

LDC Write-Off Effects and Bank Stock Returns: The Bank of Boston Decision

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Abstract

This study examines the effect of a publicly announced write-off of LDC loans by the Bank of Boston on December 14, 1987. The stocks of banks with high LDC loan exposure show significant negative abnormal returns the day following the announcement. The stocks of banks with low LDC loan exposure show significant positive abnormal returns the day following the announcement. Cross-sectional regression results of abnormal returns on LDC loan exposure reveal LDC loan exposure to have significant explanatory power the day following the announcement and no other time in the two week window studied, indicating a reevaluation of stock prices based on previously unknown information of LDC loan exposure and policy on LDC loans.

Introduction

Unsecured loans to less developed countries (hereafter LDC loans) are an important part of the loan portfolios of large money-center and regional banks.¹ The effects of such loans on bank stock returns are of interest in academic and financial research. (See, for example, Bennett and Zimmerman (1988), Bruner and Simms (1987), Cornell and Shapiro (1986), McDermott (1988), Musumeci and Sinkey (1988), and Smirlock and Kaufold (1987)).

LDC loans have posed problems for banks since the early 1980s. Large portions of these loans are technically in default. Many of these loans have been

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¹According to a study by McDermott (1988), net nontrade exposure (LDC loans not in trade—loan loss reserves for these loans) to LDC loans is as much as twice the capital of some banks and is at least 100 percent of capital of other banks. The implication is that a total write-off of the loans would eliminate capital of these banks. Because the loans are of questionable quality and because many of the banks in this situation are large money-center banks, the implications are profound. For a complete discussion of LDC loans, see Koch (1988) or Sinkey (1986).

LDC loans have posed problems for banks since the early 1980s. Large portions of these loans are technically in default. Many of these loans have been rescheduled or the government of the country has declared a moratorium on principal and interest payments. In many cases, the loans have been rolled into new loans so that the country would have funds to pay principal and interest on the old loans and thus remain current.

The poor performance of these loans indicates that the loans are worth considerably less than the stated value at which they are carried on the books of the banks and that the chances of collection are slim. Bank managers, however, have been unwilling to write off the loans, write down their reported value, or add sufficient amounts to loan loss reserves to reflect the poor quality of these loans. Moreover, additional loans are made.

There are several reasons for such treatment of LDC loans by bank managers. First, many of the banks have invested heavily in such loans, and the previously stated actions (write-off, write-down, or additions to loan loss reserves) would erode the reported capital of the bank. Second, political pressure has been placed on these banks by the federal government to continue to support these loans (Sinkey (1986)). Reduction of exposure could be construed as a lack of commitment to these countries by the federal government. Third, reduction of exposure would require banks to reduce dividends, shrink, and possibly sell assets (Truell (1987)). Fourth, the banks may prefer not to reveal to the market the extent of their LDC loan exposure. The total amount is not generally known due to varying policies of disclosure (Harris (1988)). An approximate amount is known because banks are required to report LDC loans to individual countries that total over .75 percent of assets. In a money-center bank, however, that is a considerable sum. There is evidence that some banks ignore the .75 percent ruling and report loans only over 1 percent (Harris (1988)). Moreover, not all LDC loans sell at similar discounts on the market, which adds to the confusion. The quality of LDC loan portfolios varies considerably. Finally, it appears that bank examiners have adopted a hands-off policy and have not required banks to act on these loans, regardless of the payment status. Therefore, in practice, little negative action has been taken on these loans (Wall (1988)). As a result, information received by the market is that these loans are ignored. An action taken by banks is seen as an important event.

This paper examines the effects of a write-off that was announced by the Bank of Boston in December 1987. A write-off is defined as the removal of a loan or group of loans from the loan portfolio along with the removal of a comparable amount from the reserve for loan losses, a contra-asset. Small, periodic loan write-offs are part of day-to-day banking procedures and usually are unnoticed by the market. A large write-off, however, is often involuntary and is ordered by bank examiners upon discovery of the deteriorated condition of the

asset. Bank managers tend to be secretive regarding the composition and condition of the loan portfolio; the information given to the market by the write-off frequently is unexpected and should cause a decline in the stock price of the affected bank. In contrast, the event study performed in this paper provides evidence that the announcement of this large, voluntary (not demanded by the bank examiner) write-off signals a responsible managerial action. The action further signals that the bank is financially strong enough to write off the bad loans.

