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BANK PERFORMANCE IN THE EMERGING RECOVERY:
A CHANGING RISK-RETURN ENVIRONMENT

Working Paper 83-802*

by

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One sure sign that an economic recovery is progressing is when the President or some member of his cabinet complains that bank loan rates are too high relative to market interest rates. President Reagan has been no exception. In February of this year the President was very active in chiding banks to lower their lending rates (footnote 1).

In past recoveries, loan rates have usually fallen, but have lagged behind other market rates. For example, in January of 1975, the prime rate averaged 10.05 percent, while the Treasury bill rate averaged about 6.50 percent. By January 1976, the prime had only fallen to 7.00 percent, but the bill rate had dropped to 5.30 percent. This lag of loan rates in adjusting to other market rates occurs, in part, because the base lending rate reflects an average of the current cost of funds and the cost of previously issued funds that are still outstanding (footnote 2). At the early stage of an economic recovery, banks may still have some longer term sources of funds locked in at higher rates. After these liabilities mature, the banks can renew this source at the lower, current market rates.

In this paper we argue that loan rates are unlikely to fall as much (relative to market rates) as they have in previous recoveries for two reasons. First, the average cost of funds for most banks has not declined as much as it did at the same stage of previous economic recoveries. This phenomenon precludes the base lending rate from dropping as much as it has in the past except for the largest money center banks. In past recoveries banks have benefited from reintermediation of funds into accounts subject Regulation Q interest ceilings. But the introduction of Money Market Deposit Accounts (MMDAs) and Super-Now Accounts precludes this pattern from happening
during this recovery. Second, changes in the bankruptcy
code, effective in late 1979, have raised the cost of
producing loans which have been passed on to the
borrowers.

The combined effect of these events will most likely make
previously acceptable return targets achievable only by
taking on significantly more risk. Banks could charge
higher loan rates or increase other fees and charges, but
the competition from other financial institutions (as
well as within the banking industry itself) in the
lending and deposit markets limits the effectiveness of
these strategies. Banks might also lower expenses to
achieve its previously acceptable return targets, but the
most research to date suggests that economies of scale in
the banking industry are limited. The purposes of this
paper, then, are to examine the reasons why the decline
in lending rates at this stage of the business cycle may
be less (relative to market rates) than previous data
would suggest, to identify the types of risk banks may be
forced to take if previously acceptable return targets
are to be maintained, and to discuss the implications of
these findings for bank management.

Higher Relative Cost of Funds

The introduction of MMDAs and Super-Now Accounts has had a
dramatic effect on the deposit composition of most banks.
For example, the MMDAs are estimated to have grown to
$350 billion by early June since they were authorized
last December. Table 1 shows an example balance sheet
for a sample $100 million bank as of December 15, 1982,
and June 15, 1983. For this bank, Super NOW accounts
grew $2 million and MMDAs grew $18 million in the period
from December 15, 1982 through June 15, 1983. Part
of this money was from new sources and part came from the
bank’s own low cost sources: demand deposits fell $2
million, passbook savings fell $6 million and time
deposits fell $3 million. Table 2 presents some
representative costs of and returns on funds as of
December 15, 1982, and June 15, 1983. The roughly 2
percent decline in most rates during this six month
period would have resulted in a decline in interest
expense from slightly over $7.0 million in mid-December
to $6.1 million by mid-June if the mix of funding sources
had not changed (footnote 3). Table 3 illustrates that,
rather than declining, the bank’s actual cost of funds
rose slightly ($7.06 million) by June because of its
### Table 1

**Typical National Bank**

#### 12/15/82

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities and Net Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and Due From</td>
<td>Demand Deposits</td>
</tr>
<tr>
<td>Short-term Invest</td>
<td>NOW Accounts</td>
</tr>
<tr>
<td>Long-term Invest</td>
<td>Passbook Savings</td>
</tr>
<tr>
<td>Loans</td>
<td>Time Deposits</td>
</tr>
<tr>
<td>Premises</td>
<td>Borrowings and OL</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>Equity</strong></td>
</tr>
<tr>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<td>Time Deposits</td>
</tr>
<tr>
<td>Premises</td>
<td>Borrowings and OL</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>Equity</strong></td>
</tr>
<tr>
<td><strong>110</strong></td>
<td><strong>110</strong></td>
</tr>
</tbody>
</table>

#### 6/15/83
Table 2
Assumed Annual Percent Costs and Returns

<table>
<thead>
<tr>
<th></th>
<th>12/15/82</th>
<th>6/15/83</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand Deposits</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>NOW Accounts</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Super NOWs</td>
<td></td>
<td>7.0</td>
</tr>
<tr>
<td>Passbook Savings</td>
<td>5.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Money Market Accts</td>
<td></td>
<td>8.0</td>
</tr>
<tr>
<td>Time Deposits</td>
<td>12.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Borrowing and OL</td>
<td>9.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Short-term Invest</td>
<td>9.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Long-term Invest</td>
<td>12.0</td>
<td>10.0</td>
</tr>
<tr>
<td>Loans</td>
<td>14.0</td>
<td>12.0</td>
</tr>
</tbody>
</table>

