CRR and Excess Reserves: An Early Appraisal

Any major change in banking regulation raises the possibility that the way depository institutions operate may alter. The recent shift in reserve accounting procedures, from lagged reserve requirements (LRR) to contemporaneous reserve requirements (CRR), may have caused banks to manage their excess reserves differently (Box 1). Even before CRR's introduction, there was considerable disagreement about how it might affect the demand for excess reserves. The issue is important because excess reserves have implications for monetary policy: unexpected movements in excess reserves can affect the Open Market Trading Desk's ability to apply the degree of pressure on reserve positions desired by the Federal Open Market Committee.[1]

Why do depository institutions hold excess reserves at all? Banks, thrifts and other depository institutions are required by law to hold a pre-set proportion of certain deposit liabilities as reserves. In general, whether under LRR or CRR, institutions hold reserve balances to meet average reserve requirements, to facilitate clearings through their reserve accounts, and to avoid the penalties associated with overdrafts (Box 2). They hold excess reserves, above and beyond the required level,

out of precautionary considerations because many of the flows through their reserve accounts are unpredictable.

But excess reserves earn no return, and so there is an opportunity cost to holding them. Naturally, this means that institutions have a strong incentive to maintain as small a precautionary cushion as possible To do so, however, requires careful reserve management, which itself can be costly. Thus, banks essentially seek to balance the cost of foregone interest income against the cost of reserve management practices. For example, if the expected interest rate was 10 percent, a bank that would hold $100,000 in excess reserves over the course of a year without careful reserve management would not be willing to pay more than $10,000 for additional reserve management.

While the cost of management is difficult to measure, it is presumably proportionally higher for small institutions, where retaining a full-time reserve manager is not economical And since the volume of excess reserves held without reserve management probably changes as the size of the bank increases, one would expect to see different sizes of banks manage reserves to different degrees.

Another factor that some analysts felt would affect the volume of excess reserves is the increased uncertainty under CRR about the level of required reserves an institution must hold in its reserve account. Under LRR, banks knew their required reserves in the current period with certainty, since they were calculated based on deposits held two weeks earlier (Box 1) Under CRR, banks must calculate their required reserves based on deposit averages that occur nearly contemporaneously with the period when reserves must be maintained.

A quick glance at the data for total excess reserves does indeed give the impression that the shift to CRR substantially increased the demand for excess reserves. In 1983, excess reserves averaged $488 million, and since February of this year they have averaged $668 million But the increase may not be entirely due to CRR. In February of this year, reserve requirements were lowered for member banks pursuant to the Monetary Control Act (MCA) of 1980 [2] Some depository institutions might adjust their reserve holdings relative to deposit levels very slowly, which might increase excess reserves. (If reserve requirements are lowered, but banks maintain the same level of reserves, then they are automatically holding more excess reserves)

In assessing the effects of CRR, banks' demand for excess reserves before and after CRR was examined Econometric techniques that control for factors such as the MCA reserve requirement changes were used It also seemed desirable to use data in which banks are separated by size Not all banks manage reserves to the same extent and they may not all be affected the same way by changes in reserve requirements or accounting procedures [3] In that regard, this study differs from some earlier published research efforts, where the focus was the behavior of all banks as a single group [4]

In the next section of this article, banks' demand for excess reserves under LRR is discussed, broken down into four different groups of depository institutions. the fifteen largest; other large member commercial banks; small member commercial banks, and all other institutions [5] The section following reports preliminary results

[2]The MCA established new reserve requirements for all depository institutions Briefly, all member banks' reserve requirements were reduced from their pre-MCA ratios The phase-downs occurred at about six-month intervals, the last one becoming effective on February 2, 1984 The typical impact on the reserve requirements of all member banks was a reduction of about $2 billion at each phase-down Nonmembers' requirements are being gradually phased in, with annual increases occurring every September The typical impact on the reserve requirements of all nonmember institutions is an increase of about $1 billion at each phase-in The new requirements are to be complete in September 1987

