

THE PROMISES AND PITFALLS OF CONTEMPORANEOUS RESERVE REQUIREMENTS FOR THE IMPLEMENTATION OF MONETARY POLICY

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1. Introduction

In October 1979, the Fed acknowledged the potential value of reserve targeting for controlling the money stock and stabilizing the price level. It soon became apparent that the benefits of reserve targeting could not be realized with the lagged reserve requirement rules then in place. Consequently, in June 1982 the Federal Reserve Board decided to move to contemporaneous reserve requirements (CRR). Announcing its intention to change to CRR, the Board said simply that it expected CRR "to improve the implementation of monetary policy to a degree by strengthening the linkage between reserves held by depository institutions and the money supply."¹ This is essentially all the Board has said about the value of CRR for making policy. The benefits of CRR can be more elusive than this statement suggests and more significant as well. This article is intended to point out the promises and pitfalls of CRR for the implementation of monetary policy.

2. The CRR Rules²

The new CRR rules have been in place since February 1984. Under CRR, reserve requirements are computed on the basis of 14-day computation periods that end every other Monday. Reserve requirements must be met on a daily average basis over a 14-day maintenance period ending every other Wednesday.

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¹ See Dow Jones Newswire [June 1982] and Board of Governors of the Federal Reserve System [January 1984b].

² See Board of Governors of the Federal Reserve System [October 1982].

For a particular maintenance period, reserve requirements on transaction deposits are computed on the basis of the 14-day computation period ending on the Monday two days prior to the end of that maintenance period.^{3,4} Required reserves on nontransaction deposits, e.g., certain time deposits and Eurocurrency liabilities, are based on average deposits for the 14-day computation period ending on the Monday 17 days before the beginning of the maintenance period. In addition, vault cash eligible to be counted as reserves is based on vault cash during the 14-day computation period ending 17 days before the beginning of the maintenance period.

Figure 1 illustrates the contemporaneous reserve requirement rules in place since February 1984 and the lagged reserve requirement rules in place from September 1968 through January 1984. As the diagram indicates, the new reserve requirement rules are not strictly contemporaneous. Even the maintenance period for transaction deposits lags the computation period by two days. However, because the new set of reserve requirement rules are generally known as contemporaneous reserve requirements and

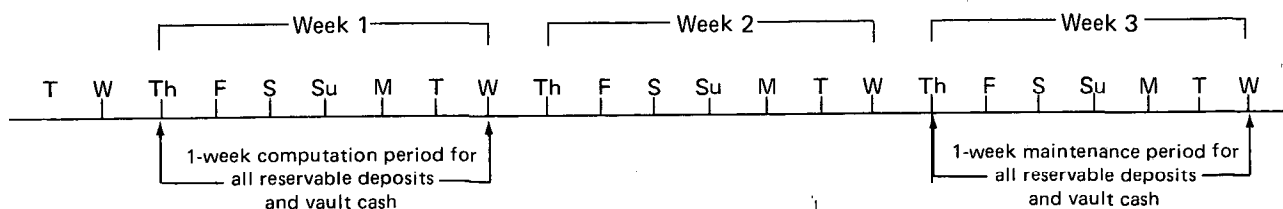
³ Under CRR, reservable transaction balances include (1) demand deposits at all commercial banks (including those due to banks, other depository institutions, and the U.S. government); (2) other checkable deposits (OCD) consisting of negotiable order of withdrawal (NOW) accounts, automatic transfer service (ATS) accounts, telephone and preauthorized transfer accounts, credit union share draft accounts, and demand deposits at thrift institutions; (3) less deductions for demand balances due from depository institutions in the United States and cash items in the process of collection. In general, CRR applies only to depository institutions that file the weekly FR 2900 report of deposits.

⁴ Reserve requirements under the Monetary Control Act (MCA) of 1980 are designed to control aggregate transaction deposits. After a gradual phase-in period, under the MCA depository institutions are required to maintain a reserve equal to 12 percent of transaction deposits in excess of a minimum (roughly 2.5 million dollars). In the MCA framework, a 3 percent reserve is also required against nonpersonal time deposits.