LDC loans are generally problem loans. Moreover, the market recognizes that some banks are heavily invested in these loans, more so than is revealed in the annual reports. Therefore, the stock prices of banks invested in LDC loans are depressed as a reaction to the problems of these loans. A large write-off of LDC loans may signal that the bank is managing these loans responsibly and the stock price of this bank should not be discounted as heavily as the stock prices of other banks that are not addressing the problem.

Effects of a Write-Off

The Stock Return Effect

The primary concern of any managerial action should be its effect on stockholders' wealth, as proxied by the value of the firm's stock. On December 14, 1987, the Bank of Boston announced that it would write off \$200 million of its LDC loans and place all but a small portion of the remainder on nonaccrual status (Chipello (1987a)). The announcement was a surprise to analysts (Chipello, 1987b)). Regional banks (i.e., banks with low LDC loan exposure) were expected to follow the lead of the Bank of Boston, although money-center banks (i.e., banks with high LDC loan exposure) were not (Truell (1987)).² Although this write-off was not the first, it was the first sizeable write-off and one of few that were publicly announced. Empirically, it is determined if the write-off is good news. If the write-off is good news, why is it so?

²The terms *money-center* and *regional* are used loosely. Actually, any abnormal return effect should be based on the level of LDC exposure/capital. Because some money-center banks have relatively low LDC exposure and some regional banks have high LDC exposure, the high versus low LDC exposure designation is used in this paper rather than money-center versus regional.

The Mechanics and Implications of Write-offs

A write-off involves reducing the reserve for loan losses contra-asset account while simultaneously reducing the loan asset account. If the amount remaining in the reserve account is too small, the bank is expected to increase its loan loss reserves to an appropriate level (Consolidated Report of Condition of Income Instructions (1986)). Increasing the loan loss reserve account involves increasing a contra-asset account and simultaneously expensing the amount on the income statement. This reduces income from operations after taxes and dividends. Because this amount is added to retained earnings, capital is increased by a lesser amount or reduced (Consolidated Report of Condition of Income Instructions (1986)). The result is that the loan is classified as uncollectible and is removed from the balance sheet.

Writing off the loan has several implications. First, the loan is recognized as being uncollectible. Second, by the act of removing the loan from the books, a lack of commitment to the continuation of a relationship to the debtor is signaled. The only continued action by the bank is to try to collect the loan, but at this time it is realized that the probability of collection is low. Moreover, bank management realizes that such loans are bad investments; it is not likely that additional loans will be made. Finally, a voluntary write-off indicates that the bank is financially sound with sufficient reserves and capital because of high earnings or that the loan represents a relatively small part of its loan portfolio.

Hypothesis

The hypothesis may be stated as follows:

The Bank of Boston announcement signals positive information to the market regarding banks with low LDC loan exposure and negative information regarding banks with high LDC loan exposure that has not been reflected in stock returns of banks. The nature of the information is such that although banks with low LDC loan exposure are invested in LDC loans, these banks have the financial strength to absorb the losses resulting from these loans, whereas banks with high LDC loan exposure do not. Further, the announcement signals a lack of commitment to LDC loans in the future on the part of banks with low LDC loan exposure which is good news for these banks.

Test of the Hypothesis

An event study is used to test the announcement effect, with further substantiation by a cross-sectional regression of abnormal returns on LDC loan exposure/capital. Event studies are heavily represented in the literature (Ahrony, Saunders, and Swary (1986), Bruner and Simms (1987), Dann (1981), Fraser, Richards, and Fosberg (1985), James (1983), Masulis (1980), Vermaelen (1981)). Because the announcement is a surprise, the announcement date is chosen as the event date. It is expected that low level LDC exposure banks would follow the lead of the Bank of Boston--future write-offs are expected events and should have no further effect on stock returns unless additional unexpected information is revealed (Truell (1987)).