1. The NOW and passbook savings account rates are the statutory maximums.
2. The Super NOW and MMDA rates represent recently quoted averages from several banks.
3. The short-term investment (91-day Treasury bill) and borrowing (federal funds) rates are the current rates at each point in time.
4. The time deposit, long-term investment, and loan returns are average figures, reflecting a weighted sum of current and past rates on amounts previously issued, but still outstanding.
### Table 3

**Resulting Annualized Income Statements**

(in $ millions)

<table>
<thead>
<tr>
<th>Alternative Use of New Funds</th>
<th>12/15/82</th>
<th>Loans 6/15/83</th>
<th>S-T Invest 6/15/83</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Income</td>
<td>$11.55</td>
<td>$11.10</td>
<td>$10.70</td>
</tr>
<tr>
<td>-Interest Expense</td>
<td>$7.04</td>
<td>$7.06</td>
<td>$7.06</td>
</tr>
<tr>
<td>Interest Margin</td>
<td>$4.51</td>
<td>$4.05</td>
<td>$3.65</td>
</tr>
<tr>
<td>+Other Income</td>
<td>$0.50</td>
<td>$0.60</td>
<td>$0.60</td>
</tr>
<tr>
<td>-Other Expenses</td>
<td>$3.00</td>
<td>$3.10</td>
<td>$3.10</td>
</tr>
<tr>
<td>Operating Income</td>
<td>$2.01</td>
<td>$1.55</td>
<td>$1.14</td>
</tr>
<tr>
<td>Taxes (46%)</td>
<td>$0.92</td>
<td>$0.71</td>
<td>$0.53</td>
</tr>
<tr>
<td>Net Income</td>
<td>$1.09</td>
<td>$0.83</td>
<td>$0.62</td>
</tr>
<tr>
<td>ROA</td>
<td>1.09%</td>
<td>0.76%</td>
<td>0.56%</td>
</tr>
<tr>
<td>ROE</td>
<td>18.09%</td>
<td>11.92%</td>
<td>8.83%</td>
</tr>
</tbody>
</table>
changing mix of funds.

The lack of a significant decline in the bank's cost of funds means the bank cannot lower its lending rate or it must accept a lower return on assets and return on equity unless some offsetting action is taken. Banks that have relied heavily upon accounts subject to Regulation Q interest rate ceilings for funding loan demand feel the greatest effect. Competition (and political jawboning) may limit the extent to which non-decreasing interest costs can be covered by not letting lending rates fall. An adequate net interest margin may be achieved only at the expense of accepting increased credit risk. However, loan demand at the beginning of a recovery is typically weak and some new funds may have to be placed in investments which typically earn lower rates of return than loans. Return on asset targets are being squeezed, therefore, by a lack of a significant decrease in the cost of funds, by declining earnings rates on assets, and by a shift in asset composition to lower earning assets.

Table 3 examines two alternative courses of action bank management might take. First, all newly attracted funds are assumed to be invested in loans earning 12 percent. Despite the higher credit risk (as reflected in a higher loan/asset ratio), the bank's return on assets falls to .76 percent and it return on equity falls to 12 percent. Of course, investing in (riskier) loans with a higher return and higher credit risk could improve the bank's performance. The second alternative is to assume that the newly attracted funds are invested in short-term instruments earning 9 percent. Such a solution promotes improved credit risk and better interest sensitivity matching (after all, MMDA's are interest sensitive), but this solution reduces ROA to .56 percent and ROE to 8.83 percent.

Another way to attempt to avoid a profit squeeze is for banks to take on more interest rate risk. With an upward sloping yield curve, a higher return on investments can be made by investing long-term taxable securities. But this strategy exposes the bank to increased interest rate risk. Moreover, the bank may be increasing its liquidity risk if the MMDA money is "hot". Should inflation flare up again, these funds may leave the bank for real assets such as real estate. Or, a continued robust recovery with a mild increase in interest rates (which would still cause material declines in long-term bond prices) may still expose the bank to liquidity risk if the funds are
pulled out for investment in the stock market.

More investment in long-term municipal securities is yet another way to mitigate declining interest margins, especially given the high recent yields on these securities. This higher yield is required primarily because of the higher credit risk is such securities. Furthermore, the projected financial condition for state and local governments in the near future is uncertain at best. Increased investment in long-term municipals, then, exposes the bank not only to additional interest rate risk, but also to additional credit risk. The cost of attempting to maintain profitability may be steep in terms of the additional risk.