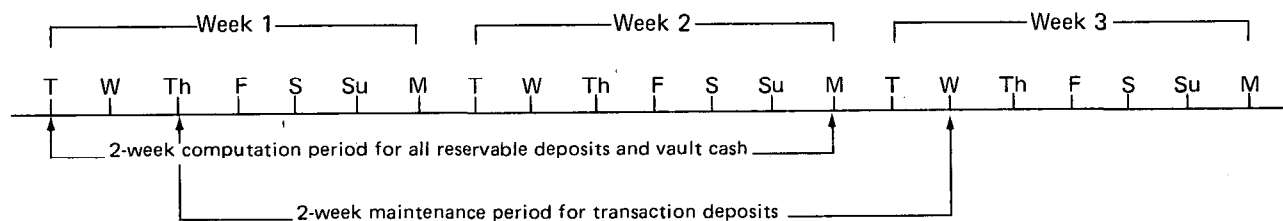
Figure 1

AN ILLUSTRATION OF THE LAGGED AND CONTEMPORANEOUS RESERVE REQUIREMENT RULES FOR TRANSACTION DEPOSITS

Lagged Reserve Requirements (September 1968 – January 1984)



Contemporaneous Reserve Requirements* (since February 1984)



*The 2-week maintenance period for nontransaction deposits and vault cash begins on the Thursday of week 5.

because this article is concerned with reserve requirements on transaction deposits, which are approximately contemporaneous, the new set of rules is referred to as contemporaneous reserve requirements throughout this article.

3. The Problem with Lagged Reserve Requirements, and the Potential Benefit of CRR for Monetary Control

Prior to October 1979, the Fed had been explicitly using the Federal funds rate as its policy instrument.⁵ That is, the Fed had been setting the Federal funds rate on a week by week basis to achieve its objectives. But at that time, the Fed decided to move to “reserve

targeting,” that is, to use bank reserves as its policy instrument to control the money stock and stabilize the price level.

Subsequently, it became apparent that reserve targeting could not be adequately implemented with lagged reserve requirements. To see why, suppose the Fed were to attempt strict control of total reserves under lagged reserve requirements. When required reserves differed from targeted total reserves, the funds rate would begin to adjust to clear the reserve market. But under lagged reserve requirements changes in current deposits would not affect current required reserves, so the banking system could not adjust required reserves in response to these interest rate movements. If the Fed were to adhere to a targeted volume of total reserves that was inconsistent with required reserves, funds rate movements could not efficiently clear the reserve market. Under lagged reserve requirements, excessive and essentially

⁵ McCallum [November 1981] describes the use of an interest rate policy instrument in a rational expectations model.

pointless funds rate volatility would likely be associated with strict total reserve control.⁶

In practice, the Fed provided a mechanism for reserve market clearing with lagged reserve requirements by allowing the volume of discount window borrowing to adjust to funds rate movements. As a result of this discount window policy, the Fed retained direct control of only the nonborrowed portion of total reserves. When nonborrowed reserves supplied by the Fed were less than required reserves, banks were allowed to borrow the difference from the discount window. In this setup, total reserves did not determine deposits. The Fed merely accommodated the demand for reserves required to support deposits on the books of banks two weeks earlier. The only way the Fed could control deposits was by managing borrowed reserves to manipulate the funds rate in order to influence other interest rates and the quantity of money demanded.

The nonborrowed reserve-lagged reserve requirements operating procedure was even inferior to the pre-October 1979 procedure in one important respect. The principal change involved in moving to nonborrowed reserve targeting was that the Fed affected the funds rate indirectly through the volume of borrowing it “forced” banks to do at the discount window rather than directly as it had before October 1979.⁷ Discount window administration imposes a nonpecuniary cost of borrowing that rises with volume and the duration of borrowing. The more banks are “forced” to borrow at the window the higher they bid up the alternative cost of reserves in the Federal funds market, i.e., the Federal funds rate, relative to the discount rate. The Fed varied the “forced” volume of discount window borrowing by appropriately choosing nonborrowed reserve supply. This is how the Fed influenced the funds rate and ultimately the money stock. However, the relationship between a given volume of “forced” discount window borrowing and the spread between the funds rate and the discount rate is volatile and difficult for the Fed to predict.⁸ In turn, the instability of the relation between borrowing and the spread made the short-term relationship between nonborrowed reserves and

the funds rate difficult to predict. In short, with the post-October 1979 nonborrowed reserve-lagged reserve requirements operating procedure it was more difficult for the Fed to control both the funds rate and the money stock.

