

Some insights on member bank borrowing

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The amount of member bank borrowings at the Federal Reserve banks has averaged about \$1.2 billion for the past six months, ranging between \$500 million and \$1.7 billion on a weekly average basis. This compares with the less than \$100 million level that prevailed between late 1975 and early 1977.

Because member bank borrowings are usually higher in times of monetary restraint, concern occasionally arises that the *discount window* amounts to a leak in the Federal Reserve's control over commercial bank reserves and money.

This article focuses on the major elements affecting the volume of borrowings, both over the interest rate cycle and in the short run. It also explains why borrowing is not a significant obstacle to the achievement of policy goals.

Under current Federal Reserve procedures and regulations, three factors influence the volume of borrowings:

- The cost of borrowing from the Federal Reserve (the discount rate) relative to the cost of short-term funds from other sources.
- The volume of funds the Federal Reserve makes available to the banking system through open market operations relative to the total amount of required reserves.
- Federal Reserve administrative policy regarding the extension of credit to member banks.

Providing for bank reserves

The Federal Reserve System provides aggregate reserves to the commercial banking system through both open market

operations and loans to individual member banks.¹ While the former are undertaken at the initiative of the System, the latter are at the initiative of the member banks.

There is an incentive for banks to borrow when the discount rate is below the cost of buying funds in the federal funds market—a major avenue through which reserves supplied by open market operations are distributed among banks.² Although some borrowing is clearly related to the size of this rate incentive, the very process of policy implementation under current regulations virtually ensures that borrowing will increase when the fed funds rate rises. This would be true even if the discount rate were tied to the fed funds rate so that a rate incentive could not develop.

Because of the way the discount window is administered, borrowed reserves are temporary and self-constraining. Not only are

¹There are also other factors that cause changes in the reserves of the banking system. The three principal factors are (1) changes in Federal Reserve float; (2) flows of currency between banks and the public; and (3) changes in Treasury balances at Federal Reserve banks. These outside factors, which often affect reserves by hundreds of millions of dollars in a single day, are offset or supplemented by open market operations in accordance with overall reserve needs.

²The interest rate on the bulk of member bank borrowing is the base rate applicable to loans secured by paper "eligible" for discount or purchase by the Reserve banks under the provisions of the Federal Reserve Act. This is generally referred to as the "discount rate" even though loans are not made on a discount basis. An additional one-half of 1 percent is required on loans secured by other collateral satisfactory to the lending Reserve bank. Since 1974, a special discount rate has been applied to member banks requiring exceptionally large loans extended over a prolonged period of time. This rate has typically been set at one to two percentage points above the basic rate.

they taken into account when the *Desk* (the securities department at the Federal Reserve Bank of New York) determines its operational strategy in conducting open market operations, but they reflect operational problems.

Member bank reserve accounts at Federal Reserve banks serve as working balances through which many transactions, such as check clearings, are channeled. Banks with a greater value of checks written on their deposits than the value of checks deposited with them pay the difference by drawing down their reserve accounts.

Normal deposit flows between the thousands of commercial banks in the United States result in significant shifts in the distribution of deposits among banks. Banks hold funds on deposit at Federal Reserve banks to cover these day-to-day shifts.

In addition, banks are required to hold on average for each weekly reporting period (Thursday through Wednesday), a proportion

of their deposits as reserves at the Federal Reserve banks. Because the amount of reserves required to be held in the current week is based on deposits two weeks earlier (*lagged reserve requirements*), every bank knows at the beginning of a statement week what its reserve balance will have to be on average for that week. Also, the Federal Reserve knows the aggregate of required reserves that all member banks will have to hold.

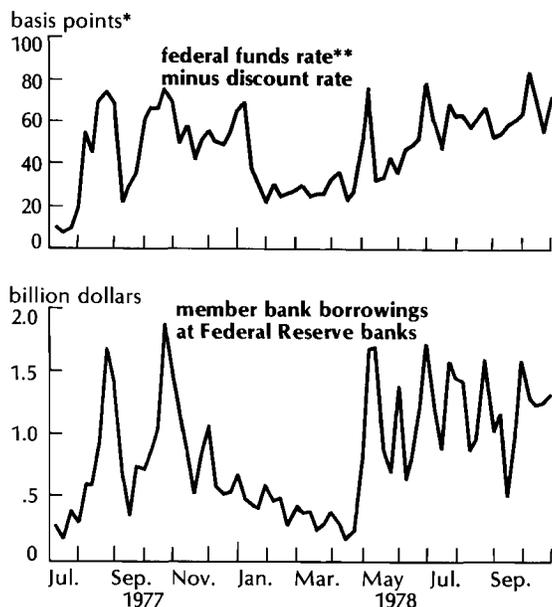
Reserve availability—controlling the fed funds rate

