

FUTURE SOURCES OF
LOANABLE FUNDS FOR
AGRICULTURAL BANKS

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The Federal Reserve Seasonal Borrowing Privilege

Emanuel Melichar

In 1973, the Federal Reserve Board decided that banks could appropriately use the discount window to replace some of their larger seasonal outflows of funds, provided they lacked reasonably reliable access to national money markets that could otherwise be employed for this purpose. An extensive reappraisal of the discount mechanism conducted earlier by a committee of Board members and Reserve Bank presidents had indicated that banks with deposits under \$100 million usually lacked such access, and that many somewhat larger banks, with deposits up to about \$500 million, also lacked reliable access during periods of monetary restraint.

This imperfection in financial markets obviously placed the nation's smaller banks at a disadvantage in raising nonlocal funds to meet development credit demands as well as the shorter seasonal outflows; however, the committee concluded that long-term credit should not be to banks supplied through the discount window. But it did recommend that a seasonal borrowing privilege be established to provide smaller banks with a reliable source of funds to meet regularly recurring short-term outflows of funds.

As implemented on April 19, 1973, Federal Reserve guidelines defined a seasonal outflow of funds as a predictable annual loss of funds resulting from a combination of changes in deposits and loans. To qualify a bank for seasonal borrowing, the outflow would have to exceed a specified percentage of the bank's annual-average deposits, set at 5 per cent, for a specified minimum time, set at eight weeks.

The analyses and conclusions are those of the author and do not necessarily represent those of the Board of Governors or of other members of its staff.

The qualifying bank could borrow funds equal to the amount by which the outflow exceeded the threshold level. To prevent banks from borrowing simply to relend the funds in money markets, banks were originally prohibited from borrowing while also selling Federal funds.

Seasonal borrowing was used to a considerable extent in 1973 and 1974, but then declined to rather nominal levels in the next two years. While the reduction in borrowing resulted at least in part from easier monetary conditions, other factors thought to be involved included reduced seasonality of fund flows, uncertain eligibility of the larger small banks, and the prohibition on selling Federal funds. These considerations led the Board to revise the guidelines in August 1976.

The size of seasonal outflows at banks was found to have fallen sharply, and so the qualifying threshold was lowered for most banks. All banks with deposits under \$500 million were made eligible, but higher qualifying thresholds were set for the larger of these banks. The new—and still current—thresholds were set at 4 per cent of the first \$100 million of deposits at a bank, 7 per cent of the next \$100 million, and 10 per cent of deposits over \$200 million. The minimum duration of a qualifying outflow was reduced to four weeks. Finally, studies indicated that most small banks had become year-round sellers of Federal funds even as their overall liquidity had declined, as they had over time shifted to keeping more of their secondary reserves in this highly convenient and liquid form, rather than in U.S. Treasury bills. Given this operating practice, the Board decided to permit banks to continue their normal sales of Federal funds while borrowing under the seasonal privilege.

The amount of seasonal borrowing for which a bank qualifies is calculated from data for several recent years. First, the bank's typical pattern of deposits and outstanding loans over the course of a year is determined. Next, a measure called net fund availability is calculated by subtracting loans from deposits, usually on a monthly-average basis. After the month of peak fund availability is identified, the level of seasonal outflow in each of the other months is simply the amount by which net fund availability in those months has fallen from its annual peak. A bank qualifies for seasonal borrowing in the months in which, and in the amounts by which, seasonal outflow exceeds the thresholds specified in the guidelines.

Potential Seasonal Borrowing, 1973-1979

For each member bank, several years of past loan and deposit data have each year been used to estimate potential qualification for and amount of seasonal borrowing. Technically, the weekly loan and daily deposit data reported by each bank were converted into monthly averages, and then the Census Bureau's X-11 seasonal adjustment program was used to quantify the seasonal variation in that bank's net fund availability.

Table 1 indicates that under the original guidelines, 34 per cent of member banks potentially qualified for seasonal borrowing in 1973. Within three years, however, the relative size of seasonal outflows had fallen so much that only 25 per cent qualified. The 1976 changes in guidelines about doubled the number of qualifying banks, with changes in the threshold and in the minimum duration of outflow contributing about equally to the increase. But further reductions in the relative size of outflows has again reduced the number of potential qualifiers.

As also shown in Table 1, banks involved in financing agriculture were much more likely to qualify for seasonal borrowing. Potentially qualifying banks thus accounted for a much greater proportion of farm loans than of loans in general—in 1979, for 27 per cent of farm loans compared with 11 per cent of all loans. However, decreasing seasonality has also been eroding the farm loan coverage, and only the 1976 change in guidelines made it possible for the relative coverage of 1979 to equal that originally found in 1973.

Other factors besides the relative degree of involvement in farm lending affect the incidence and relative size of seasonal fund outflows at banks. Two additional factors are bank size and location. For instance, smaller banks tend to serve a less diversified market area and are therefore more likely to experience a seasonal divergence in their flows of deposits and loans. Some regions have a more seasonal type of agriculture or more seasonal businesses, such as resorts. These three factors—farm loan ratio, size of bank, and region—are obviously interrelated. Multiple regression analysis was therefore used to help sort out and quantify their separate net influences on the probability that an eligible bank would have seasonal outflows large enough to qualify for seasonal borrowing in 1979. Results are shown in Chart 1.