The major benefit of moving to CRR is that the change could make it easier for the Fed to control total reserves. With CRR, contemporaneous funds rate movements could influence the demand for reservable deposits and required reserves, and more effectively bring total reserve demand into equilibrium with total reserve supply. Under CRR, the Fed would no longer have to make discount window borrowing opportunities available to banks to help the reserve market clear. The Fed could simply close the discount window to routine adjustment borrowing and target a constant volume of total reserves, that is, the Fed could strictly control the volume of total reserves available to support deposits of the banking system.^{9,10} Essentially, CRR makes total reserve control easier by allowing the Fed to shift the burden of reserve market adjustment from itself to the banking system.

⁹ In a growing economy, strict total reserve control could lead to a steady deflation. To avoid such an outcome, total reserves could be strictly targeted at a predetermined rate of growth to achieve price level stability or moderate inflation.

¹⁰ Strict control of the monetary base (bank reserves plus currency in the hands of the public) would yield roughly the same benefits as those attributed to strict total reserve targeting in this article. The difference between these policies is that under total reserve targeting the Fed supplies sufficient monetary base to provide the volume of targeted total reserves plus enough additional base to accommodate forecasted currency demand. Any unexpected movements of currency into or out of the banking system are offset on a regular basis by appropriate open market operations. By contrast, under monetary base targeting the Fed simply supplies a targeted volume of base. Total reserve targeting has the advantage that it would not allow a shift in the demand for currency relative to reservable deposits to cause a contraction or expansion of deposits. But monetary base targeting has the advantage that in times of reserve need the banking system could attract currency to help satisfy the need and in times of reserve abundance the public could absorb unwanted reserves as currency, thereby somewhat cushioning short-term interest rates. Normally, the demand for currency is well-behaved so that in practice the distinction between total reserve and base targeting is relatively minor.

Note that the total reserve target could be defined either net or gross of reserves not supporting transaction deposits of the nonbank public, e.g., interbank deposit, U. S. government deposits, and time deposits. The relevant issues in this case are analogous to those discussed above with respect to total reserve versus monetary base targeting.

Fama [January 1980] contains a useful theoretical discussion of both total reserve control and monetary base control.

⁶ McCallum and Hoehn [February 1983] and Poole [November 1982] discuss the inefficiency of total reserve targeting under lagged reserve requirements.

⁷ For more discussion of this point, see Goodfriend and Hargraves [March/April 1983], pp. 10-11, and Poole [November 1982, Part II], pp. 586-7.

⁸ Goodfriend [September 1983] explains theoretically why this is the case.

4. The Value of Strict Total Reserve Control

The major benefit of strict total reserve control is that it can enable the Fed to manage the money stock without concern for either the funds rate or the demand for borrowed reserves. Banks have an incentive to economize on non-interest-earning excess reserves, i.e., reserves held above legal requirements, at all but very low interest rates. By strictly controlling total reserves, the Fed can exercise control of aggregate deposits by exploiting the banking system's incentive to economize on excess reserves. Formally, if $D \equiv$ aggregate reservable deposits, $rr \equiv$ the required reserve ratio, $er \equiv$ excess reserve ratio, and $TR \equiv$ aggregate total reserves, then $D = \left[\frac{1}{er + rr} \right] TR$.

The ratio $\frac{1}{er + rr}$ is called the total reserve money multiplier.¹¹ The banking system's well-defined demand for excess reserves translates into a well-defined and reasonably stable money multiplier. Under CRR, the Fed can exploit the money multiplier to control aggregate deposits by simply exercising strict total reserve control. In turn, total reserve and money stock control can stabilize the price level.