The *Wall Street Journal Index* and *American Banker* are reviewed to determine if any bank-related announcements occurred during the announcement week to avoid confounding the results (Table 1). The announcement of the credit downgrading (December 7) is not expected to be a surprise, considering that news of the bad LDC loans is common knowledge. The literature shows some conflict regarding the stock return effects of news of a credit downgrading. Pinches and Singleton (1978) find no new information is revealed to the stockholders by the news of a credit downgrade, whereas Griffin and Sanvicente (1982) find new information is revealed during a credit downgrade. The announcement of the Basel agreement (December 10) regarding the capital requirements of banks is not expected to be a surprise event, as news of the proposed new capital requirements was available by the end of October 1987. Moreover, this agreement is not final. The announcement of increased OTC buying of computer and bank stocks (December 17) may be good news for banks (Smith (1987)). Smith describes this buying as the winter rally or January effect. The announcement may cause a follow-the-leader effect and increase the stock prices of all bank stocks. The announcement of the bill to give banks greater powers to engage in investment banking practices (December 18) may be good news for large banks that would be most likely to engage in this practice, provided that the bill passes and banks are expected to earn higher returns without significantly higher risk. The announcement of the increase in reporting requirements (December 18) should show no effect unless new information is revealed about the bank that previously was not available. The literature indicates that investors can see through changes in accounting procedures (Ball (1971) and Kaplan and Roll (1972)). It is not certain just what information is to be revealed, so the announcement should have no effect on bank stock prices at this time. Dividend announcements (December 7 through December 18) may provide additional information to the market about the individual bank. The announcements regarding the takeover of Irving Bank by the Bank of New York (December 10 and December 16) are not expected to

provide additional information to the market because Irving Bank had been fighting the takeover and new information would occur only if Irving stopped fighting the takeover. Because daily returns are used in this study, it can be argued that the announcement provided no additional information to the market if no significant abnormal returns occurred on or shortly after the date of the announcement.

The information made public on December 14, 1987 is that banks with low LDC loan exposure either are expected or able to write off LDC loans, whereas banks with high LDC loan exposure are not. Moreover, the burden of future LDC loans probably will be borne by banks with high LDC exposure. The announcement should be good news for banks not heavily invested in LDC loans and bad news for banks heavily invested in LDC loans. Additional announcements of write-offs by other banks not heavily invested in LDC loans that follow this announcement are not expected to convey additional information to the market. Therefore, the principle null hypothesis is:

H₀: Announcement of the Bank of Boston write-off had no effect on the share values of different types of banks.

The Data and Sample

The bank holding companies are selected from *Moody's Bank and Financial Manual*. The banks chosen satisfy the following strict criteria. The bank holding company must have a well-defined lead bank (Flannery and James (1984)). The assets of the lead bank must comprise at least 50 percent of the assets of the bank holding company. Because the stock of a bank is the stock of a bank holding company, this filter is necessary to ensure that the movements of the stock price represent changes in the bank and minimize the effects of other aspects of the bank holding company. To reduce biases, the bank stock must have traded continuously over the period April 1, 1987 through April 8, 1988 on at least a weekly basis. Finally, the banks had to have LDC loans in their loan portfolios. The presence of LDC loans is determined by studying annual reports or a report from Keefe, Bruyette, and Woods (McDermott (1988)). The result is a sample of 34 banks.