[3]Although the discussion of excess reserves in this article is in terms of four groups of institutions, the aggregate demand for excess reserves was also examined to see whether any change occurred as a result of CRR In terms of out-of-sample predictions, the aggregate equation estimated under LRR has been quite accurate, on average, in tracking the level of excess reserves However, if the coefficients on the variables in the aggregate equation are tested for change after CRR, some do show significant change This suggests that the relatively accurate performance of this equation was due to offsetting effects of CRR and further argued for a disaggregated approach in examining the possible effects of CRR

[4]David Beek, "Excess Reserves and Reserve Targeting", this *Quarterly Review* (Autumn 1981), pages 15-22

[5]This particular classification was chosen since it reflects the greatest degree of data disaggregation available under CRR Of necessity, these are first-announced figures and therefore subject to *(p 18)*

Box 1: Timing of LRR and CRR

The Federal Reserve Act requires all depository institutions to hold a specified fraction of certain deposit liabilities as required reserves The period during which the required reserves must be maintained is called the reserve maintenance period The period during which reserve requirements are computed (that is, the period during which deposit liabilities occur) is called the computation period The two periods need not coincide

Under lagged reserve requirements, as shown in the diagram, each period covered seven days, starting on Thursday and ending on the subsequent Wednesday Also, the computation period terminated two weeks before the end of the maintenance period—that is, it was lagged

Lagged Reserve Requirements
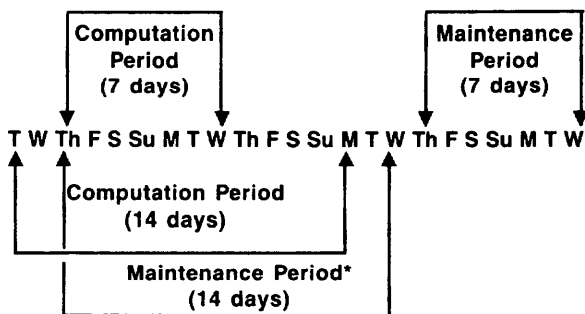
Contemporaneous Reserve Requirements

Under CRR, the periods are extended to fourteen days The computation period extends from Tuesday to the second following Monday; the maintenance period extends from Thursday to the second following Wednesday The computation period thus ends only two days before the end of the maintenance period—the two periods are now more nearly contemporaneous * The short inter-period lag of only two days would appear to make it more difficult for an institution to determine and hold the correct level of required reserves, and this greater uncertainty would tend to increase the demand for excess reserves On the other hand, because of expanded carryover and the longer averaging period under CRR, the demand for excess reserves could be reduced (Box 3 on p. 23)

*This is so only for transactions deposits. such as regular checking accounts and NOW accounts The maintenance period for nontransactions deposits, i e time and savings deposits, begins seventeen days after the end of the computation period

on whether CRR has changed excess reserves demand of any group By and large, only the behavior of the other large member banks appears to have changed and they are now holding lower levels of excess reserves on average as a result of CRR

Excess reserves demand under LRR
The fifteen largest banks
The statistical analysis generally supports the widely-held presumption that the large money center banks managed reserves actively under LRR While they held on average about 30 percent of total required reserves, their excess reserves comprised only 3 percent of total excess reserves The average bank in this group used

the reserve carryover privilege effectively, allowing its excess reserves to drop by $1 million for every $1 million increase in net carryover of reserves from the previous week (Table 1) There was no difference in response to carryover surpluses as compared with carryover deficiencies (Box 3 on p 23)

How sensitive were their reserve holdings to the Federal funds rate? Their reaction was clearest in response to the differences in the Wednesday low and high values of the Federal funds rate, relative to what they might have expected based on recent low and high values of the Federal funds rate [6] The largest banks' excess reserves demand increased by about $7 million for every percentage point fall in the Wednesday low value of the Federal funds rate below its six-week average (Table 1) Clearly, the lower the interest rate, the more incentive there was for reserve managers to

[6] The daily maximum and minimum values are "representative" values, so designated by consensus among the Federal funds brokers These values are employed as deviations from a six-week moving average of lagged Wednesday lows and highs

