

August 1, 1980

## Two Weeks Can Be a Long Time

Lagged reserve accounting is one of the most arcane, yet frequently debated monetary-policy issues of the past decade. On its face, this regulation—part of Federal Reserve Regulation D—appears to be simple and innocuous. It states that, in any given week, Federal Reserve member banks must hold reserves (in the form of deposits at a Federal Reserve Bank or vault cash) in prescribed percentages of their various types of deposits outstanding *two weeks earlier*. This rule has been in effect since 1968, replacing the system of contemporaneous reserve accounting, which required banks to hold reserves based on their *current week's* deposits.

Many observers, including Milton Friedman in his *Newsweek* column, are currently suggesting that the Fed should switch from the lagged system back to the contemporaneous rule. They argue that this action would significantly improve Federal Reserve control over the monetary aggregates. These arguments took on new urgency this spring, when several key policy aggregates declined at a time when the economy was moving into a recession. (The narrow M-1B measure—currency plus bank demand deposits plus other check-type deposits—declined at a 7.7-percent rate over April and May.) The rule thus has become an important policy issue, in view of the argument that lagged accounting hampers efforts to push the monetary aggregates back up into their target ranges.

Is the choice between lagged and contemporaneous accounting really all that important? After all, a matter of only two weeks is involved. Indeed, some analysts maintain that a two-week lag can only insignificantly influence the decisions of individual banks, which are based upon longer-run considerations. In this view, the choice between reserve accounting rules plays only a minor role in how the money stock is determined. Our analysis suggests, however, that both sides of this debate are correct at various

times, depending on certain technical features of the Fed's efforts to control money. Specifically, lagged accounting creates a major problem *only* when reserves borrowed from the Federal Reserve are nearly at zero levels, *and* when the Fed wishes to focus its monetary-control procedures on bank reserves. The problem is that the Fed may find it necessary to control money by setting Federal-funds rate targets—the method it abandoned last October in favor of a reserves method.

### Funds-rate operating procedures

The Fed can influence money growth in either of two basic ways—by targeting the quantity of reserves it supplies to the banking system or by targeting the Federal-funds rate, the interest rate at which banks borrow reserves from each other and from other institutions. Prior to October 6, 1979, the Fed used the latter method. When it wanted slower monetary growth, the Fed raised the funds rate, making reserves more expensive for banks to obtain.

Under lagged accounting, any increases in deposits this week forced banks to obtain more reserves two weeks later. Furthermore, an increase in this week's funds rate often indicated that the funds rate two weeks later would be similarly high. The higher expected funds rate induced balance-sheet reactions of individual banks that led to slower growth in system-wide deposits, and thus in M-1B. Demand-deposit growth was also reduced as the funds-rate increase spread to other money-market yields, reducing the public's demand for deposits. Since this process would have been virtually identical under contemporaneous accounting, the choice of reserve accounting rules was of little consequence under the former funds-rate procedure.

### Reserves operating procedures

On October 6, 1979, the Federal Reserve

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announced that it would place a greater emphasis in the day-to-day control of the monetary aggregates on the quantity of bank reserves, and allow greater short-run fluctuations in the funds rate (see the October 19, 1979 *Weekly Letter*—"The Fed Crosses the Rubicon"). The Fed took this action because the funds-rate approach to monetary control had not worked as well as was desirable or possible. But these efforts to tighten monetary control had another effect closer to the current discussion—the choice between lagged and contemporaneous accounting became an important monetary-policy issue.

To see this point, we must understand the basic elements of controlling money through reserves. As noted earlier, the Fed sets the dollar volume of reserve requirements equal to fixed percentages of the various types of deposits issued by banks. Thus if the Fed fixes the quantity of total reserves available to the banking system, bank deposits can expand only by some fixed amount. Otherwise, total reserve requirements for the banking system would exceed the total quantity of reserves available to meet those requirements. As a consequence, some individual banks would find themselves without enough reserves to meet their requirements.

These banks might respond by bidding for reserves in the funds market, causing the funds rate to rise. In fact, the funds rate would have to rise to the level at which system-wide deposits and reserve requirements fell enough to eliminate the aggregate reserve deficiency. Thus, the use of reserves to control money growth does not reduce the role of the funds rate in the control process. This approach instead makes the necessary funds-rate changes an automatic result of the Fed's reserves targets.

#### **Lagged reserve accounting**

With contemporaneous reserve accounting, banks as a whole influence their current week's required reserves through changes in *current* deposits. As a consequence, the Fed can provide a fixed quantity of total reserves

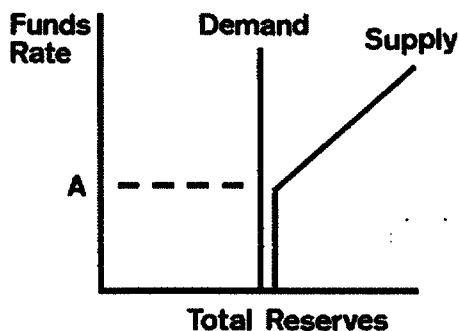
(even if that quantity is less than current requirements), and in effect, force the banking system to adjust its current deposits (and thus required reserves) accordingly.