Daily bank stock returns are used.³ The S&P 500 index is used as the market index. A series comprising the returns on six month Treasury bills is

³Stock return data are collected from the CRSP tape where possible. Additional data are taken from the *Daily Stock Price Record* published by Standard & Poor's for the period April 1, 1987 through April 1, 1988. Daily closing or ask prices are selected. The prices are corrected for stock splits and dividends. This method of data collection is also used in Ahrony *et al.* (1986).

used as the interest rate index in the tests using the two index model.⁴ The sample of 34 banks is divided into two portfolios. The first portfolio consists of the stock of banks with net nontrade LDC loan exposure ((nontrade LDC loans - loan loss reserves of these loans)/capital) of at least 25 percent and is called *high LDC*. The second portfolio consists of the stock of banks with net nontrade LDC exposure of greater than 0 percent but less than 25 percent and is termed *low LDC*.⁵ The portfolios of bank stock returns are equally weighted. It is expected that each portfolio will react differently to the announcement. A negative abnormal return is expected from high LDC, and a positive abnormal return is expected from low LDC.

The Market Model

Abnormal stock returns from the portfolios of bank holding company stock are computed using Brown and Warner's (1980, 1985) methodology, i.e., the difference between expected stock returns and actual stock returns. A two index model attributed to Stone (1974) is used to estimate the expected stock returns. Stock returns of bank are argued to be sensitive to unexpected changes in interest rates, so the two index model is used. For purposes of comparison, the tests are rerun using the single index market model. This methodology is consistent with a study by Ahrony *et al.* (1986).

The two-index model is as follows:

$$(1) R_{jt} = \alpha + \beta_{jmt}R_{mt} + \beta_{jit}R_{it} + \epsilon_{jt}$$

where:

⁴Treasury bill rates are the auction rate. As the weekly return is required, these rates are converted to price and the weekly return is calculated. The choice of interest index is identical to that of Fraser *et al.* [16]. Evidence of rate sensitivity of stock returns of bank holding companies is contradictory. [See for example, Chance and Lane (1980), Flannery and James (1984), Gultekin and Rogalski (1979), Kane and Unal (1988), Musumeci and Sinkey (1988), Sweeny and Warga (1986), Unal and Kane (1987)]. Sweeny and Warga (1986) find the rate sensitivity of bank stock returns to be unstable. Unal and Kane's (1987) results provide evidence that bank stock returns showed no rate sensitivity to short-term rates, but are sensitive to long-term rates. At this time, it is not certain if bank holding company stocks are rate sensitive and, if so, to what indices. Therefore, the six month Treasury bill index is as acceptable as any other index.

⁵The net nontrade LDC/capital levels for banks were found in a study by McDermott (1988) or in annual reports.

R_{jt} = the return on stock of portfolio j at time t ;
 R_{mt} = the return on the market at time t ;
 R_{it} = the return on some interest rate index at time t ;
 ε_{jt} = the error term at time t .

The single index model is

$$(2) R_{jt} = \alpha + \beta_{jmt}R_{mt} + \varepsilon_{jt}$$

where all variables are the same as above except:

ε_{jt} = the error term at time t .

Methodology

The market and interest rate risk beta coefficient is estimated over the time period April 1, 1987 through April 1, 1988. The fourth quarter of 1987 is removed to avoid the effects of the event period and October 19, 1987. Kane and Unal (1988) criticize event studies on two points. First, the event date may not be known or events may cluster. Second, what appears to be an abnormal return may be an incorrect calculation generated by a structural break in the estimates of the coefficients. This means that the α or β estimates have changed and the abnormal return should be calculated using the new estimates. To determine if a structural break occurs, a Chow test is used that tests for a break around October 19, 1987, December 14, 1987, and the fourth quarter of 1987. The announcement date is used as the event date. The announcement came as a surprise to analysts (Chipello (1987b) and signals a new policy regarding LDC loans on the part of the banks with low LDC loan exposure. The time window studied is December 8 through December 18.