Regional differences proved to be by far the most important of

TABLE 1
Potential Qualification for Seasonal Borrowing

	<i>Original guidelines</i>		<i>Current guidelines</i>	
	1973	1976	1976	1979
Potentially qualifying banks:				
Number	1,931	1,478	2,729	2,310
Nonagricultural	1,030	875	1,763	1,681
Moderately agricultural ..	432	302	516	383
Heavily agricultural	469	301	450	246
As a percentage of—				
All member banks	34	25	47	41
Nonagricultural	25	20	41	39
Moderately agricultural ..	44	32	54	47
Heavily agricultural	68	50	74	54
Percentage of member bank loans at potentially qualifying banks:				
Total loans	8	6	13	11
Farm loans	27	19	36	27

Note: Banks are classified by their ratio of total farm loans to total loans, as follows:

Under 25 percent Nonagricultural
25 to 49 percent Moderately agricultural
50 percent and over Heavily agricultural

these three factors, with eligible banks in the Northeast, Upper Midwest, and Far West being much more likely to qualify for seasonal borrowing than banks in other areas. Size of bank was also somewhat more important than farm loan ratio, as greater diversification and the graduated qualifying threshold combined to make it rather unlikely that the larger banks would qualify.

In a similar analysis performed in 1973, involvement in farm lending was more importantly associated with incidence of seasonal outflows. The new result confirms that seasonality at agricultural banks has declined significantly.

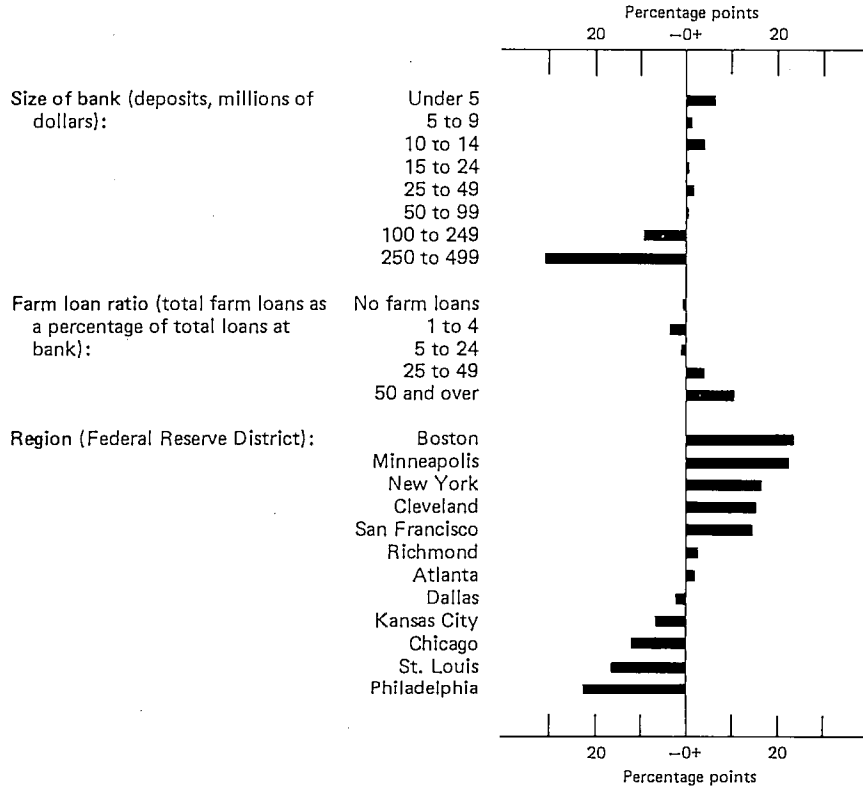
The amount of potential seasonal borrowing at each bank was estimated on a monthly basis. For each year, two summary measures

CHART 1

Estimated Net Influences on the Percentage of Banks Qualifying for Seasonal Borrowing, 1979

National average = 43 percent

Percentage points subtracted or added by—



shown in Table 2 were then calculated. The first of these, annual-average borrowing, is indicative of relative importance in overall banking operations. However, because many seasonal outflows are relatively large but short in duration, annual-average borrowing does not fully reflect the value of seasonal borrowing. A second summary measure, peak-month borrowing, is better at showing this aspect of borrowing. It is the sum of the amounts borrowed during the peak month of borrowing at each bank, regardless of the calendar month in which that peak occurred.

As shown in Table 2, total potential seasonal borrowing has remained at around \$600 million on an annual-average basis, give or take \$100 million, since 1973. The 1976 change in guidelines, which nearly doubled the number of qualifying banks, had a smaller effect on the amount of potential borrowing. The bulk of the increase in amount resulted from reducing the qualification threshold and adding some larger banks. The accommodation of very short qualifying outflows — four to seven weeks in duration — added very little to annual-average potential borrowing.