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Box 2: Factors Determining the Demand for Excess Reserves

Depository institutions must hold a certain percentage of their average deposit liabilities as reserves They also hold reserve balances to permit the routine clearing of checks, drafts and other financial instruments through their accounts Even though reserves earn no interest for the depository institution, some amount of excess reserves is desirable, because reserve flows are uncertain and may not be sufficient to cover reserve requirements during particular maintenance periods Excess reserves help banks ensure that their reserve obligations will be met and that they can avoid account deficiencies and overdrafts at the Federal Reserve

In planning to meet its reserve needs, an institution anticipates receiving certain inflows of reserves over the reserve maintenance period Important determinants of expected available reserves are anticipated deposit levels and clearings drains Typically, these exhibit regular seasonal patterns, caused by influences such as social security disbursements and bank holidays The institution may also obtain reserves from three other sources: borrowing from the discount window, purchasing in the Federal funds market, and using its reserve carryover privilege. The reserve carryover privilege allows each institution to carry a certain portion of its reserve surplus or shortage into the next accounting period (Box 3) Therefore, in estimating the excess reserves demand function for each group, it is necessary to include variables such as reserve carryover, discount window borrowings, and seasonal patterns

Banks must also consider the costs of obtaining and holding these excess reserves The most obvious cost is the foregone interest on the idle reserves This can be measured by the Federal funds rate, since undesired accumulations or shortages of reserves are traded in the Federal funds market To minimize lost interest income, banks can hire reserve managers to monitor their account positions closely, maintain the needed balances for reserve requirements and clearings, and guard against overnight overdrafts

But of course, employing a full-time reserve manager itself entails an expense for the bank For a small institution, that cost may outweigh the benefit in interest income Instead of monitoring their account balances closely, such institutions may simply hold higher levels of excess reserves, determined largely by reserve availability Or they may have someone manage reserves only on a part-time basis Since part-time reserve managers are likelier to respond more slowly to factors affecting reserves, small banks' excess reserve holdings would adjust sluggishly In contrast, the largest institutions, by virtue of the scale and volume of their operations, find it profitable to respond to the cost of funds Their reserve managers react quickly to take advantage of changes in the actual or expected Federal funds rate. Closely managed reserve positions are indicated in the statistical analysis by low levels of excess reserve holdings, rapid adjustment of reserve positions, and sensitivity to the Federal funds rate

hold back their funds, because the opportunity cost of idle balances decreased To put it another way, when the supply of reserves in the banking system is much larger than the demand, then the Federal funds rate must fall even lower in order to induce banks to hold the large supply as excess reserves Similarly, during a reserve scarcity, the Federal funds rate must rise higher than usual until banks are willing either to hold very low levels of excess reserves, or turn to the discount window for funds For the largest banks the effect was a fall of about $2 million for every percentage point rise in the rate's high value These reductions are substantial, considering that mean excess reserves held by the fifteen largest banks over the LRR sample period were only $14 7 million

Rather than relying on excess reserves, banks can, to a limited extent, use the discount window as a source of funds when unexpected reserve drains occur But, since frequent borrowings are discouraged, banks tended to be more cautious the more they had borrowed recently It appears that for every $1 million increase in average borrowings over the previous four weeks, current holdings of the fifteen largest banks' excess reserves rose by almost $0 1 million

Calendar factors—such as the end of the year, the week after the year-end and the end of a quarter—also accounted for a buildup of excess reserves The usual explanation for this is "window dressing" wishing to portray a conservative image on their earnings reports, banks consciously build up their excess reserves at these times In contrast, seasonal factors that largely reflect reserve availability, such as bank holidays and social security disbursements, were not significant— further evidence of careful reserve management

Other large member commercial banks

Like the money center banks, under LRR the other large member commercial banks also held low levels of excess reserves (almost $29 million, which is only 7 percent of the total) and used the carryover privilege effectively (Table 2) Excess reserves decreased $0 7 million for every additional million of net carryover Here, too, there was apparently no difference in response to carryover surpluses as compared with carryover deficiencies