In supplying reserves to the banking system to influence bank deposits and credit, the Federal Reserve pursues its monetary objectives through its influence on the price of reserves in the market—the fed funds rate. The policy decisions involve estimates of the level of this key money market rate that would be consistent with the rate of monetary expansion being sought. If deposits are growing faster than the Federal Reserve wants them to, the flow of reserves to the banking system is slowed through open market operations. The fed funds rate rises, discouraging banks from expanding deposits and their holdings of loans and investments.

Because of lagged reserve requirements, however, constraints on total reserves are limited in the short run. If the amount of reserves supplied to the banking system falls short of the amount needed, the banks in deficit bid up the fed funds rate. As the rate rises, some banks will respond to the rate differential by borrowing at the discount window. Regardless of the differential, however, enough has to be borrowed to cover the overall reserves shortage. If more reserves are supplied through open market operations than required, the fed funds rate falls relative to the discount rate and both the need and cost-savings incentive for banks to borrow are reduced.

By supplying through open market operations either more or less reserves than required to meet reserve needs overall, the monetary authorities can achieve the fed

Member bank borrowings tend to vary with the spread between the federal funds rate and discount rate



*One basis point is one-hundredth of one percent.
**Weekly averages of daily effective federal funds rate.

funds rate they believe is consistent with the rate of monetary expansion they seek. Member bank borrowings serve as a residual source of reserves that equates the supply of reserves overall to the amount of required reserves, which is fixed in advance.

Shortages of reserves created in the process of pushing the fed funds rate up force borrowings to rise as the funds rate rises. But the tighter conditions—with respect to both availability of reserves and their cost—also discourage credit and money growth in the weeks that follow.

Borrowing complements open market operations

While the lagged reserves rule gives the Desk advance knowledge of the average amount of reserves that will have to be held each week, there is less certainty about the amount that will be supplied from outside sources and, therefore, the volume of transactions needed to cover required reserves at a particular level of monetary ease or restraint.

Changes in purely technical factors, moreover, can make the necessary offsets hard to achieve. These operational difficulties can happen because of shortages in collateral, delivery problems, and constraints on interest rates.

Movements in aggregate borrowing at the discount window give clues to whether non-borrowed reserves are sufficient, deficient, or excessive during the reserve settlement week. Member bank borrowings reflect not only the response of monetary authorities to the strength of credit demand and monetary growth but also to imbalances in the supply and demand for bank reserves brought on by day-to-day operational problems. These imbalances can result from errors in projecting reserves and from temporary inability to implement the actions intended.

In conducting operations to implement monetary policy, the Federal Reserve attempts to offset potential disturbances to the money market and changes in credit

availability caused by other factors that affect bank reserves. These include changes in Federal Reserve float, currency in the hands of the public, and especially shifts of funds out of private deposits into Treasury balances at Federal Reserve banks.

Such changes are estimated in advance, but the estimates are subject to error. The most likely amount of member bank borrowing is also estimated on the basis of recent experience and the spread between the fed funds rate and the discount rate. Based on the net effect of all these elements, projections are made of the amount of reserves that will be available during the period and the probable need to add or drain reserves so that the total supply equates to the total required, allowing for some minimal amount of excess reserves.

To the extent open market operations fail to compensate for a net reserve drain from other elements affecting reserves during the settlement week, member banks in the aggregate will have to borrow from Federal Reserve banks to cover the reserve deficiency. Such borrowing will be necessary by the end of the settlement week, regardless of the reason for the deficiency—whether it is an unexpected increase in currency in the hands of the public, a sharper decline in float than had been expected, or a delay in the cashing of Treasury checks.

The only question is *who* will do the borrowing. As in a game of musical chairs, the net deficiency nationwide will impact on some individual bankers when the settlement period ends.

The uncertainties banks face also affect their borrowing. When normal deposit patterns are expected to change or reserves are expected to be less available, some banks borrow in anticipation of the change in their needs. A bank may borrow over a long holiday weekend, for example, to make sure reserve needs are covered. The Federal Reserve's discount facility, therefore, is an important mechanism for meeting the needs of bank liquidity arising from uncertainties about deposits. Such uncertainties are naturally greater in periods of monetary

restraint. To the extent that such borrowing overcompensates for actual shortages in availability, the Federal Reserve may have to take offsetting open market action to absorb reserves.