Banks could avoid taking on more risk to maintain profitability by either increasing loan rates and non-interest income or by decreasing expenses. Increasing loan rates most likely is not a viable strategy because loan demand is weak at this stage of the expansion and higher rates may not be supported by other banks, thus resulting in lost customers. Higher non-interest and fee income may also be an elusive goal, especially in deposit markets, where competition from money market funds, brokerage firms, and thrift institutions is intense. A significant reduction in expenses to reduce the effect of reduced interest margins is also not likely to be effective. Previous research has shown that economies of scale in banking are small and tend to diminish rapidly once bank size exceeds $25 million in assets (footnote 4). If other income cannot be increased enough or expenses reduced enough to offset the effect of decreased interest margins, then higher risk may be the only feasible alternative for maintaining previous levels of profitability.

The New Bankruptcy Code and the Pricing of Loans

On October 1, 1979, the most significant change in the bankruptcy laws since 1938 became effective, Pub. L. No. 95-598, the Bankruptcy Reform Act of 1978. The new Code was designed with three goals in mind: (1) provide the debtor with a fresh start, (2) maximize the value of the debtor’s property, and (3) afford fair treatment of creditors, shareholders, and others with an interest in the debtor’s property. In achieving these goals, however, the Code significantly raised the cost of producing loans. For example, the automatic stay provision prohibits any action on the part of a creditor
to collect its debt, whether secured or unsecured. The allowable amount of unattachable assets has been increased (unless states decide to override the federal exemptions). No knowledge test exists for preference payments. Setoffs can be disallowed within 90 days of the bankruptcy filing even if the debtor was solvent at the time or if the lender had security for the loan.

Faced with a new legal environment for lending that increased the cost of making loans, banks had the choice of absorbing these costs or passing them on to borrowers. The cumulative effects of competition from within and outside of the banking industry made absorption of these costs impossible if banks were to earn normal rates of return for their shareholders. Thus, the choice was reduced to passing the costs on to the borrowers. But these additional costs could be passed on in a variety of ways. Loan contract rates could be increased. Credit standards could be made more stringent, thus increasing the loan turn-down rate. Or less lending could take place.

Some evidence regarding the way in which these costs were passed on is available from recent surveys (April 1980, 1982) of the membership of the National Federation of Independent Business. In these surveys, the respondents reported rates of interest on their most recent loans, characteristics of the loan (size, maturity, collateral requirements), and other information about the firm and its recent credit experience. The April, 1980 survey data included information about loans originated before and after the Code change and thus present an ideal opportunity to observe how the new bankruptcy code affected contract interest rates on loans made to small businesses.

Any effort to identify the effect of the new Code on contract rates over the 1979 to 1980 period is complicated by the fact that loan rates rose dramatically at this time. Even if the change in the level of interest rates is controlled, attributing any remaining change in contract rates to the new Code is a very weak test. But the new Code does not effect all loan contracts in the same way. By identifying these differential effects on specific types of contracts and then by controlling for changes in market rates of interest and differences in borrower risk, a better test for the effect of the new Code on loan rates can be made.
The revised Code has a differential effect on non-corporate versus corporate loans. An expanded list of property exemptions (i.e., unattachable assets) reduces the pool of assets available to satisfy a bankruptcy proceeding and raises expected bad debt losses. This provision only affects personal loans, such as those made to proprietorships and partnerships, and not those to corporations. The new Code also allows proprietorships access to Chapter 13 bankruptcy filing which has the effect of delaying liquidation proceedings while the bankrupt debtor files a plan to repay debts out of future income. Both of these provisions in the revised Code should increase the cost of making loans to non-corporate small businesses relative to corporate ones and, therefore, reduce the spread between corporate and non-corporate loans after the effective date of the Code.

The second differential effect pertains to secured versus unsecured loans. All of the provisions listed above (automatic stay, preferences, setoff) raise the cost of making both secured and unsecured loans. But the provision of adequate protection for secured creditors gave this class of creditors an advantage over unsecured creditors not available in the previous bankruptcy act. The adequate protection clause established for the first time in the history of bankruptcy law how a debtor or trustee in possession may use a lender's collateral. With the benefit of adequate protection, the cost of making an unsecured loan should rise relative to a secured loan, causing the spread between secured and unsecured loans to decline after the effective date of the Code.