In addition, strict total reserve control yields the following important benefits. First, it frees the Fed from having to choose a path for the Federal funds rate from one week to the next. When the Fed makes policy by choosing the level of the Federal funds rate as it has traditionally done, the Fed must decide to raise the Federal funds rate in order to maintain control of total reserves and the money stock when credit demands put upward pressure on interest rates. Since these decisions are always the focus of national debate, they are very difficult for the Fed to make at all, let alone with appropriate timing. By contrast, if the Fed adopted strict total reserve control, it could maintain control of the money stock and the price level precisely because it would not be put in a position of having to continually make politically sensitive decisions. Moreover, such a policy would also leave interest rates free to adjust automatically to regulate, and coordinate intertemporal production, consumption, saving, and investment decisions in the economy.

Second, in coming years political pressure to keep interest rates down in order to help finance large Federal government budget deficits could become a particular problem. Such pressure amounts to an

¹¹ Goodfriend [January/February 1982] contains a more general discussion of money stock determination.

effort to shift financing of government expenditure from explicitly legislated taxes and borrowing to the Federal Reserve inflation tax.¹² Strict total reserve control offers good protection against such pressure.

Third, strict total reserve control is a simple policy. It could be easily monitored by the public. Since it is a passive policy there would be no problem guessing Fed policy intentions as there is today whenever the Fed adjusts the funds rate. This would greatly help the Fed to establish and maintain the credibility of its policy commitment to control the money stock and the price level. In turn, this should reduce interest rate variability due to variability of expected inflation.

5. Historical Evidence on the Feasibility of Total Reserve Targeting

A Fed move to total reserve targeting seems to have been delayed by doubt that the banking system would be able to manage its reserve position at all if the Fed did not routinely make reserves available on demand at a temporarily stabilized Federal funds rate or through the discount window. However, historical evidence suggests that such doubt is unwarranted. For example, for roughly 30 years immediately prior to the establishment of the Federal Reserve System in 1914, the United States was on a gold standard. The monetary base was ultimately determined by factors affecting the U. S. balance of payments and the world supply and demand for gold. For this reason the monetary base was largely predetermined on a weekly or monthly basis and could not respond immediately to reserve market conditions. The portion of the monetary base available to serve as bank reserves was the residual after the demand for currency was satisfied. Apart from periods of panic, the demand for currency was relatively stable, and therefore the stock of bank reserves (total reserves) was largely predetermined on a weekly or monthly basis as it would be today with strict total reserve targeting.¹³

During this period, the United States did not have a central bank. Yet banking, including reserve management, was carried out effectively throughout the period. The overnight call money rate, a rate roughly equivalent to today's Federal funds rate, did not dis-

¹² See Auernheimer [May/June 1974] and references contained therein for theoretical discussions of the revenue from money creation.

¹³ For a general discussion of the monetary history of this period, see Friedman and Schwartz [1963], Chap. 3.

play variability too excessive for the banking system to handle.¹⁴ Furthermore, it appears that the call money rate often moved around considerably without affecting longer term rates very much. 'This last point suggests that an increase in Federal funds rate variability associated with strict total reserve targeting today would not translate into greater variability in longer term rates.

The years prior to 1914 did feature a number of banking panics, suggesting that the monetary arrangements of the period were defective. However, such panics would most likely not have happened with strict total reserve targeting. The panics were characterized by widespread demand, on the part of the public to convert deposits into currency. With the monetary base largely predetermined, such bank "runs" produced large declines in total reserves of the banking system and thereby threatened the solvency of the banks. Under strict total reserve targeting, the Fed would simply accommodate the increased demand for currency without letting the stock of total reserves decline. Strict total reserve targeting would thereby insulate the banking system from the sort of violent liquidity crises and panics that characterized the years preceding the Fed.

In the years before the establishment of the Fed, the U. S. Treasury held a large cash position and there is evidence that at times it carried out open market operations to add or drain bank reserves in order to stabilize interest rates on a short-term basis.¹⁵ Such Treasury behavior was probably useful in cushioning temporary disturbances to interest rates. Today, under total reserve targeting the Fed could allow Treasury open market operations to influence total reserves available to the banking system by targeting total reserves inclusive of Treasury cash.¹⁶ Because the Treasury has an incentive to economize on holdings of cash and because it would not have the power to create monetary base, Treasury interventions in the money market would be temporary and self-reversing.¹⁷

¹⁴ See Macaulay [1938], pp. A141-61 for a monthly series on the call money rate and 90-day rates from 1857 to 1937.