The methodology used to determine statistical significance of the difference between the actual returns and the expected returns is similar to that of Ahrony *et al.* (1986) and Dodd and Ruback (1977). The actual returns are compared to the estimated returns which were found using the market model. The average abnormal return during a given week is given by

$$(3) AR_t = (1/n)\sum \theta_{jt}$$

where:

n = the number of banks in the portfolio; and

$$\theta_{jt} = R_{jt} - (\alpha + \beta_{jmt}R_{mt} + \beta_{jit}R_{it}).$$

If the single index model is used,

$$(4) \quad AR_t = (1/n)\sum \Gamma_{jt}.$$

where:

n = the number of banks in the portfolio; and

$$\Gamma_{jt} = R_{jt} - (\alpha + \beta_{jmt}R_{mt}).$$

To determine if the abnormal return in any given week is statistically significant, the following test statistic is used (Dodd and Ruback (1977)):

$$(5) \quad SR_t = AR_t/SD_t \approx t(186)$$

where:

SD_t = the standard deviation of the average weekly portfolio residuals calculated during the 187 day period beginning April 1, 1987 through April 1, 1988, excluding the fourth quarter of 1987;

AR_t = independent and identically distributed across t with 186 degrees of freedom.

The cumulative abnormal return is

$$(6) \quad CR = \sum AR_t.$$

The t statistic is

$$(7) \quad t_{CR} = \sum SR_t/n^{.5}.$$

Again, it is assumed that the abnormal portfolio returns are independent and identically distributed across t (Fraser, Richards, and Fosberg (1985) and Vermaelen (1981)).

To determine if the abnormal return is explained by the level of LDC loans in the loan portfolio, the abnormal return for each bank is regressed on the level of LDC exposure using the following equation:

$$(8) \quad \Gamma_{jt} = \alpha_{jt} + \beta_{jt}LDC/CAPITAL_{jt} + \varepsilon_{jt}$$

where:

$LDC/CAPITAL_{jt} = (\text{nontrade LDC loans less allowances for loan loss reserves})/\text{capital}.$

Test Results

Data Problems

Multicollinearity between market and interest rate indices could occur.⁶ Using Kennedy's (1979) test, the market index is regressed on the Treasury bill index. The R^2 found in this regression is smaller than the R^2 of the regressions of stock returns on the market and Treasury bill indices together, indicating that multicollinearity is not a problem. It, therefore, is ignored.

A second problem is the possibility of a structural change occurring in the estimated coefficients at the time of black Monday (October 19, 1987). The null hypothesis tested at this time is as follows:

H_0 : The market event of October 19, 1987 initiated no structural change in bank market model coefficients.

⁶Multicollinearity results if the independent variables of a regression have a high degree of comovement (Kmenta (1986)). The presence of multicollinearity means that estimates of the variances are large. Therefore, the t statistics are reduced and the significance of the estimate of the coefficient is biased. This may not be a problem because the level of multicollinearity may be low and not create a problem. It is not a problem if the t statistics are greater than 2 or if the R^2 of the regression is greater than the R^2 found by regressing the two independent variables on each other (Kennedy (1979)).

A common procedure to solve the multicollinearity problem in this situation is to orthogonalize the two series, but the reduction in multicollinearity is exchanged for a biased estimate of all coefficients except the orthogonalized variable. When orthogonalizing two variables, one variable is regressed on the other and the error terms are substituted for the orthogonalized variable (dependent) in the original equation (Giliberto (1985)). The only time that the coefficients that are not orthogonalized are not biased is if the error term series substituted for the orthogonalized variable is the same as the vector of values that was orthogonalized; that is, the series are not cointegrated or have no comovement. When orthogonalizing, matrix Z replaces matrix X when estimating $y = \alpha + \beta X + \varepsilon$. Specifically, if Z and X are partitioned, $Z = [R:\varepsilon_k]$ and $X = [R:X_k]$. The variances are equal only if $X=Z$ or $\varepsilon_k = X_k$ for all k which means that the series is not correlated with the other series and the process of orthogonalizing has no effect. (For a discussion of cointegration, see Engel and Granger (1987).) In this case, multicollinearity would not exist.

A Chow test is performed by collapsing two separate portfolios of observations into the following equation (Kmenta (1986, p. 421)):

$$(9) R_i = \alpha_i + \beta_{im}R_{im} + \Gamma_{im}Z_{im} + \varepsilon_i$$

where:

$Z_{im} = 1$ if the observation occurred after October 19, 1987;

$Z_{im} = 0$ otherwise.

