to monetary control.

THE USE OF FREE RESERVES IN THE IMPLEMENTATION OF MONETARY POLICY

The recently adopted change to a reserve aggregate approach to monetary control has increased the significance of free reserves for monetary policy. There are a number of alternative ways for using a variable in the implementation of monetary policy. A variable may be used as an indicator of policy, as a target of policy, or as an information variable. The level of free reserves has been interpreted by some as a good indicator of the stance of monetary policy or as the proximate target of open market operations. Neither of these interpretations is correct. Instead, the Federal Reserve uses information provided by the behavior of free reserves to adapt open market policy to evolving financial conditions. In other words, free reserves are used as an information variable.

Free Reserves as a Monetary Policy Indicator

A monetary policy indicator may be defined as a variable whose value characterizes "the thrust of monetary policy."⁷ A monetary policy indicator may be useful to the public as a simple way of measuring whether monetary policy actions are restrictive or expansionary. Moreover, an indicator may be useful to the Federal Reserve in evaluating past policy actions. Some analysts have assumed that the level of free reserves is a good indicator of the stance of monetary policy under a reserve aggregate approach to monetary control. They have interpreted declines in free reserves as an indication of a more restrictive monetary policy and increases in free reserves as an indication of a more expansionary monetary policy.

Use of free reserves to measure the stance of monetary policy can be very misleading, however, regardless of Federal Reserve operating procedures. Under either an interest rate approach or a reserve approach to monetary control, a given change in the level of free reserves can be associated with a variety of monetary growth rates and can be expansionary in some circumstances and contractionary in other circumstances. For example, a modest decline in free reserves during a period of rapidly growing demand for money and credit may be associated with accelerating monetary growth. Accommodative open market policy can furnish enough nonborrowed reserves to support rapid growth in money and credit at the same time that free reserves are declining. Indeed, the increase in interest rates that is generally associated with rapidly growing demand for money and credit reduces banks'

⁷ For a more complete discussion of targets and indicators of monetary policy, see Karl Brunner, editor, *Targets and Indicators of Monetary Policy*, Chandler Publishing Company (1969).

demand for free reserves. Thus, declining free reserves in these circumstances may result from lower demand for free reserves rather than a restrictive monetary policy. During the recent economic expansion, for example, a decline in the level of free reserves from \$137 million in 1976 to -\$668 million in 1978 was accompanied by an acceleration in M1-B growth from 6.0 per cent to 8.2 per cent over the same period.⁸ As measured by the effect on monetary growth, therefore, monetary policy was becoming more expansionary over this period even though the level of free reserves was declining. Measured by the same criterion, however, a comparable decline in free reserves in the future could be associated with increasingly restrictive monetary policy if interest rates and the demand for money and credit were falling. Thus, the behavior of free reserves must be interpreted within the context of overall economic and financial conditions to determine the implications of changes in free reserves for monetary growth. For this reason, the behavior of free reserves taken by itself is not a reliable indicator of the thrust of monetary policy.

Free Reserves as a Monetary Policy Target

A monetary policy target may be defined as a variable used "to guide monetary policy operations in the money markets under the conditions of uncertainty and lags in the receipt of information about the more remote goals of policy."⁹ The ultimate goals of monetary policy are economic growth, high employment, price

⁸ The annual level of free reserves was computed by averaging the monthly levels. Annual rates of monetary growth were computed by taking the percentage change from the fourth quarter of the preceding year to the fourth quarter of the year in question.

⁹ Brunner, p. 2.

stability, and a sustainable pattern of international transactions. It is often useful to focus on more immediate objectives in policy implementation, however, because reliable information is not immediately available on the goal variables and because there are numerous sources of uncertainty about the effects of policy actions on the goal variables. The growth rates of money and credit are themselves intermediate targets that are not directly controllable, however. Various types of uncertainty cause unpredictability in the relationship between policy actions and monetary growth. For this reason, it is necessary to focus on a proximate target in short-run policy implementation. The choice among variables that could be used as proximate targets for monetary policy depends on the primary source of uncertainty.