For this group, however, the Federal funds rate was not important While this might suggest higher costs of active reserve management, the explanation more likely lies in the important role the other large member banks play as funds intermediaries for the smaller institutions As such, they probably obtained reserves to meet their own reserve needs from these smaller banks, and entered the Federal funds market primarily as sellers

Again, in contrast to the fifteen largest, the other large

Table 1

Excess Reserves of the Fifteen Largest Member Commercial Banks

In millions of dollars. LRR sample period from 7/8/81 to 2/1/84

Independent Variable	Coefficient	t-value
Constant	5 0	0 4
Net carryover	– 1 0*	– 8 1
Wednesday low value of Federal funds rate	– 7 1*	– 4 5
Wednesday high value of Federal funds rate	– 1 9	– 1 2
Borrowed reserves	0 09	1 5
Seasonal Dummies		
Year-end	58 9	1 4
Year-end†	63 2	1 7
Quarter-end	66 2*	2 8
S E E = 60 77 D W = 2 17		$\bar{R}^2$ = 45

*Significant at the 99 percent confidence level
†Week after the event

In regressions where carryover was decomposed into its surplus and deficiency components the coefficient for carryover deficiency was $1 1 million with a t-value of 4 1 the coefficient for excess carryover was $– 1 0 million with a t-value of – 4 8 This difference, in absolute value, was not statistically significant

Borrowed reserves is a four-week moving average of lagged discount window borrowings by this group of banks

members' reserve holdings responded to calendar factors such as bank holidays, implying less active reserve management As was mentioned (Box 2), banks can use excess reserves as a relatively inexpensive substitute for closer monitoring of their reserve account balances In such a case, reserve holdings tend to reflect the reserve availability due to such seasonal events

In brief, the importance of calendar factors such as bank holidays and month-ends suggests that the other large member banks, as a group, managed reserves less actively, on average, than the fifteen largest banks Also, while they used their carryover privilege effectively, their excess reserves were not completely offset, dollar for dollar, as were those of their larger competitors

Small member commercial banks

Over the LRR sample period, small member commercial banks held on average $227 million of excess reserves These were the highest levels of holdings among the four categories and accounted for about 54 percent of the total

Seasonal factors were the major influence (Table 3) Social security disbursements, bank holidays, and quarter-ends were all associated with higher excess reserve holdings Excess reserves tended to fall about $24 million the week before a month-end Similarly, the

week before a bank holiday typically had a drop of about $12 million.

The small member banks were the only group whose excess reserve holdings exhibited both a long-term and short-term response to the reserve requirements phase-downs established under the MCA. The long-term impact on excess reserves was a rise, equal to 0.8 percent of the cumulative reduction in all member banks' reserve requirements. Discussions with Reserve Banks suggest that this long-term increase should be attributed to the implementation of the MCA. Evidently, the MCA reserve

reductions lowered some small member banks' required reserve balances below the minimum level thought necessary to avoid overnight overdrafts. At the same time, there was no incentive for these institutions, because of the additional reserve management costs involved, to reduce their excess reserve balances. Either reducing their maintained balances or raising their required clearing balances would have necessitated monitoring reserve balances more closely to ensure against reserve deficiencies.

The short-term or transitory response was quite different. Reserves freed by MCA phase-downs appear to have been held initially as excess reserves, with off-setting adjustments occurring over the following weeks. This response probably reflects how slowly these banks adjusted their reserve positions.[7]

Overall, it seems that the small member banks, holders of the highest level and largest percentage share of total excess reserves, modified their holdings gradually and mainly in response to seasonal influences. Their higher cost of active reserve management offers a reasonable explanation. Unlike the larger member banks, the small members did not seem to use the carryover privilege, partly because many of them routinely hold excess reserves.

All nonmember institutions

The nonmembers were the second largest holders of excess reserves, averaging 36 percent of the total, or $153 million, over the LRR sample period. Their behavior resembled that of small commercial member banks in several ways (Table 4). For example, seasonal factors were important. Once again the ends of the month, quarter, and year, as well as bank holidays, were all accompanied by a build-up of excess reserves. Similarly, slow adjustment characterized changes in their excess reserve holdings. Again, higher management costs are the plausible explanation.