Even when the Desk's estimates of reserve needs nationwide are reasonably accurate, implementation of monetary policy is not simple. The Federal Reserve controls the supply of reserves over the long run mainly through the outright purchase and sale of government securities. An outright purchase of securities permanently provides reserves. A sale permanently reduces reserves. But the Federal Reserve also has to provide or absorb reserves for short periods, often just a day or so within the reserve settlement week. Repurchase agreement transactions (RPs) with government securities dealers are particularly useful in providing reserves to offset temporary reserve drains resulting from factors other than Desk operations. Matched sale-purchase transactions in government securities can be used to withdraw reserves on a temporary basis.

RPs involve the purchase of government securities by the Federal Reserve and commitments on the part of dealers to repurchase the securities at a specified date and price. The Federal Reserve pays for the securities by crediting the reserve accounts of the dealers' clearing banks, which receive an equal increase in customer deposits. Such transactions are effectively short-term loans by the Federal Reserve to the dealers, collateralized by government securities.

Conversely, if the Federal Reserve is withdrawing reserves from the banking system, it enters into matched sale-purchase agreements with securities dealers. These contracts involve the sale of blocks of securities to dealers for immediate delivery with a simultaneous purchase for delivery at a specified later date. The securities sold by the Federal Reserve are paid for by debits to the reserve balances of the dealers' banks, with the result that bank reserves decline.

The ability to provide reserves through open market operations depends, however, on the ability of government securities

dealers to pledge collateral. Collateral is no problem when reserves are being withdrawn. But the success of the Federal Reserve in negotiating enough repurchase agreements to achieve reserve objectives depends on the ability of securities dealers to draw collateral from their customer networks.

When interest rates are rising, dealers tend to keep their inventories low and collateral is not as readily available as when interest rates are declining. This makes a large open market operation difficult. At other times, when dealers have substantial inventories of government securities, it is fairly easy to inject a large volume of reserves into the banking system as needed to meet predetermined reserve requirements.

In weeks when the Federal Reserve is not successful in providing needed reserves through open market operations, loans to member banks rise. Such increases can be quite sharp, but they are usually only temporary. In the interim, of course, the fed funds rate also tends to rise.

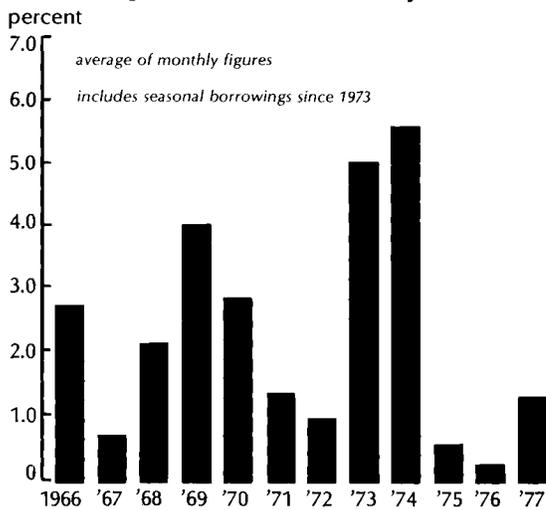
Constraints through window administration

Borrowed reserves, even in times of tight money, are only a small part of total bank reserves. Federal Reserve policy regarding loans to individual banks is an important constraint on expansion in borrowing. While this policy is applied consistently, whether money is tight or easy, its impact is felt mainly during periods of restraint, when member banks need to borrow.

If the discount window actually represented an open line of credit to member banks, the difference between the fed funds rate and discount rate would be much more important in determining the level of borrowing. The privilege of borrowing, defined by Federal Reserve Regulation A, is not freely available to member banks on a continuing basis.

Borrowing by member banks is intended to cover unusual short-term needs. Administration of the discount window imposes an implicit cost in the form of surveillance of

Borrowed reserves account for a small proportion of total reserves, even in periods of monetary restraint



member banks that use the window for extended periods. Because borrowings today tend to reduce the willingness of the Federal Reserve to accommodate future borrowings, banks tend to use the window sparingly, reserving their access for times of urgent need.

Banks borrow only to cover reserve deficiencies during the reserve settlement week. They do not borrow to obtain excess reserves. As long as a bank's performance shows its intentions to operate within the limits of its own resources, it can usually arrange for credit to meet its needs. A bank can use the discount window, for example, for temporary aid in working out portfolio adjustments to meet unexpectedly strong local credit demands.