¹⁵ See Friedman and Schwartz [1963], pp. 125-8.

¹⁶ Total reserves could also be targeted inclusive of reserves supporting Treasury deposits at banks, so that changes in Treasury deposits would also affect bank reserves. Of course, by targeting total reserves net of Treasury cash and reserves supporting Treasury deposits, the Fed would not have to allow Treasury behavior to influence total reserves of the banking system.

¹⁷ See Lang [October 1979] for a discussion of Treasury cash management.

All this is important because the Fed is usually viewed as facing a tradeoff between short-term control of total reserves and interest rate stability. But no such tradeoff need exist for the government as a whole if total reserves are targeted inclusive of Treasury cash. Should it want to, another agency of the U. S. government, namely the U. S. Treasury, could cushion money market rates against temporary disturbances. Furthermore, the division of responsibility for price level stabilization and temporary stabilization of money market rates between the Fed and the Treasury would allow each to pursue its objective more singlemindedly.

6. Excess-Reserves and Total Reserve Control

As discussed in Section 4 above, the degree to which total reserve control translates into control of reservable deposits depends largely on the aggregate behavior of excess reserves. Theory suggests that at all but very low interest rates the volume of excess reserves will be stable enough over time so that strict total reserve control will provide effective control of reservable deposits, and thereby effective control of the price level.¹⁸

Over shorter periods of time, however, the ratio of banks' excess reserves to reservable deposits could vary substantially. In fact, this should be expected with strict control of aggregate total reserves. In such a policy environment, reserve market, equilibrium would be maintained by free market Federal funds rate adjustments. Increased Federal funds rate variability would probably increase the attractiveness of cash relative to Federal funds as an immediately available source of funds to meet deposit withdrawals. Consequently, banks would likely hold more excess reserves, on average, to provide more protection against having to meet unexpected deposit withdrawals. Furthermore, banks may not only hold a higher average ratio of excess reserves to reservable deposits, but in so doing banks may well allow the ratio to fluctuate more in order to meet unexpected deposit withdrawals, especially those anticipated to be temporary.

Admittedly, such bank behavior would limit the extent to which total reserve control could produce money stock control over short periods of time. However, such money stock variability would not interfere with secular monetary or price level control if the

¹⁸ See Frost [July/August 1971] and Poole [December 1968] for two examples of theoretical work on excess reserve demand.

Fed maintained strict control of total reserves. Moreover, the aggregate ratio of excess reserves to deposits would probably be negatively correlated with interest rate movements, thereby helping to cushion interest rate movements. Interest rate increases, for example, by inducing banks to economize on non-interest-earning excess reserve holdings, would allow deposit expansion which would, in turn, help mitigate the interest rate rise. Far from being a problem for the Fed, such variation in the aggregate excess reserve ratio would make it easier for the Fed to adhere to strict total reserve control, and thereby increase the credibility of a policy of secular monetary and price level control.

A higher average volume of excess reserve demand under strict total reserve control could, however, be a problem for the Fed. Banks might object to strict total reserve control because it could cause them to tie up a greater share of their assets in non-interest-earning excess reserves. Assuming that the Fed makes available a sufficient once-and-for-all increase in total reserve supply to satisfy the increased demand for excess reserves necessary to support an initial level of aggregate deposits, the Fed portfolio will increase along with the move to strict total reserve control. Since virtually all of Fed earnings on its portfolio are simply transferred to the U. S. Treasury, the move to strict total reserve control could provide the U. S. Treasury with significant additional revenue.¹⁹ The Congress and the Treasury could view the move to strict total reserve control as a means of raising additional revenue through the "reserve" tax on banks. Alternatively, by allowing the Fed to pay interest on required reserves, Congress could offset the cost to banks of holding additional excess reserves. In other words, this bank objection to strict total reserve control could readily be overcome with cooperation from the Congress.