While potential borrowing was as large in 1979 as it had been in 1973, the 1979 figure has much less relative importance in view of the inflation and economic growth of the intervening years.

Because several interrelated factors affect the relative importance to different borrowing banks, multiple regression was again used to estimate the net influence of each factor, with results displayed in Chart 2. Deposit size was the most important of the three factors analyzed, with very small qualifying banks tending to have much more severe fund outflows. Qualifying banks heavily involved in farm lending also usually have to cope with large outflows.

In line with this result, Table 2 shows that it is at agricultural banks that seasonal borrowing can have its most noticeable relative impact on the supply of loanable funds, especially during the months of peak outflow. Its overall potential importance among nonagricultural banks is miniscule. However, a considerably different picture emerges when one looks at qualifying banks only. Seasonal borrowing can provide significant amounts of funds to both nonagricultural and agricultural qualifying banks, although heavily agricultural banks tend to qualify for larger relative amounts.

TABLE 2
Potential Seasonal Borrowing

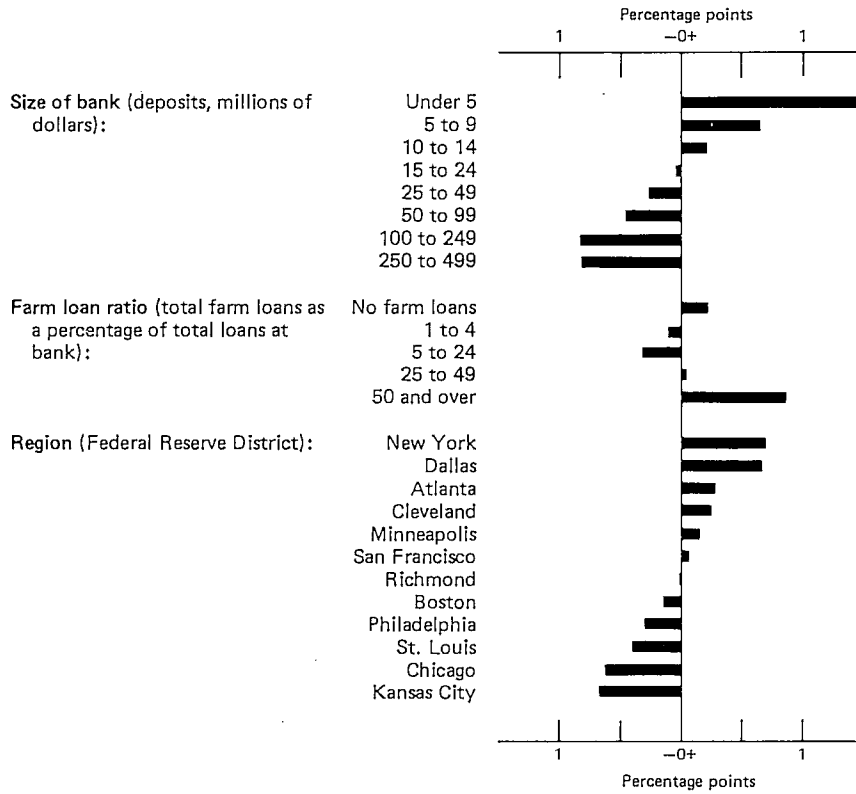
	<i>Original guidelines</i>		<i>Current guidelines</i>	
	1973	1976	1976	1979
Potential seasonal borrowing (millions of dollars):				
Annual average	597	506	736	587
Nonagricultural	440	400	594	477
Moderately agricultural ..	80	55	77	64
Heavily agricultural	77	51	65	45
Peak month	1,732	1,589	2,389	2,066
Nonagricultural	1,319	1,278	1,976	1,740
Moderately agricultural ..	214	172	235	202
Heavily agricultural	199	138	178	124
Average duration (months)	5	5	4	4
Annual-average borrowing as a percentage of loans at—				
All member banks .....	.2	.1	.2	.1
Nonagricultural .....	.2	.1	.2	.1
Moderately agricultural ..	1.2	.6	.9	.5
Heavily agricultural	2.7	1.4	1.8	1.1
Potentially qualifying banks ...	2.6	2.0	1.4	1.1
Nonagricultural	2.3	1.9	1.2	1.0
Moderately agricultural ...	3.5	2.3	1.9	1.3
Heavily agricultural	4.7	3.7	2.7	2.2
Peak-month borrowing as a percentage of loans at—				
All member banks .....	.6	.4	.6	.4
Nonagricultural .....	.5	.3	.6	.4
Moderately agricultural ..	3.2	1.9	2.7	1.6
Heavily agricultural	7.1	3.9	5.1	3.0
Potentially qualifying banks ...	7.6	6.4	4.6	3.7
Nonagricultural	7.0	6.1	4.2	3.6
Moderately agricultural ..	9.4	7.3	5.7	4.2
Heavily agricultural	12.0	10.0	7.5	6.0

CHART 2

Estimated Net Influences on Relative Amount of Potential Seasonal Borrowing, 1979
(Potential seasonal borrowing/Total loans)

National average = 1.6 percent

Percentage points subtracted or added by--



Seasonal Borrowing in 1979

Analysis of actual seasonal borrowing is greatly enhanced by the ability to compare it with potential borrowing, which provides a measure of the relative degree to which the privilege is being utilized by different categories of banks.