The MCA reserve requirements phase-ups do not seem to have had a significant, direct impact. More important was a small, ongoing rise in their reserve holdings of $0.6 million per week. How can this be explained? Prior to the MCA, thrifts and nonmember commercial banks, by definition, held no excess reserves. During 1982 and early 1983, however, non-members' excess reserves increased to reflect both growth in the number of institutions having active Federal Reserve accounts, and more intensive use of such accounts for clearing purposes. Both of these influences indirectly would account for gradually rising excess reserves levels. Moreover, as the phase-ups progressed and more institutions with higher management costs

Table 2
Excess Reserves of Other Large Member Commercial Banks
In millions of dollars, LRR sample period from 7/8/81 to 2/1/84

Independent Variable	Coefficient	t-value
Constant	−16 7	−0 8
Net carryover	−0 7*	−2 6
MCA	−0 002	−1 5
Seasonal Dummies		
Quarter-end	31 0	1 3
Month-end	36 1†	2 4
Holidays	50 6*	4 4
Admission Day‡	97 0*	2 6

S E E = 62 12   D W = 2 10 $\bar{R}^2$ = 28

The Additional Impact of the Independent Variables Under CRR
In millions of dollars, sample period from 7/8/81 to 9/26/84

Independent Variable	Coefficient	t-value
MCA	0003	0 2
Net carryover	−0 6	−1 0
Quarter-end	−60 8	−1 0
Month-end	−56 8	−1 4
Holidays	−29 4	−1 0
Admission Day‡	−59 9	−0 8

*Significant at the 99 percent confidence level
†Significant at the 95 percent confidence level
‡Week before the event

MCA measures the total reduction in all member banks' reserve requirements attributed to the Monetary Control Act phase-downs. While not significant, it is included mainly to distinguish between the effects of CRR and the final MCA phase-in which also occurred during the first period of CRR

Holidays refers to those bank holidays when most, though not necessarily all, System banks were closed

Admission Day is a California holiday

The value of the F statistic to test for the overall homogeneity of behavior between LRR and CRR was F (17, 128) = 2 19 The null hypothesis of no change is rejected at the 99 percent confidence level

[7]The statistical importance of the lagged six-week moving average of their excess reserves further bears out this point

became bound, excess reserves would rise to guard against deficiencies and overdrafts [8]

Excess reserves demand under CRR

Estimating the impact of CRR on the four groups of institutions poses some problems So far, through September 26, 1984, only seventeen maintenance periods have occurred Moreover, the beginning of CRR coincided with the final phase-down in member banks' reserve requirements under the MCA, the impacts of the two events must be disentangled And, of course, data for institutions broken down by size are not available in final revised form at this time

Nevertheless, the *fifteen largest member banks* consistently show unaltered demand for excess reserves— hardly a surprising result These banks already managed reserves aggressively and so probably reacted quickly and smoothly to changes. Moreover, CRR did not impose as many new costs, since some of these banks were already experienced under LRR in projecting their reserve needs and the Federal funds rate

In contrast, the *other large member commercial banks* clearly appear to have altered their behavior under CRR and have, as a result, been carrying lower excess reserves Of course, identifying the source of changed behavior on the basis of only a limited number of observations is at best a delicate matter Nonetheless, a pattern consistently emerged First, the influence of net carryover in reducing excess reserves demand is greater under CRR by an additional $0 6 million for every additional million of net carryover (Table 2) Second, the seasonal factors such as bank holidays and the quarter- and month-ends have a much smaller impact under CRR (Table 2)

Due to the temporarily expanded carryover privilege under CRR, other large member banks' net carryover has, on average, been 44 percent higher (Box 3) The new level of about $18 million, together with the greater responsiveness mentioned above, would lower their average excess reserves demand under CRR by almost $11 million In fact, the other large members have held virtually no excess reserves on average during CRR, as compared to about $30 million on average under LRR While the higher average level of net carryover may not be permanent, largely reflecting the temporarily expanded carryover provision, the banks' increased sensitivity to net carryover may continue beyond the first year of CRR To the extent that carryover is used as a passive reserve adjustment tool, it is more potent under CRR than LRR because of the new two-week averaging (Box 3)