Continuous borrowing at the window is considered inappropriate, for whatever purpose. Continuous borrowing suggests the bank is using Federal Reserve funds to supplement its capital resources. It also indicates the bank has basic difficulties with its reserve position, which ought to be corrected through portfolio adjustments. Federal Reserve surveillance, including frequent contact with borrowers, tends to discourage extended use of the discount window, con-

straining the growth in total borrowings.

An exception to the rule is the *seasonal borrowing privilege*, created in 1973 through revision of Regulation A. The authority for Federal Reserve banks to accommodate small banks in covering shortfalls in deposits relative to loans was intended to assist banks, especially those serving agricultural or resort areas, to meet the credit needs of their communities. While credit can be arranged for several months under this program, the total outstanding has usually been less than \$200 million. The desk managing open market operations knows the amount in advance.

Large banks dominate profile

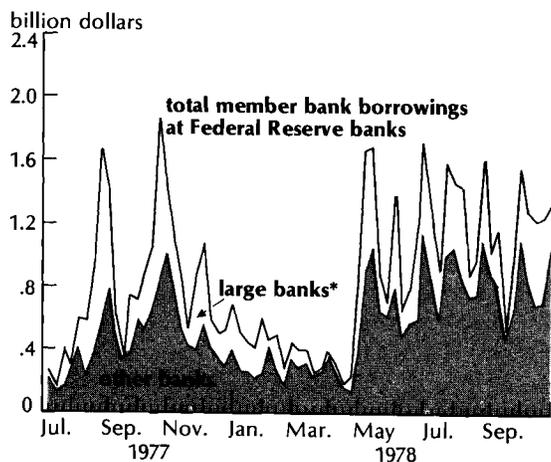
In periods of monetary ease, borrowing tends to bounce along at very low levels. With open market operations taking care of the supply of reserves, member bank use of the window results mainly from frictional problems that distort the distribution of reserves to small banks.

When the economy is sluggish, the Federal Reserve, in freely accommodating a fairly modest rate of growth in bank credit and deposits, supplies reserves faster than they are being absorbed by deposit growth. These are conditions associated with a low fed funds rate and a low volume of member bank borrowing at the discount window.

The fed funds rate was consistently below the discount rate in 1976 and early 1977 and, although occasional bulges reflected problems at the end of settlement weeks, member bank borrowing was minimal. The volume of borrowings began increasing substantially about mid-1977, however, as did the volatility.

With credit demands accelerating and deposits growing faster than desired under monetary policy objectives, the Federal Reserve ceased accommodating all the associated reserve demands through open market operations. Demand for reserves rose faster than the supply, and money market interest rates rose. The fed funds rate has been persistently above the basic discount rate since April 1977, although progressive in-

Peak demand for credit at the discount window reflects residual pressures on large banks



*Banks with weekly average net demand deposits (gross demand deposits minus cash items in process of collection and demand balances due from domestic banks) greater than \$400 million.

creases in the latter have kept the margin fairly narrow.

In times of monetary restraint, member banks of all sizes come to the discount window in increasing numbers and with increasing frequency, especially when the discount rate lags the rise in money market interest rates. Even then, however, the number of borrowers is a small proportion of member banks. Less than 10 percent of member banks borrowed at the window in any single week in the second quarter of 1978, and probably no more than 25 percent borrowed at any time during that quarter.

Small banks step up their use of the discount window as their deposit growth fails to keep up with loan demands. This is because many small banks do not have access to money market sources of funds. Peak

demands for Federal Reserve loans reflect the convergence of residual pressures on the large banks in major cities. There are comparatively few large banks and they do not borrow as often as the small borrowers. When they do borrow, however, a large amount of credit often is involved. The sharp short-run fluctuations in total member bank borrowings reflect the intermittent borrowings of large banks, some of which have required reserves of more than a half billion dollars.

It is on these large banks that the net pressures in the money market converge at the end of the reserve settlement week when there is a shortfall in the overall supply of reserves below the required level. This is partly because of the role these banks play in accommodating the needs of smaller correspondent banks.

Borrowing by large banks tends to be concentrated on Wednesdays and they rarely borrow for more than a day at a time. The average daily volume of member bank borrowing in 1977 was \$454 million, while the average for Wednesdays only was \$737 million, including some Wednesdays at more than \$2 billion.

The sharp but irregular Wednesday spurts in borrowings clearly reflect shortages in the aggregate supply of reserves relative to required reserve levels, whether the shortages were the result of policy moves or operational problems.

The pattern of member bank borrowing at Federal Reserve banks suggests strongly that the large commercial banks come to the window, not because of a rate differential, but mainly because reserves are not available in the money market. Any benefits they receive from a favorable discount rate are largely fortuitous.