Table 3 indicates that 482 banks borrowed under the seasonal privilege in 1979, about a fifth of the potential number. These banks, however, held farm loans equal to 40 per cent of the farm loan total at potentially qualifying banks.

Seasonal borrowing in 1979 totaled \$144 million on an annual-average basis, equal to 25 per cent of the estimated potential. The peak-month total, however, represented a substantially higher proportion of the potential—38 per cent. At the banks which borrowed, the funds obtained equalled about 1 per cent of loans outstanding on annual-average basis, about the same as the percentage estimated for potentially qualifying banks. But in the peak borrowing months, the seasonal funds equalled over 5 per cent of loan volume, half again as much as had been estimated for all potential qualifiers. Thus, actual borrowing tended to have a sharper peak and shorter duration than the estimated potential borrowing.

Regression analysis, with results shown in Chart 3, was used to estimate the net influence of several correlated factors affecting whether or not a qualifying bank actually borrowed in 1979. The larger banks, agricultural banks, less liquid banks, and banks qualifying for relatively greater borrowing were more likely to have borrowed. A recent article suggested that banks owned by holding companies were using the privilege in disproportionately large numbers; however, as shown in Chart 3, this factor exhibited no significant influence when considered simultaneously with the other factors. (A similar analysis limited to banks in the Minneapolis District, where it appeared that members of holding companies borrowed in relatively greater numbers in 1978, also showed no net influence for holding company membership in 1979.)

By far the most important factor associated with the incidence of borrowing by potentially qualifying banks, however, was the Federal Reserve District in which the banks were located. Qualifying banks in the Boston, Philadelphia, and Kansas City Districts were much more likely to have borrowed, whereas those in the Cleveland and Chicago Districts were far less likely to have done so. (Actual and potential numbers of borrowing banks and amounts borrowed by Federal

TABLE 3
Incidence of Seasonal Borrowing, Actual and Potential, 1979

	<i>Actual</i>	<i>Potential</i>	<i>Actual as per cent of potential</i>
Borrowing banks:			
Number	482	2,310	21
Nonagricultural	282	1,681	17
Moderately agricultural ...	112	383	29
Heavily agricultural	88	246	36
As a percentage of—			
All member banks	9	41	21
Nonagricultural	7	39	17
Moderately agricultural ...	14	47	29
Heavily agricultural	19	54	36
Percentage of member bank loans at borrowing banks:			
Total loans	3	11	25
Farm loans	11	27	40

Reserve District are shown in Appendix Table 1.)

Part of this regional variation stems from administrative differences among Federal Reserve Banks. At some Reserve Banks, the possibility of qualification for seasonal borrowing is explored for most banks expressing interest in using the discount window, and credits are extended under the seasonal privilege whenever appropriate. But the Chicago Bank has traditionally provided adjustment credit for longer periods—up to nine months—than the other Banks, and it has not shifted much of such borrowing to the seasonal label for which a significant proportion of it would probably qualify. This practice creates analytical problems as seasonal borrowing is thus probably understated, but it may be of little real consequence in that seasonal discount credit has probably been available in that District even if not so recorded. In the Cleveland District, however, it appears that discount credit was in fact less readily available than in the other regions.

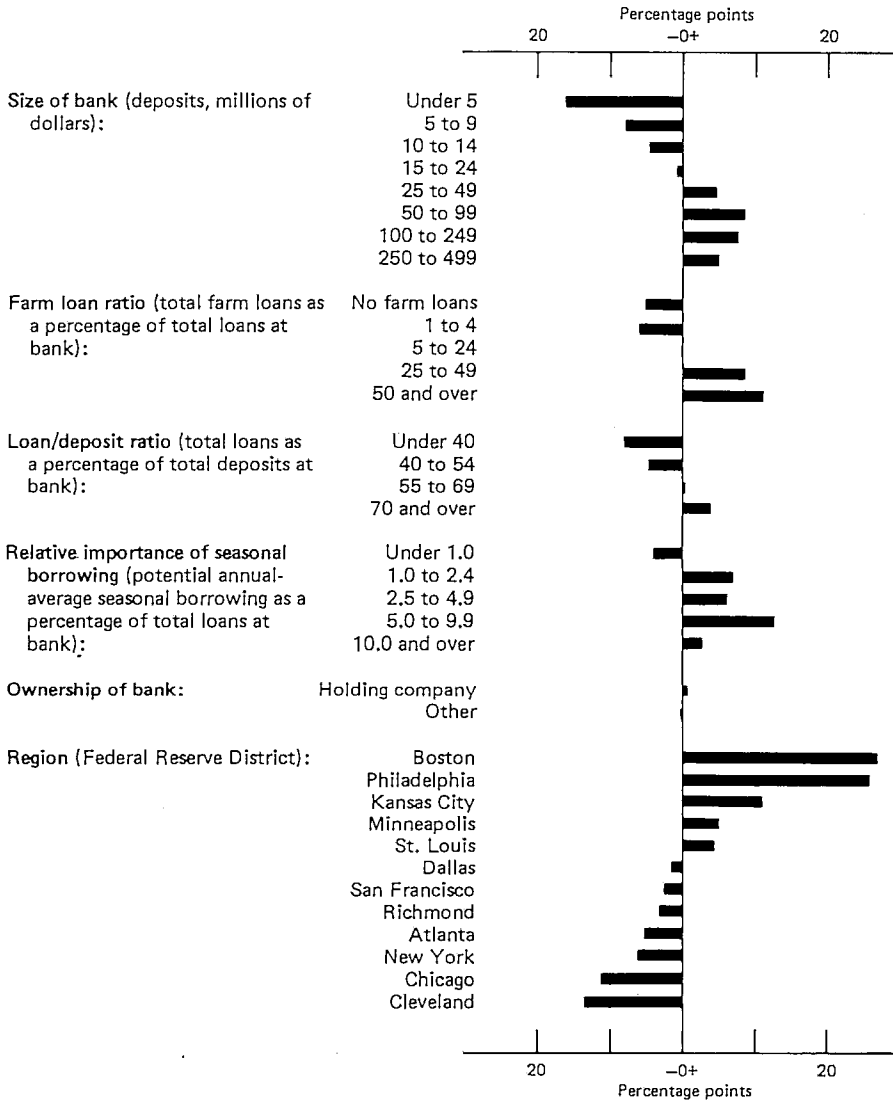
Agricultural banks were well represented among seasonal borrow-