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[8] An institution is bound if its required reserves, excluding required clearing balances, exceed its vault cash

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Table 3

Excess Reserves of Small Member Commercial Banks

In millions of dollars LRR sample period from 7/8/81 to 2/1/84

Independent Variable	Coefficient	t-value
Constant	−31 0	−1 6
MCA	− 008*	−3 5
Average excess reserves	0 6*	5 4
Seasonal Dummies		
Year-end‡	79 8†	2 3
Quarter-end	58 7*	3 1
Month-end‡	−24 1	−1 8
Holidays‡	−11 8	−1 0
Holidays	39 8*	3 5
Admission Day‡	53 0	1 6
Social security‡	49 8*	3 8
Social security	68 9*	4 9
Social security§	41 6*	3 1

S E E = 52 15	D W = 1 91	$\bar{R}^2$ = 72

*Significant at 99 percent confidence level
†Significant at 95 percent confidence level
‡Week before the event
§Week after the event

MCA measures the impact of the phase-downs on all member banks' reserve requirements

The specification also includes a second order polynomial lag with a far constraint on the change in the MCA variable The coefficients were significant at the 99 percent confidence level

Average excess reserves is a six-week moving average of lagged excess reserve holdings by this group of banks

Holidays refers to bank holidays at the Federal Reserve Bank of New York

Admission Day is a California holiday

The remaining reduction appears to reflect a different response to the seasonal factors Based on data available so far under CRR, it seems possible that the reduced impact of the seasonal factors is due to the greater flexibility of the two-week averaging permitted by the new reserve accounting system For example, the first quarter-end under CRR occurred on only the third day of the maintenance period, leaving ten days for reserve position adjustments, since settlement day was on April 11 Under LRR, the same quarter-end would have allowed only three days for adjustments, since settlement day would have been on April 4 Consequently, the typical quarter-end reserve build-up had a longer period to be offset during CRR than LRR [9]

Why was a similar reduction not identified for the fifteen largest banks? As has already been suggested, the fifteen largest banks did not gain appreciably from the

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[9] Indeed, the behavioral relationship estimated with LRR data does not predict well for this first quarter-end period

greater flexibility afforded by two-week averaging simply because they were already very efficient. That is, their reserve managers could execute all desired adjustments to their reserve positions in just the one week allowed under LRR; for them the greater flexibility of two-week averaging was not important.[10] Similarly, there was little room for improvement in using the carryover privilege more effectively.

Small member banks held higher excess reserves, on average, during CRR ($477.5 million) than during LRR ($227 million). However, once the historical short- and long-term effects of the MCA phase-downs are allowed for, no significant change in their excess reserves behavior emerges.

Examining small members' holdings period-by-period shows that they were highest during the first two periods of CRR ($620 and $599 million, respectively). This suggests that much of any CRR effect was merely transitional while the banks adjusted to the new system.[11]

The results for *nonmembers* are mixed. Statistically, the case for whether behavior has changed or not is borderline.[12] Like the other large member banks', month- and quarter-ends have a much smaller impact on nonmembers under CRR. But in contrast to the larger members, holidays now seem to have a greater influence than before, increasing the need for excess reserves.

Since nonmembers consist of both large and small institutions who may respond rather differently to CRR, the mixed findings are not surprising. Moreover, this group also includes institutions for whom CRR is not especially relevant as their deposits are primarily non-transactions accounts and thus require much lower reserves

Summary

In sum, no evidence was found to indicate that the excess reserves demands of the fifteen largest member

[10] A numerical example might clarify matters. Suppose that excess reserves are undesirably high by $10 for both the fifteen largest and the other large member banks. Also suppose that the aggressive managers at the fifteen largest banks can fully offset their $10 in one week, while the other large members need two weeks. The average holdings for the two weeks by the fifteen largest banks will be $0 under both LRR and CRR. However, the other large members will hold, on average, under LRR $5 (= [10 + 0]½) and $0 under CRR. Therefore, their average would be lower when two-week averaging is allowed