The Federal Reserve has chosen to use nonborrowed reserves rather than free reserves as the proximate monetary policy target in part because the strength of money demand is a major source of uncertainty in policy implementation. Although both free reserves and nonborrowed reserves are related to monetary growth, use of a nonborrowed reserves target is more conducive to monetary control. As explained in the preceding section, keeping nonborrowed reserves at a predetermined target level mitigates the effects on monetary growth of unanticipated changes in the demand for money. In contrast, maintaining a constant target level of free reserves would lead the Federal Reserve to accommodate unexpected shifts in money demand by adjusting the level of nonborrowed reserves to the demand for required reserves. For this reason, nonborrowed reserves is preferable to free reserves as a monetary policy target when the primary source of uncertainty is the inability to predict money demand. Since inability to predict the growth of income and

other factors affecting money demand has been an important impediment to monetary control in recent years, nonborrowed reserves rather than free reserves is the most useful target for monetary policy.

Recent experience demonstrates the superiority of nonborrowed reserves over free reserves as a monetary policy target. The sharp unexpected decline in money demand in April of this year resulted in substantial increases in free reserves because the Federal Reserve adhered to its nonborrowed reserves path. In particular, the decline in M1-B at an annual rate of 14.1 per cent in April 1980 was associated with an increase in free reserves from -\$2.5 billion in late March to -\$1.0 billion in early May and a decline in the Federal funds rate from 17.8 per cent to 15.1 per cent over the same period. The increase in free reserves and a decline in interest rates set the stage for subsequent monetary growth more nearly in line with the announced monetary targets. In contrast, use of a free reserves target during this period would have resulted in only modest declines in interest rates, which would have been inadequate to prevent a substantial shortfall in monetary growth relative to targets.

Free Reserves as an Information Variable

An information variable may be defined as a variable that provides information on current relationships in the economy.¹⁰ The Federal Reserve must make decisions on the basis of estimated relationships among numerous economic variables. Because various occurrences can alter these relationships, it is necessary for the Federal Reserve to update its

¹⁰ A thorough discussion of the use of information variables in policy implementation can be found in John H. Kareken, Thomas Muench, and Neil Wallace, "Optimal Open Market Strategy: The Use of Information Variables," *American Economic Review* (March 1973).

estimates of economic relationships on the basis of incoming data on a number of important economic and financial variables. Even though unpredictability of money demand is the primary source of uncertainty in policy implementation, other sources of uncertainty can also impair monetary control.

Free reserves is useful as an information variable under the current reserve strategy for monetary control. Initial estimates of the prospective demand for excess reserves and discount window borrowing are used to construct the nonborrowed reserve path believed to be consistent with the Federal Reserve's monetary objectives. However, these estimates often prove to be inaccurate. Although the inability to predict strength of money demand has been the chief impediment to accurate monetary control, uncertainty regarding banks' demand for free reserves can also impair monetary control. Thus, it is necessary to take account of unexpected changes in free reserves in policy implementation. Preliminary information on free reserves is available daily, and this incoming information can be used to update the estimate of demand for free reserves. On the basis of this updated estimate of the demand for free reserves, the Federal Reserve may decide to alter its open market operations. For example, when incoming data indicate that the original assumption about the demand for free reserves was incorrect, the Federal Reserve can use this information to update the nonborrowed reserves target and thereby improve the chances of achieving the desired growth rates of money and credit.

Recent experience indicates the usefulness of free reserves as an information variable. In December 1979 and January 1980, free reserves rose substantially above levels that could have been predicted from previous experience because of an unexpected increase in excess reserves from \$155 million in November 1979 to

\$394 million in December 1979 and \$242 million in January 1980.¹¹ If the Federal Reserve had taken no action to accommodate the temporary increase in the demand for excess reserves, the resulting reserve shortage would have caused an increase in interest rates above the levels consistent with the desirable rate of monetary growth. Instead, the System accommodated the increased demand for free reserves by adjusting the nonborrowed reserves path upward. Thus, by using free reserves as an information variable, the Federal Reserve was able to improve the degree of monetary control achieved with the new reserve aggregate operating procedure.

CONCLUSION

The recent change to a reserve aggregate approach to monetary control has increased the importance of free reserves for monetary policy. The interest sensitivity and the level of the demand for free reserves are important determinants of the rate of monetary growth under the new procedures. Therefore, a clear understanding of the behavior of free reserves is an important element in the successful use of reserve aggregates for achieving the Federal Reserve's monetary and credit objectives.

Public perception of the use of free reserves in monetary policy implementation has often been misguided, however. The level of free reserves is neither a good indicator of the thrust of monetary policy nor the most useful target to guide open market operations. Instead, the level of free reserves provides information on current economic and financial relationships that can be used to adjust the nonborrowed reserve path and thereby improve the chances of achieving the desired rate of monetary growth.

¹¹ Monthly levels of free reserves are computed by averaging the daily figures.