CHART 3

Estimated Net Influences on the Percentage of Potentially Qualifying Banks That Actually Borrowed, 1979

National average = 15 percent

Percentage points subtracted or added by--



ers in 1979, with 200 agricultural banks among the 482 borrowing banks—41 per cent of the total. Because these banks tended to be smaller than the nonagricultural banks, however, they accounted for a smaller share—29 per cent—of total seasonal borrowing. But Table 4 indicates that, in terms of both numbers borrowing and amount borrowed, agricultural banks realized much more of their estimated potential than did nonagricultural banks.

It is further evident that, especially at peak borrowing periods, seasonal borrowing has been large enough to have some impact on the agricultural economy. On a peak-month basis, actual borrowing reached about three-fifths of the estimated potential at agricultural banks. Among borrowing banks alone, borrowings were also somewhat more important at the heavily agricultural banks, even though these banks apparently used less of their borrowing potential than did the nonagricultural banks.

Variations in Seasonal Borrowing, 1973-1980

The volume of seasonal borrowing has varied greatly from year to year, as shown in the upper panel of Chart 4. Total potential borrowing shows no corresponding annual fluctuations. Rather, as noted earlier, it tended to decline gradually except for an upward adjustment in 1976 when the borrowing guidelines were revised. Therefore, qualifying banks for some reason or reasons made more use of their seasonal borrowing potential in some years than in others—in response, perhaps, to changes in the profitability of making loans from funds obtained at the discount rate, or to changes in bank liquidity positions, or to changes in the cost of discount credit relative to that of alternative sources of short-term funds. These possible explanations will be considered in turn.

In the lower panel of Chart 4, a typical farm loan rate series, obtained from a long-standing quarterly survey of several hundred agricultural banks in the Midwest, is compared with the basic discount rate charged on seasonal borrowing. Over the 1973-1979 period, the profit margin available to banks borrowing at the discount rate and lending these funds at the farm loan rate was relatively wide except during two periods of severe monetary restraint, 1973-74, and from late 1978 through 1979, when it narrowed considerably. There was much more seasonal borrowing during these periods of narrow margins. If anything, therefore, profitability considerations may only

have kept seasonal borrowing from being even greater during periods of monetary restraint.

Changes in the liquidity of qualifying banks might also logically lead to annual variations in the amount of seasonal borrowing. Prior to introduction of the seasonal privilege, for instance, banks had to provide for seasonal outflows in other ways, primarily by storing funds from seasonal inflows in the form of liquid securities that could be sold to meet the subsequent outflows. Many of them might not seriously consider changing from this operating method to reliance on seasonal borrowing until faced with a cyclical or secular reduction in liquidity. Or, if a bank already using seasonal borrowing experienced a cyclical increase in liquidity, it would find itself at least temporarily able to handle more or all of its seasonal outflows from its own resources. Later, a cyclical or secular reduction in liquidity might reduce or exhaust this internal capacity, and the bank would resume use of seasonal borrowing. Thus, substantial cyclical variations in the amount of seasonal borrowing could reasonably be expected.

In Chart 4, the seasonal borrowing record is also compared with a broad indicator of changes in liquidity—the overall loan-to-deposit ratio—at two groups of banks, agricultural and small nonagricultural (assets under \$500 million). In general, the borrowing record is consistent with the scenario outlined above.