7. Total Reserve Control and the Deregulation of Interest on Deposits

In recent years, the Depository Institutions Deregulation Committee, in accord with a congressional mandate, has removed interest rate ceilings on a wide variety of deposit types.²⁰ Interest rate ceilings have

¹⁹ See Goodfriend and Hargraves [March/April 1983], pp. 11-13.

²⁰ The Congressional mandate stems from the Depository Institutions Deregulation and Monetary Control Act of 1980 (Public Law 96-221).

Friedman [February 1970] contains a good discussion of interest rate controls.

become difficult to enforce technologically, legally, and fairly. Consequently, the trend toward virtually complete interest rate deregulation appears irreversible. Recognizing this trend, the Federal Reserve Board has recently recommended repeal of the existing prohibition of interest on demand deposits. In addition, the Federal Reserve Board has recommended payment of interest on required reserve balances held at Federal Reserve Banks.²¹

These two reforms would greatly enhance the value of strict total reserve control. In the first place, by allowing market related interest on fully checkable deposits and interest on required reserves, these reforms would reduce or eliminate the incentive for financial intermediaries to create alternative means of providing transaction services that pay market related rates. In other words, the reforms should bring to an end the relabeling of deposit arrangements to avoid legal restrictions that has characterized financial innovation in recent years. Furthermore, because the spreads between interest rates on various deposit types should be much less sensitive to the level of interest rates, the reforms should also lead to greater stabilization of the volume of each deposit-type demanded and its turnover for transaction purposes. With deregulation, it is possible that transaction accounts might contain a substantial portion of savings-type deposits. But this should not be a problem because interest rate movements would produce only minor shifts over time in the composition of this aggregate.

With deregulation, even if competition induces transaction deposit rates to move together with market rates so that transaction deposit demand no longer depends on interest rates, strict total reserve control could still exert control of transaction deposits through a money multiplier as described in Section 4. In this case, the price level would be determined by the public's real demand for transaction deposits which would primarily depend on real income. How would the system respond to temporary disturbances?²² Consider a disturbance temporarily creating unwanted excess reserves. The banking system would respond by extending new temporary loans and aggregate deposits would rise correspondingly. Transaction balances will only rise if prices or real income rise, thereby affecting the quantity of transaction balances demanded. To the extent that the

²¹ See Partee [November 1983].

²² This illustration draws on the framework developed in Goodfriend [January/February 1982].

disturbance is understood to be temporary, the public will be willing to temporarily hold the increase in aggregate deposits as nontransaction balances. Alternatively, if the disturbance is anticipated to be permanent and not offset by a Fed reduction of total reserves, then the price level and both transaction and nontransaction deposits will rise equiproportionally. In short, strict total reserve targeting remains a workable means of price level control even with interest rate deregulation.

By contrast, the usefulness of a Federal funds rate monetary control instrument as typically understood could be greatly diminished if market-related rates were paid on fully checkable deposits. As usually understood, a funds rate instrument is effective only if the funds rate significantly affects the opportunity cost of holding money. If the own rate on transaction accounts is legally and effectively fixed, then funds rate control, by affecting market interest rates, significantly influences the opportunity cost of holding money and can be used for monetary control. But without legal deposit rate restrictions, if competition induces deposit rates to move together with market rates, then the funds rate may have little effect on deposit demand.²³ In such a situation, as typically understood the funds rate loses its effectiveness as an instrument of money stock and price level control.

Of course, by using the funds rate to influence the level of interest rates and the quantity of bank loans, it could in principle be manipulated to influence spending and the price level. At a minimum, such use of a funds rate instrument requires rethinking its role in the transmission of policy. More importantly, use of a funds rate instrument in this way would continue to be plagued with problems similar to those described in Section 4.

8. Fed Attitude Toward the Federal Funds Rate in the Last Two Days of the Reserve Maintenance Period

Under the new contemporaneous reserve requirement rules for transaction deposits, the required reserve maintenance period lags the computation period by two days. This means that for the last two days

²³The payment of interest on required reserves would lead deposit rates to move even more closely with market rates.