The time period studied is from January 1, 1986 through September 30, 1987 and November 1, 1987 through April 1, 1988. October 1987 data are omitted for previously discussed reasons. Weekly market and stock returns are used.

Using the Chow test, it is found that no structural change in market model coefficients is initiated by the market events on October 19, 1987 in this sample of banks. The F statistics are high LDC = .08 and low LDC = 1.9. As can be seen, no F statistic exceeds the critical value of 2.68, so no significant change occurred in the coefficients. Redoing the test to focus on December 14, 1987 shows similar insignificant results (F statistics are high LDC = 1.33 and low LDC = 1.6098, critical F = 2.68). Redoing the tests using daily data from April 1, 1987 through April 1, 1988 and omitting the fourth quarter of 1987 shows F statistics high LDC = 2.228 and low LDC = 2.29, critical F = 3.06. Therefore, the null hypothesis cannot be rejected; that is, there is no indication of a structural change in market model coefficients, either on October 19, 1987, December 14, 1987, or during the fourth quarter of 1987.

Abnormal Return Results

Table 2 shows the abnormal daily returns of both bank stock portfolios as well as the portfolio of all bank stocks using the single index market model.⁷ The abnormal returns are recalculated in the low LDC portfolio after excluding the Bank of Boston. To compare the abnormal returns of the two low LDC portfolios, the t statistic used is

$$(10) t = (x_1 - x_2) / \{[(n_1 s_1^2 + n_2 s_2^2) / (n_1 + n_2 - 2)] (1/n_1 + 1/n_2)\}^{-.5}.$$

⁷All tests are run using the single index and the two index model. The results are virtually identical.

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The abnormal returns of the portfolio excluding the Bank of Boston are not significantly different from the results of the portfolio including the Bank of Boston. The numbers in parentheses below the returns indicate the number of banks with positive abnormal returns listed first and the number of banks with negative abnormal returns listed second. Table 3 shows test results of a cross-sectional regression of abnormal returns on LDC loans/capital.

Daily Abnormal Returns

The announcement period is defined as December 14-15, 1987 (Dann (1981)). During the announcement period, the high LDC portfolio shows a statistically significant negative abnormal return on December 15 and a negative, but insignificant, abnormal return on December 14 (see Table 2). The portfolio named low LDC (both with and without the Bank of Boston) shows a statistically significant positive abnormal return on December 15 and an insignificant negative abnormal return on December 14. The lack of reaction on Monday, December 14 is a puzzle.⁸ Because December 15 is a part of the announcement period, however, the announcement is bad news for high LDC banks and good news for low LDC banks. Thus, the null hypothesis that high LDC bank stocks show no reaction to the announcement is rejected, as is the null hypothesis that low LDC bank stocks show no reaction to the announcement.

The information is a surprise to the market. The abnormal returns prior to the announcement date are insignificant for high LDC and low LDC banks. Significant abnormal returns also occur on December 17 (low LDC) and December 18 (both portfolios). These abnormal returns are a puzzle.⁹ Further testing (cross-sectional) will determine if the result is a delayed reaction to the Bank of Boston announcement.

⁸A telephone call to the Bank of Boston reveals that the announcement occurred at 9:00 A.M. on December 14. The announcement appeared in the *Wall Street Journal* on December 15, 1987. (Musumeci and Sinkey (1988) obtain a similar result, i.e., the significant reaction did not occur until May 20, 1987, although an important announcement occurred on May 19, 1987. They argue that the announcement was made after the stock exchange closed for the day.)

⁹Several possible explanations exist for this result. First, the return could be spurious. Second, the return could represent a delayed reaction to the announcement. Third, the reaction could be tied to the announcements mentioned in Table 1. At the time, a winter rally or January effect was proposed as the reason for the abnormal positive returns of some stocks (Smith (1987)). Finally, the announcement of the drafting of a bill permitting banks greater investment banking powers may affect bank stock prices.

The high LDC and low LDC portfolios are compared on a pair-wise basis to determine if the event period abnormal returns are significantly different from each other (James (1983)) using the *t* statistic in equation (10). The December 15 abnormal returns are significantly different from each other, whereas the abnormal returns on December 14 are not significantly different from each other.