Rapid adoption of seasonal borrowing in 1973 coincided with a cyclical reduction in liquidity, especially at nonagricultural banks. Improved liquidity in 1975, again primarily at nonagricultural banks, is consistent with much reduced seasonal borrowing in that year. In general, this experience was repeated during the next liquidity cycle, 1977-80. As that cycle ended with a sharp, contraseasonal improvement in liquidity during the second quarter of 1980, seasonal borrowing again fell to a nominal level.

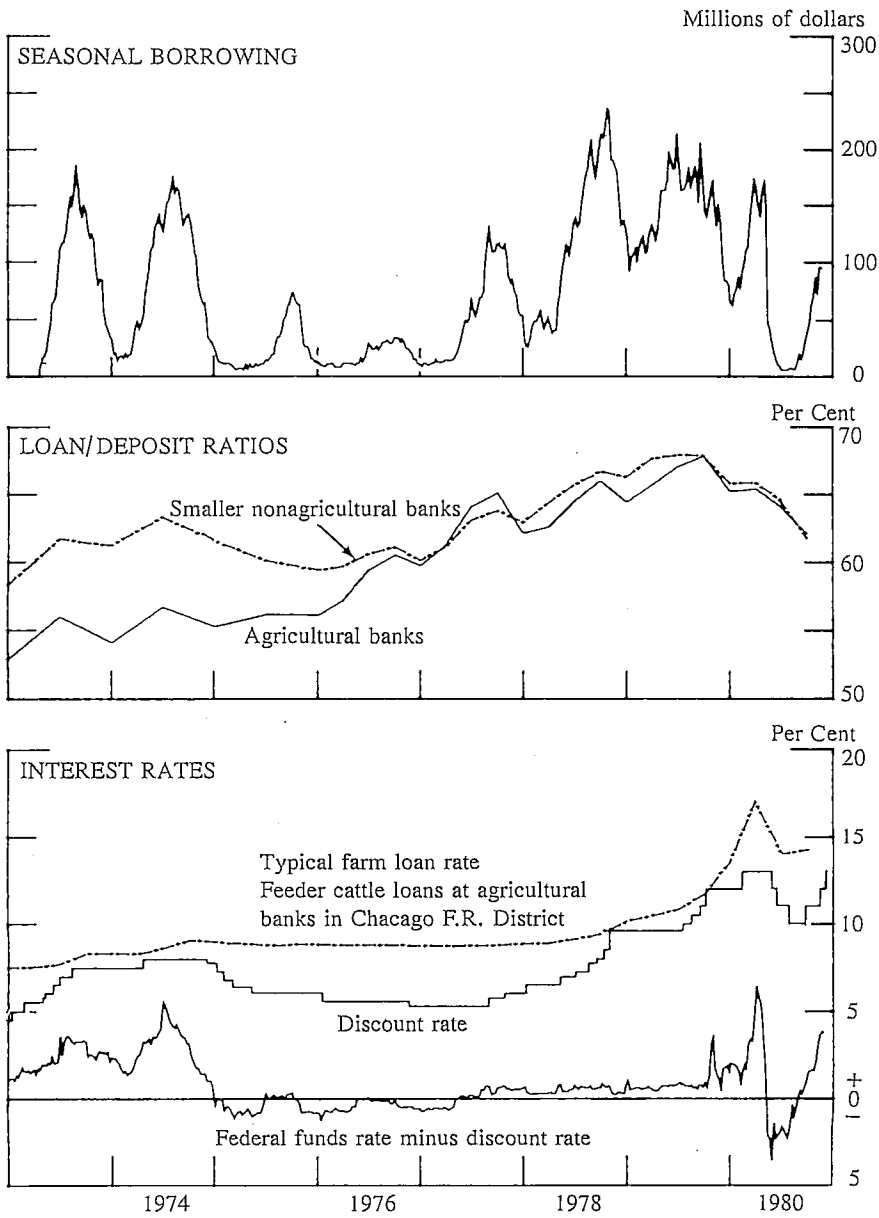
However, changes in the liquidity of small banks alone do not fully explain the seasonal borrowing record. Seasonal borrowing remained relatively low in 1976-1977 while the average loan-to-deposit ratio at agricultural banks was rising sharply from the plateau of around 55 per cent that it had maintained since 1968. Apparently small banks had access to other sources of seasonal funds during 1975-77, a period of general monetary ease. Implicitly, therefore, the relative liquidity position of larger correspondent banks also affects seasonal borrowing. When, as in 1975-77, funds are readily available from correspondents, seasonal borrowing has been relatively low—even