Under lagged accounting, the link between current deposits and required reserves is broken. Banks enter any given week with a predetermined or unchangeable quantity of required reserves. Unless the Fed wanted to force some individual banks into a deficiency, it must provide the quantity of reserves demanded by the banking system. Under lagged accounting, the Fed's supply of reserves must adjust to the banking system's demand. This is just the opposite to contemporaneous accounting, where banks adjust their demand for reserves (through deposit changes) to the Fed's fixed supply.

#### **Discount window**

Does the Fed have any control over the monetary aggregates under a system of lagged accounting, where it must accommodate any quantity of reserves demanded by banks? The answer is yes under certain circumstances, which depend on the level of reserves which banks borrow from the Fed. The Fed has two basic methods of supplying reserves. Non-borrowed reserves are supplied when the Fed purchases a Treasury bill or other security directly or indirectly from a bank, paying for the security with reserves (in the form of a deposit at the Fed). The Fed supplies borrowed reserves when it makes a loan to a bank at the discount rate. Banks are reluctant to borrow from the discount window, however, partly because the Fed has historically discouraged such loans except in emergencies, and partly because it imposes explicit restrictions on the quantity of reserves it will lend to any one bank over time. Thus, in view of banks' reluctance to borrow, the Fed can restrict money growth by providing a larger proportion of banks' predetermined requirements through the discount window.

For example, when the Fed wants to slow money growth, it reduces its provision of nonborrowed relative to borrowed reserves.



Note: Below point A, borrowed reserves equal zero, and the funds rate is below the discount rate.

Under lagged accounting, this would not change banks' requirements for total reserves, which are based on the level of deposits two weeks earlier—but it would force some banks ultimately to borrow more of those reserves from the discount window. But since banks are reluctant to go to the window, they may first try to meet deficiencies through the funds market, driving this rate up relative to the discount rate. With the increase in the relative cost of borrowing in the funds market, some banks will be induced to make up their deficiencies at the discount window. But because of the rising funds rate, deposits will expand less rapidly.

This procedure can provide for monetary control if banks' reluctance to borrow is predictable, and if the aggregate quantity of discount-window borrowing is not close to zero. But what happens when borrowed reserves are close to zero (because the funds rate is below the discount rate) and when the Fed increases nonborrowed reserves to stimulate money growth? Under these circumstances, banks would find themselves with excess reserves, which they would then lend to other banks in the funds market. This would make the funds rate fall as excess reserves were transferred between banks. If borrowed reserves were significantly positive, the funds rate would stop declining as banks were induced to borrow fewer reserves from the Fed, thus absorbing the excess reserves in the banking system. But with borrowed reserves already nearly zero, banks could not be induced to lower that borrowing any further. Thus the excess reserves in the system would not be absorbed until the funds rate approached zero. In technical terms, the

funds rate could not be determined by non-Fed participants in the reserves market because neither the demand for reserves nor the supply of reserves respond to the funds rate—supply is unresponsive because borrowed reserves are nearly zero, while lagged accounting makes reserves demand unresponsive (see chart).

#### **Crux of problem**

To avoid such extreme funds-rate fluctuations, the Fed could buy the excess reserves from banks through open-market operations designed to set the funds rate at some desired level. But in that event, the Fed would be following a funds-rate approach to money control—the approach it abandoned last fall. Alternatively, the Fed could maintain the discount rate below the funds rate, inducing a positive level of borrowed reserves at all times. But for a variety of reasons, the Fed historically has not changed the discount rate actively enough to pursue such a policy.

This then is an important problem with lagged accounting: if the Fed needs to reduce borrowed reserves to nearly zero, it must effectively return to the funds-rate operating procedure. This can occur whenever the funds rate is below the discount rate, as has been the case in recent months. Thus, from a purely monetary-control standpoint, a switch to contemporaneous reserve accounting appears to be justified as a natural extension of the Fed's October 6 actions, which involved a change to a reserves procedure for controlling the monetary aggregates.

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**BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT**

(Dollar amounts in millions)

Selected Assets and Liabilities	Amount Outstanding 7/16/80	Change from 7/9/80	Change from year ago	
			Dollar	Percent
<b>Large Commercial Banks</b>				
Loans (gross, adjusted) and investments*	136,940	300	7,696	6.0
Loans (gross, adjusted) — total#	115,294	190	8,610	8.1
Commercial and industrial	33,204	— 106	1,819	5.8
Real estate	46,666	111	7,624	19.5
Loans to individuals	23,584	— 19	1,129	5.0
Securities loans	973	— 28	— 615	— 38.7
U.S. Treasury securities*	6,274	— 2	— 1,349	— 17.7
Other securities*	15,372	112	435	2.9
Demand deposits — total#	44,161	— 403	558	1.3
Demand deposits — adjusted	31,948	— 191	369	1.2
Savings deposits — total	28,719	143	— 1,969	— 6.4
Time deposits — total#	61,534	— 81	11,492	23.0
Individuals, part. & corp.	53,262	15	11,687	28.1
(Large negotiable CD's)	22,116	113	4,966	29.0
<b>Weekly Averages of Daily Figures</b>	<b>Week ended 7/16/80</b>	<b>Week ended 7/9/80</b>	<b>Comparable year-ago period</b>	
<b>Member Bank Reserve Position</b>				
Excess Reserves (+)/Deficiency (—)	— 65	10		15
Borrowings	47	2		84
Net free reserves (+)/Net borrowed (—)	— 112	8		— 69

\* Excludes trading account securities.

# Includes items not shown separately.

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