Since the interest rate on currency is zero, a funds rate instrument will still affect the opportunity cost of holding currency. But the interest sensitivity of currency appears to be too low to provide a practical funds rate instrument means of monetary control.

of the maintenance period required reserves are predetermined as they were during the entire maintenance week under the old lagged reserve requirement rules. Since required reserves could no longer adjust to total reserve supply, the Fed might be tempted to hold the funds rate at an “appropriate” level during those two days and simply let reserve supply accommodate the demand, thereby minimizing unnecessary funds rate volatility.

However, if banks came to expect the Fed to peg the funds rate at an “appropriate” level on the last two days of the reserve maintenance period, then the benefits to strict total reserve targeting under CRR could be seriously jeopardized. Since a dollar of reserves held in the last two days of a maintenance period is equivalent to a dollar held on any other day, banks would neither pay more nor offer less than that “end of period rate” at any time during the period. This would mean that the funds rate throughout the period would in effect be fixed as if the Fed had been using a funds rate instrument explicitly. Reserve demand would simply be accommodated at the end of the period at the “appropriate” rate, and even though CRR were in place, reserves would not be the effective instrument of monetary control. In fact this procedure would amount to another form of noisy funds rate targeting, with possibly more interest rate variability and poorer monetary control than under the nonborrowed reserve-lagged reserve requirements operating procedure employed following the October 1979 move to reserve targeting.

For CRR to be used for true reserve targeting it is critical that the Fed establish the precedent that it will not peg or cushion the funds rate in the last two days of the reserve maintenance period. This is a necessary condition to induce banks to adjust their reserve positions on an ongoing basis throughout the reserve maintenance period, rather than wait for the Fed to provide them with reserves at some “appropriate” funds rate at the end of the period. In other words, this is a necessary condition to induce banks to manage their reserve positions in a way that could make total reserve control work.

9. Timely Release of Aggregate Reserve and Transaction Deposit Information

The efficiency of strict total reserve control with CRR would be enhanced by the timely release of aggregate deposit and reserve data by the Fed. As it currently stands, the Fed releases money stock and reserve data too late to be of use for banks managing

their reserve positions.²⁴ Such information would help banks forecast reserve market conditions and the Federal funds rate more accurately. Banks could make use of better funds rate forecasts to hold reserves during that part of a maintenance period when the funds rate is expected to be lowest. In turn, such intertemporal arbitrage by banks would tend to cushion funds rate movements within a given reserve maintenance period.

To make the procedure work best, i.e., with least cost to banks and least funds rate variability, it makes sense for the Fed to put more resources into collecting, compiling, and publicizing information on reserve market clearing conditions each day of the maintenance period. In this regard, the Fed might encourage the forward Federal funds market so as to provide hedging possibilities and aggregate information to banks. In fact, such a market might grow substantially of its own accord should the Fed adopt strict total reserve control.

10. Federal Funds Rate or Nonborrowed Reserve Targeting with Contemporaneous Reserve Requirements

Contemporaneous reserve requirements are beneficial for implementing monetary policy because they make it easier for the Fed to control total reserves. The value of strict total reserve control has been discussed in Section 4. At this point, it is useful to ask what portion of the benefits of CRR could be obtained with Federal funds rate or nonborrowed reserve targeting.

With Federal funds rate targeting, the Fed holds the funds rate within a narrowly specified target band, adjusting the band gradually over time to affect the level of short-term interest rates as desired. Reserves are merely supplied as required to support the volume of money and credit demanded given economic conditions and the targeted level of short-term interest rates. Consequently, with Federal funds rate targeting, reserve requirement rules in general, and contemporaneous reserve requirements in particular, are virtually irrelevant to the implementation of policy. They merely affect the timing and volume of reserves held by banks, the size of the Fed portfolio, Fed income, and transfers from the Fed to the U. S. Treasury.²⁵

²⁴ Board of Governors of the Federal Reserve System. [January 1984a].

²⁵ See Goodfriend and Hargraves [March/April 1983] for an extensive historical discussion of this point.

With nonborrowed reserve targeting, the Fed supplies a predetermined volume of nonborrowed reserves and lets the Federal funds rate and the volume of discount window borrowing adjust to clear the reserve market. Even with CRR, nonborrowed reserve targeting gives the demand for discount window borrowing a central place in the operating procedure. Unfortunately, as mentioned in Section 3, both theory and experience make clear that there are major problems for a monetary control procedure relying on the demand schedule for borrowed reserves.