TABLE 4
Seasonal Borrowing, Actual and Potential, 1979

	<i>Actual</i>	<i>Potential</i>	<i>Actual as per cent of potential</i>
Seasonal borrowing (millions of dollars):			
Annual average	144	587	25
Nonagricultural	102	477	21
Moderately agricultural ...	26	64	41
Heavily agricultural	16	45	34
Peak month	786	2,066	38
Nonagricultural	588	1,740	34
Moderately agricultural ...	121	202	60
Heavily agricultural	77	124	63
Average duration (months)	2.67	4.45	60
Annual-average borrowing as a percentage of loans at—			
All member banks .....	.03	.12	25
Nonagricultural .....	.02	.09	21
Moderately agricultural ...	.21	.51	41
Heavily agricultural .....	.37	1.08	34
Borrowing banks	1.02	1.06	96
Nonagricultural .....	.95	.98	97
Moderately agricultural ...	1.13	1.33	85
Heavily agricultural	1.43	2.20	65
Peak-month borrowing as a percentage of loans at—			
All member banks .....	.16	.41	38
Nonagricultural .....	.12	.36	34
Moderately agricultural ...	.96	1.62	60
Heavily agricultural	1.85	2.95	63
Borrowing banks	5.58	3.72	150
Nonagricultural	5.49	3.57	154
Moderately agricultural ...	5.24	4.24	123
Heavily agricultural	7.14	6.04	118

CHART 4

Factors Affecting Total Seasonal Borrowing



when, as in late 1977, money-market rates rose above the discount rate.

There has, nevertheless, been a close relationship between the timing of changes in seasonal borrowing and the position of the discount rate relative to short-term money market rates such as the Federal funds rate, as Chart 4 also indicates. Whenever the Federal funds rate moved below the discount rate, seasonal borrowing promptly fell to nominal levels. As soon as the rate relationship was reversed, seasonal borrowing was resumed.

A recent article has argued that these data indicate that qualifying banks do have access to the Federal funds market, and switch back and forth between this source and seasonal borrowing to obtain funds at the cheaper rate. The chart indicates, however, that banks using seasonal borrowing have not had to test their ability to purchase Federal funds during a period of severe monetary restraint. Such a test would be provided if, during monetary restraint, the discount rate were kept somewhat *above* the Federal funds rate. A significant amount of seasonal borrowing during such a period would indicate that access to other funds is materially reduced when correspondents are illiquid, and that the rationale underlying the seasonal privilege remains valid. On the other hand, low seasonal borrowing would tend to indicate that small-bank access to money market funds had improved to the point that the underlying rationale had become obsolete. Events have not provided such a test since the privilege was introduced.

Meanwhile, there is other evidence that small banks, which must obtain access to the Federal funds market through correspondents, do not have reliable access to this market. In applying for discount credit, a number of small banks during the past year stated that they were doing so because their correspondent had stopped selling them Federal funds. More generally, in many regions correspondents have been willing to sell Federal funds to small banks for only about two consecutive weeks. After that, they reportedly want to make any further loans at the prime rate rather than at the Federal funds rate.

Nevertheless, the proportion of agricultural banks that were net buyers of Federal funds on quarterly call report dates rose from under 10 per cent in early 1976 to 20 per cent at the September 1979 cyclical peak in loan-deposit ratios at these banks nationally. This trend could receive additional momentum from a recent development that has increased the cyclicity of farm loan interest rates and thus appears

likely to increase the ability and desire of agricultural banks to utilize money-market sources of funds, as well as seasonal borrowing, during periods of monetary restraint.

As illustrated by Chart 4, farm loan rates moved up sharply as money-market rates rose in late 1979 and early 1980, whereas they had not previously responded in that fashion. This behavioral change occurred because the cost of local deposits now rises and falls with rates on U.S. Treasury bills, since bank customers have shifted a large proportion of their deposits into the six-month money market certificates first introduced in 1978. By June 1980, such certificates represented 22 per cent of total resources of agricultural banks nationally.

Thus, in the spring of 1980, a new relationship appears in the lower panel of Chart 4 — the farm loan rate is substantially above the discount rate during a period of severe monetary restraint. This situation seems likely to recur in any future periods of restraint in which the discount rate is kept below money market rates. In past periods of restraint, the narrow margin between the discount rate and farm loan rates may have helped to discourage seasonal borrowing by agricultural banks. That constraint may be absent in future periods.

Similarly, during past periods of restraint the large negative margin between money-market rates and farm loan rates at agricultural banks must have discouraged the use of money market funds for farm lending by such banks. This factor was much less important during the 1979-80 period of monetary restraint, and the new relationship is likely to persist. Therefore, agricultural banks are also likely to be more interested in acquiring reliable access to money market sources of funds than they were before 1979.

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APPENDIX TABLE 1
 Seasonal Borrowing, Actual and Potential, by Federal Reserve
 District, 1979

<i>Federal Reserve District</i>	<i>Actual</i>	<i>Potential</i>	<i>Actual as per cent of potential</i>
Number of borrowing banks			
1—Boston	53	108	49
2—New York	14	118	12
3—Philadelphia	17	39	44
4—Cleveland	6	245	2
5—Richmond	17	163	10
6—Atlanta	28	248	11
7—Chicago	10	272	4
8—St. Louis	36	109	33
9—Minneapolis	88	347	47
10—Kansas City	150	317	47
11—Dallas	55	280	20
12—San Francisco	8	64	13
Seasonal borrowing (annual average, millions of dollars)			
1—Boston	17	29	58
2—New York	3	63	4
3—Philadelphia	12	18	70
4—Cleveland	1	50	2
5—Richmond	7	33	20
6—Atlanta	17	114	15
7—Chicago	3	35	8
8—St. Louis	8	14	59
9—Minneapolis	23	92	25
10—Kansas City	32	47	69
11—Dallas	18	76	24
12—San Francisco	3	17	19