[11] Consistent with this hypothesis is that the LRR relationship predicts quite well into CRR. if the first two CRR observations are omitted, the out-of-sample mean absolute and root-mean-squared prediction errors are not unreasonable, being $33 9 and $41 8 million, respectively. By comparison, the in-sample errors are $36 3 and $49 4 million, respectively

[12] The observation for the period ending on September 26 is pivotal in arguing for altered behavior. However, nonmembers' excess reserves were so low for this period that one may question the accuracy of the underlying data

Table 4
Excess Reserves of Nonmember Institutions
In millions of dollars. LRR sample period from 7/8/81 to 2/1/84

Independent Variable	Coefficient	t-value
Constant	48 1	1 8
MCA	−0 006	−0 7
Time	0 6*	2 6
Average excess reserves	0 5†	3.9
Seasonal Dummies		
Year-end‡	87 8†	3 5
Year-end	91 1†	3 2
Quarter-end	26 1	1 5
Quarter-end§	39 5†	3 2
Month-end	19 4*	2 0
Holidays‡	−11.2	−1 4
Holidays	23 9†	2 7
S E E = 38 64	D.W = 2 00	$\bar{R}^2$ = 64

*Significant at 95 percent confidence level   †Significant at 99 percent confidence level   ‡Week before the event.   §Week after the event

MCA measures the total increase in all nonmember institutions' reserve requirements attributed to the MCA phase-ups

Average excess reserves is a six-week moving average of lagged excess reserve holdings by this group of institutions

Holidays refers to bank holidays at the Federal Reserve Bank of New York

banks or the small member banks had changed over the first seventeen statement periods under CRR The evidence on the nonmember institutions was mixed, possibly because this group is too heterogeneous to allow patterns to emerge clearly. The other large member banks were the only group clearly indicated as having altered their excess reserves demand Their lower average holdings may be explained by the expanded carryover privilege and the greater flexibility afforded by the two-week averaging under CRR Of course, because the data are both limited and unrevised, it is still early to tell whether these responses to CRR will continue

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Box 3: The Reserve Carryover Privilege

The reserve carryover privilege allows each institution to carry forward, into the next accounting period, a certain proportion of its reserve surplus (that is, a proportion of the excess of its reserve holdings over its reserve requirements) Without the carryover provision, such reserve surpluses would be wasted, since reserves earn no interest Similarly, a certain percent of the shortfall in its reserve holdings can also be carried over into the next period Negative carryovers are not permitted for two or more consecutive periods

Thus, depending on whether its net carryover is positive or negative, the institution may hold lower or higher reserve balances in the next period This privilege allows the institution more flexibility in timing the acquisition of more reserves As such, carryover can be described as a passive reserve adjustment tool. any unforeseen last minute changes in its reserve positions may be covered by being carried forward

Under LRR, banks, thrifts and other depository institutions were allowed to carry forward a portion of their current reserve surplus or deficiency equal to 2 percent of their daily average reserve requirements Under CRR this provision has been temporarily expanded to ease the transition During the first six months of CRR (February 2 to August 1, 1984) the permissible ratio was 3 percent Currently, during the next six months of CRR, that ratio is reduced to $2\frac{1}{2}$ percent. it will return to the earlier 2 percent level starting January 31, 1985

The carryover provision can be a more potent passive reserve adjustments tool under CRR, even after it reverts to the 2 percent ratio Take the case of a bank that has managed its reserve position exactly until the last day of the reserve maintenance period, when it has a late unexpected reserve drain that leaves it short on reserves How large a drain can it cover if its carryover for the period is $70? Under LRR, when the maintenance period was 7 days long, the drain could be as large as $490 = ($70 x 7) without causing the bank to be deficient in its reserve holdings Under CRR, when the period is twice as long, the same bank could have a drain as large as $980 = ($70 x 14) and still not be deficient

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