The evidence regarding these hypotheses is presented in Table 4. Short-term commercial bank loan rates obtained from over 1000 small businesses (in each survey) were used in the computations. The data are taken from the results of a regression analysis that controlled for changes in the market rates of interest (the 91-day Treasury bill rate) and borrower risk (using years in business and loan size as proxies) (footnote 5). The spread between secured and unsecured loans fell about 65 basis points, on average, after the Code change, even after controlling for the level of interest rates and for borrower risk. The spread between corporate and non-corporate loan rates also fell, about 40 basis points on average. The April, 1982 survey data confirmed the effects of the Code change on small business loan rates. Non-corporate loan rates were not significantly different from corporate loan rates and secured loan rates were
Table 4
Small Business Short-term Loan Rates: Before and After the Bankruptcy Code Change

Difference in Loan Rates (in basis points)

<table>
<thead>
<tr>
<th></th>
<th>April, 1980</th>
<th>April, 1982</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Code</td>
<td>Post-Code</td>
</tr>
<tr>
<td>Secured vs. Unsecured</td>
<td>106</td>
<td>40</td>
</tr>
<tr>
<td>Corporate vs. Non-corporate</td>
<td>92</td>
<td>55</td>
</tr>
</tbody>
</table>

Table 5

Small Business Credit Experience: Before and After the Bankruptcy Code Change

<table>
<thead>
<tr>
<th>Percent Reporting</th>
<th>April 1980</th>
<th>April 1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of Initial Loan Request Made</td>
<td>Pre-Code</td>
<td>Post-Code</td>
</tr>
<tr>
<td>100%</td>
<td>85</td>
<td>88</td>
</tr>
<tr>
<td>90-99</td>
<td>0</td>
<td>*</td>
</tr>
<tr>
<td>65-89</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>50-64</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>under 50</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>No answer</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Most Recent Loan Request</th>
<th>April 1980</th>
<th>April 1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accepted</td>
<td>70</td>
<td>81</td>
</tr>
<tr>
<td>Rejected</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>On Hold</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>No answer</td>
<td>16</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Collateral Status</th>
<th>April 1980</th>
<th>April 1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Not Required</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Loan Size Distribution ($1000)</th>
<th>April 1980</th>
<th>April 1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under 5</td>
<td>20</td>
<td>23</td>
</tr>
<tr>
<td>5-10</td>
<td>23</td>
<td>19</td>
</tr>
<tr>
<td>10-20</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>20-40</td>
<td>18</td>
<td>17</td>
</tr>
<tr>
<td>40-100</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>100-300</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>300 or more</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

* less than .5 percent

above unsecured loan rates by approximately the same amount as they were after the Code change in the first quarter of 1980 (about 45 basis points).

To complete the analysis, evidence is presented in Table 5 regarding small business credit experience before and after the Code change. Loan turndowns did not rise after the Code change, nor did any shortfall in the initial amount of the loan request increase. The loan size distribution did not change, nor did the proportion of loans secured. The data suggest, then, that banks adjusted to the increased costs of making loans precipitated by the new Code through higher loan interest rates. This adjustment by itself would not allow loan rates to fall as far as they have (relative to market rates) in previous economic recoveries. And, because the law essentially reduces the cost of defaulting for borrowers, overall credit risk has increased for banks.

Conclusion

In this paper we argue that loan rates may continue to remain high relative to market rates even as the economy continues to recover. Deregulation of the liability side of the balance sheet has not allowed the cost of funds for most banks to decline as much as in previous recoveries. Thus, the historical lagging relationship between bank lending rates and other market rates may not occur during this recovery. The new bankruptcy Code has also affected loan rates by raising expected bad debt losses and expected foreclosure costs.

We also argue that the combination of the lack of a significant decline in the cost of funds with limited lending opportunities in a nascent economic recovery may force banks into taking more risk to attain their 'normal' return targets. This higher risk arises from three sources. First, because loan demand is typically weak at the beginning of an economic recovery, increased credit risk may have to be taken on to maintain normal net interest margins. Second, if banks attempt to offset the lack of a decline in the cost of funds through investment in long-term securities (taxable or non-taxable), they expose themselves to increased interest rate risk. And third, if the new MMDA money is 'hot' and interest rates do rise suddenly, any shift of these funds out of banks into real assets would create liquidity problems.
The implications of this new banking environment should be uncomfortable, but clear to bank managers if banking profitability is to be maintained: banking risks probably have to be increased. Above average risk may now have to be taken to attain what was once an average return on assets' target. If banks extend the maturity of their investment portfolios to attain these targets, they would be well-advised to carefully evaluate their capital position. A sensitivity analysis of a scenario with rising rates and 'fleeing' MMDA money could be a sobering exercise.

The alternative to taking on more risk is to recognize that with the deregulation of the liability side of the balance sheet and intense competition from outside the industry, the banking industry has become more competitive. Unfortunately, more competition usually brings lower rates of return. Bankers cannot individually stop these competitive pressures, but they can adapt if they recognize that a new set of risk-return tradeoffs has emerged.

Footnotes


3. The $6.1 million interest expense figure is computed by applying the 6/15/83 interest costs to the 12/15/82 balance sheet amounts (and thus assumes no asset growth as well as no change in funding mix).


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