APPENDIX TABLE 2
Seasonal Borrowing, by Month and by Federal Reserve District, 1979

F. R. District	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Number of borrowing banks												
1—Boston	17	25	34	36	34	27	23	6	8	9	10	8
2—New York	5	5	7	5	3	1	—	2	2	2	2	2
3—Philadelphia	7	10	10	13	14	14	12	5	3	—	1	2
4—Cleveland	1	1	—	2	3	3	3	3	2	2	—	—
5—Richmond	2	3	6	10	11	12	11	8	4	3	2	2
6—Atlanta	7	1	1	—	4	8	10	17	18	19	14	8
7—Chicago	2	2	3	5	6	7	7	5	5	2	4	4
8—St. Louis	3	5	6	7	13	16	17	19	13	12	6	2
9—Minneapolis	5	6	11	21	36	43	55	60	52	39	25	12
10—Kansas City	20	19	33	29	50	54	57	57	67	78	73	44
11—Dallas	21	11	12	15	25	25	18	20	14	20	16	10
12—San Francisco	3	4	3	2	4	4	2	1	1	1	—	—
Borrowing banks as a percentage of all member banks												
1—Boston	10	14	19	20	19	15	13	3	5	5	6	5
2—New York	2	2	3	2	1	*	—	1	1	1	1	1
3—Philadelphia	3	4	4	6	6	6	5	2	1	—	*	1
4—Cleveland	*	*	—	*	1	1	1	1	*	*	—	—
5—Richmond	1	1	2	3	3	3	3	2	1	1	1	1
6—Atlanta	1	*	*	—	1	1	2	3	3	3	2	1
7—Chicago	*	*	*	1	1	1	1	1	1	*	*	*
8—St. Louis	1	1	1	2	3	4	4	5	3	3	1	*
9—Minneapolis	1	1	2	4	7	8	11	12	10	8	5	2
10—Kansas City	3	2	4	4	6	7	7	7	8	10	9	6
11—Dallas	3	2	2	2	4	4	3	3	2	3	2	1
12—San Francisco	2	3	2	1	3	3	1	1	1	1	—	—
Seasonal borrowing (monthly average, millions of dollars)												
1—Boston	11	34	42	31	34	22	6	2	3	5	4	5
2—New York	6	3	6	9	2	*	—	*	1	3	1	*
3—Philadelphia	15	23	23	26	26	20	8	5	3	—	*	1
4—Cleveland	2	2	—	1	1	1	2	2	1	1	—	—
5—Richmond	6	7	6	10	7	11	11	8	4	3	4	4
6—Atlanta	17	2	1	—	3	12	16	25	30	40	37	22
7—Chicago	*	2	4	4	5	6	3	2	3	1	1	2
8—St. Louis	2	2	1	5	11	13	11	17	14	16	6	*
9—Minneapolis	3	6	6	9	23	31	45	58	46	23	15	6
10—Kansas City	12	12	14	22	30	36	38	39	46	50	56	33
11—Dallas	26	16	12	12	20	27	27	16	18	17	19	8
12—San Francisco	3	7	6	5	7	7	*	2	1	*	—	—

*Less than 0.5

APPENDIX TABLE 3
 Seasonal Borrowing, by Month and by Farm Loan Ratio of Bank, 1979

<i>Farm loan ratio of bank</i>	<i>JAN</i>	<i>FEB</i>	<i>MAR</i>	<i>APR</i>	<i>MAY</i>	<i>JUN</i>	<i>JUL</i>	<i>AUG</i>	<i>SEP</i>	<i>OCT</i>	<i>NOV</i>	<i>DEC</i>
Number of borrowing banks												
Nonagricultural banks	67	77	95	104	133	124	112	92	78	85	69	48
Moderately agricultural banks	11	9	18	24	40	55	62	66	61	50	37	21
Heavily agricultural banks	15	6	13	17	30	35	40	44	50	52	47	25
Borrowing banks as a percentage of all member banks												
Nonagricultural banks	2	2	2	2	3	3	3	2	2	2	2	1
Moderately agricultural banks	1	1	2	3	5	7	8	8	7	6	4	3
Heavily agricultural banks	3	1	3	4	7	8	9	10	11	12	10	6
Seasonal borrowing (monthly average, millions of dollars)												
Nonagricultural banks	85	107	109	109	136	136	106	100	73	94	94	56
Moderately agricultural banks	6	4	5	12	20	35	44	54	50	40	27	14
Heavily agricultural banks	11	4	7	12	15	14	17	22	25	26	22	12
Annual-average borrowing as a percentage of loans at all member banks												
Nonagricultural banks .....	.02	.02	.02	.02	.03	.03	.02	.02	.02	.02	.02	.01
Moderately agricultural banks .....	.05	.02	.03	.09	.15	.28	.35	.42	.40	.32	.21	.11
Heavily agricultural banks .....	.26	.08	.15	.28	.35	.33	.40	.52	.59	.61	.52	.28