However, in spite of these difficulties nonborrowed reserve targeting is still favored by some because of its supposed interest rate cushioning properties. Even if such interest rate cushioning were desirable, discount window borrowing is a poor means of producing it. When the funds rate falls below the discount rate, discount window borrowing essentially dries up, and nonborrowed reserve targeting becomes equivalent to total reserve targeting. When the funds rate is above the discount rate, discount window borrowing can cushion interest rate movements. However, the interest rate cushioning varies in a complicated way over time due to expectational effects and intertemporal nonprice rationing policy at the discount window. Furthermore, rules penalizing duration of borrowing at the window introduce a needless cycle into interest rates and reserve supply.²⁶

In short, nonborrowed reserve targeting still introduces a pattern in interest rates due to Fed policy, but this pattern results from Fed discount window administration procedures rather than from explicit management of the funds rate by the Federal Open Market Committee. Furthermore, since the pattern has no benefits for monetary policy, it tends to drive the Fed to manage nonborrowed reserve supply to better manage interest rates. Consequently, even with CRR nonborrowed reserve targeting can not be expected to deliver workable or credible strict reserve and monetary control. Nonborrowed reserve targeting simply does not offer any of the benefits of total reserve targeting discussed in Section 4.

11. Summary

Whether or not the move to contemporaneous reserve requirements makes a difference for monetary policy is entirely up to the Fed. With Federal funds

²⁶ These features of interest rate cushioning due to Fed discount window administration can be deduced from the model in Goodfriend [September 1983]. The cycling is due to the negativity of λ_1 in that model.

rate targeting, CRR will essentially make no difference. This article has argued that the potential benefits of moving to CRR are likewise not available with nonborrowed reserve targeting. The promise of CRR for implementing monetary policy can only come with a move to strict total reserve control.

Above all, strict total reserve control promises the Fed a means of stabilizing the money stock and the price level without having to choose a Federal funds rate target as it has traditionally done. In contrast to the Federal funds rate procedure, which requires frequent and timely adjustment by the Fed, strict total reserve control would be a passive policy requiring little if any month-to-month adjustment. Total reserve control is consequently more likely to deliver monetary control and price level stability. A move to total reserve control would moreover offer good protection against pressure to help finance Federal budget deficits. In addition, strict total reserve control would allow interest rates to automatically regulate and coordinate economic decisions. Finally, strict total reserve control could be easily monitored by the public, which would allow the Fed to build credibility for its commitment to price level stability.

In the years before the Federal Reserve System, the United States was on a gold standard and did not have a central bank. The volume of total reserves was largely predetermined on a weekly or monthly basis as it would be today under strict total reserve targeting. Evidence from that period makes clear that strict total reserve targeting is feasible. U. S. Treasury interventions in the money market at that time prob-

ably stabilized money market rates somewhat. But today, with total reserve targeting, the Fed could also allow the Treasury the ability to temporarily stabilize money market rates by targeting reserves inclusive of Treasury cash. Moreover, this division of responsibility for price level stabilization and money market stabilization between the Fed and the Treasury would allow each objective to be pursued more effectively.

Apart from discussing the promises of CRR for implementing monetary policy, this article has pointed out some pitfalls that could prevent the Fed from obtaining the full benefits of CRR. From the point of view of using CRR for strict total reserve control, the two-day lag of the maintenance period relative to the computation period under the new CRR rules is inefficient, because for the last two days of the maintenance period reserve requirements are lagged as they were before February 1984. To the extent that the Fed deliberately stabilizes the Federal funds rate during the last two days of the maintenance period and banks come to anticipate this, the control procedure will operate like Federal funds rate targeting prior to October 1979. It was also argued that while nonborrowed reserve targeting appears to be a reasonable alternative to total reserve targeting, in fact, it is not likely to operate effectively. In addition, the benefit of more timely release of aggregate reserve market information by the Fed as an aid to bank reserve management was pointed out. Finally, it was recognized that banks might object to strict total reserve control if it leads them to hold more excess reserves, but Congress could offset this cost by paying interest on required reserves.

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