The cumulative return of the event period is calculated for each group from December 14 through December 18. The result is not significantly different from zero for high LDC and significantly positive for low LDC. The announcements of December 17 and 18 are good news for all banks--this eliminates the negative return of the high LDC portfolio during the event period.

Cross-Sectional Results

To determine if the significant abnormal returns are explained by the level of LDC exposure, a cross-sectional regression is run to determine the explanatory power of LDC exposure on the abnormal returns of each day in the time period studied. The abnormal returns of the sample of banks are regressed on the level of LDC exposure (LDC loans/capital). Test results (Table 3) show a significant negative relationship between abnormal returns and LDC exposure on December 15, 1987 and no other day in the two week period. This means that LDC exposure has significant explanatory power of the abnormal returns on December 15, 1987 and further substantiates the results presented in Table 2. The abnormal returns for the other days are not explained by LDC exposure. Therefore, the abnormal positive returns of December 17 and 18 are caused by other factors than LDC announcement reactions.

Conclusion

The stocks of banks with a high net nontrade LDC loans/capital ratio show a significant negative abnormal return on December 15, 1987, while the stocks of banks with a low but nonzero net nontrade LDC loans/capital ratio show a significant positive abnormal return. The event revealed previously unknown information to the market regarding LDC loan exposure in the loan portfolios of banks and future policy on LDC loans. Hereafter, banks with low LDC exposure would be reluctant to make additional LDC loans, thus leaving the LDC burden to the high LDC exposure banks. The Bank of Boston announcement was good news for the low LDC banks, and bad news for the high LDC banks. The cross-sectional tests verify the inverse relationship between the December 15, 1987 abnormal returns and the level of LDC loans/capital. On no other day during the two week window was there a significant relationship between abnormal returns and LDC loans/capital.

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Table 1
Other Banking Events During the Event Period

Date	Event
12/07	Moody's placed the credit ratings of twelve large banks under review for possible downgrading because of their loans to developing countries.
12/10	It was agreed in Basel, Switzerland that the capital levels of banks should be 8 percent.
12/17	An article in the <i>Wall Street Journal</i> indicated that computer, retail, and banking stocks were being bid up by institutional investors buying in the over-the-counter market (Smith (1987)). Traders called it a <i>winter rally</i> or <i>January effect</i> .
12/18	The House Banking Committee Chairman Ferdinand St. Germain ordered his staff to draft a bill that would let banks engage in real estate development, insurance, and securities underwriting.
12/18	The FDIC became the first federal bank regulator to impose new requirements that banks make available to the public detailed data on their financial health.
	Individual Bank Specific Events
12/07-12/18	Dividend announcements: dividend increase, Bankers Trust, 12/16; JP Morgan, 12/10; Fifth Third Bank, 12/16.
12/10, 12/16	Irving Bank and The Bank of New York continue negotiations on the takeover of Irving Bank. Irving Bank rejects the offer.

Table 2
Individual Portfolio Abnormal Returns

Day	High LDC (13 Banks)	Low LDC (21 Banks)	Low LDC ** (20 Banks)
12/08	0.0089 (10, 3)*	-.0080 (9, 12)	-.000042 (9, 11)
12/09	0.0085 (11, 2)	0.0059 (14, 7)	0.0050 (13, 7)
12/10	-.011 (3, 10)	-.0025 (7, 14)	-.0037 (6, 14)
12/11	-.0019 (6, 7)	-.0044 (8, 13)	-.0020 (8, 12)
12/14 ^t	-.0082 (3, 10)	-.0038 (7, 14)	-.0051 (6, 14)
12/15	-.062 ^s (0, 13)	0.011 ^s (15, 6)	0.011 ^s (14, 6)
12/16	0.015 (10, 3)	0.0077 (14, 7)	0.0070 (13, 7)
12/17	0.0032 (5, 8)	0.011 ^s (13, 8)	0.0086 (12, 8)
12/18	0.040 ^s (13, 0)	0.028 ^s (17, 4)	0.025 ^s (16, 4)
Cumulative Return			
12/14-12/18	-.012 (4, 9)	.054 ^s (16, 5)	.047 ^s (15, 5)

^t Date of the Bank of Boston announcement

^s Statistically significant at the 5 percent level

* The parentheses first list the number of banks with positive abnormal returns and second the number of banks with negative abnormal returns

** The Bank of Boston is excluded from the sample

Table 3
Cross-Sectional Regression Results of
Abnormal Returns on LDC Loans/Capital

Day	Constant	LDC Loans/ Capital	R ^{2a}	F*
12/08	-.0033	-.0037	-.207	0.13
12/09	0.011	0.0030	-.029	0.076
12/10	-.0054	-.00096	-.029	0.064
12/11	-.0043	0.0018	-.024	0.21
12/14 ^t	-.0021	-.0073	0.046	2.60
12/15	0.0044	-.046 ^s	0.39	22.47 ^s
12/16	0.012 ^s	-.0032	-.023	0.26
12/17	0.010 ^s	-.0044	-.017	0.46
12/18	0.028 ^s	0.0098	0.019	1.65
Cumulative Abnormal Return	0.50 ^s	-.043 ^s	0.097	5.56 ^s

^t Date of the Bank of Boston Announcement

^s Statistically significant at the 5 percent level

^a Adjusted R²

* Critical F = 3.28

Appendix A
A Sample of Banks

	Bank	Location	Portfolio**
1.	Bank South	Atlanta, Georgia	L
2.	Centerre	St. Louis, Missouri	L
3.	City Trust	Bridgeport, Connecticut	L
4.	Comerica	Detroit, Michigan	L
5.	Crestar Financial	Richmond, Virginia	L
6.	Fifth Third Bank	Cincinnati, Ohio	L
7.	First National Bank of Boston	Boston, Massachusetts	L
8.	First National Bank of Louisville	Louisville, Kentucky	L
9.	First National Bank of Maryland	Baltimore, Maryland	L
10.	First Tennessee Bank	Memphis, Tennessee	L
*11.	First Union National Bank	Charlotte, North Carolina	L
*12.	First Wachovia Bank and Trust Company	Winston Salem, North Carolina	L
*13.	First Wisconsin National Bank	Milwaukee, Wisconsin	L
14.	Indiana National Bank	Indianapolis, Indiana	L
15.	Mercantile Bank	St. Louis, Missouri	L
*16.	National Bank of Detroit	Detroit, Michigan	L
*17.	NCNB National Bank of North Carolina	Charlotte, North Carolina	L
18.	Shawmut Bank of Boston	Boston, Massachusetts	L
19.	Signet Bank	Richmond, Virginia	L
*20.	Society National Bank	Cleveland, Ohio	L

Appendix A (continued)
A Sample of Banks

	Bank	Location	Portfolio**
21.	Valley National Bank Arizona	Phoenix, Arizona	L
22.	Bank of America	New York, New York	H
23.	The Bank of New York	New York, New York	H
24.	Bankers' Trust	New York, New York	H
25.	Chase Manhattan Bank	New York, New York	H
26.	Chemical Bank	New York, New York	H
27.	Citibank	New York, New York	H
28.	First National Bank of Chicago	Chicago, Illinois	H
29.	First Pennsylvania Bank	Philadelphia, Pennsylvania	H
30.	Irving Bank	New York, New York	H
31.	Manufacturers Hanover Trust Company	New York, New York	H
32.	Mellon Bank	Pittsburgh, Pennsylvania	H
33.	Morgan Guaranty Trust Company of New York	New York, New York	H
34.	Wells Fargo Bank	San Francisco, California	H

* The assets of the lead bank listed comprises 50 percent to 74 percent of the assets of the balance sheet of the bank holding company that owns it rather than 75 percent or more. The assets of the other banks represent over 75 percent of the assets of the bank holding company.

** H = High LDC/Capital; L = Low LDC/Capital