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# ANTICIPATING BAILOUTS: THE INCENTIVE-CONFLICT MODEL AND THE COLLAPSE OF THE OHIO DEPOSIT GUARANTEE FUND

by Ramon P. DeGennaro and James B. Thomson

Ramon P. DeGennaro is an associate professor of finance at the University of Tennessee, Knoxville. He thanks the John Fisher Faculty Development Fund for financial support. James B. Thomson is an assistant vice president and economist at the Federal Reserve Bank of Cleveland.



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**Abstract**

The collapse of the Ohio Deposit Guarantee Fund (ODGF) in March 1985 provides a laboratory for examining the financial market's belief in the incentive-conflict model proposed by Kane (1989). Research in this area has yet to examine the stock returns of federally insured institutions during that period in the context of this model. Thus, it has not addressed the question of whether financial-market participants recognize the implications of the model; that is, whether they anticipate the bailouts it implies. This paper fills that void.

We find that, on average, stocks of firms insured by the poorly capitalized Federal Savings and Loan Insurance Corporation (FSLIC) do reasonably well during the 41-day event window centered on the ODGF's Bank Holiday, while stocks of firms insured by the relatively well capitalized Federal Deposit Insurance Corporations (FDIC) do not. More important, differences in abnormal returns of FDIC and FSLIC firms are consistent with a reaffirmation of the incentive-conflict model.

## I. Introduction

The collapse of the Ohio Deposit Guarantee Fund (ODGF) in March 1985, triggered by the failure of E.S.M. Securities (ESM), is the most visible of a series of events that disrupted financial markets in early 1985. Among other effects, this incident challenged the credibility of federal government deposit guarantees. While others such as Cooperman, Lee, and Wolfe (1992) have analyzed the effect of this crisis on securities such as retail certificates of deposit, the implications of the ODGF's failure for stockholders of federally insured institutions and taxpayers have not been fully explored. This paper examines the stock returns of two distinct classes of financial institutions: those insured by the relatively well capitalized Federal Deposit Insurance Corporation (FDIC) and those insured by the relatively weak Federal Savings and Loan Insurance Corporation (FSLIC). This lets us gauge investors' perceptions of the relative strength of different government guarantees.

In addition, although the ODGF crisis occurred in 1985, this study is more than simply an historical analysis. That crisis provides a laboratory for examining the financial market's belief in Kane's (1989) contention that self-interested management and politicians have powerful incentives to make uninsured depositors whole. Kane and Kaufman (1992) report that the incentive-conflict model explains events surrounding a similar crisis in Australia, but they do not examine the stock returns of affected institutions. Thus, they do not address the separate question of whether financial-market participants recognized the model's implications; that is, whether they anticipated the bailouts implied by the model. This paper fills that void.

Kane and Unal (1990) and Thomson (1987a, 1987b) show that investors incorporate the value of deposit guarantees in the market value of the firm's equity. If investors believed that the effects of the ODGF crisis were confined to members of the ODGF, or that both the FDIC and the FSLIC could easily weather the storm (perhaps by drawing on implicit government guarantees), then the stocks of federally guaranteed institutions would show no effect. If, in contrast, they believed that the crisis signaled a weakness in the federal government's resolve to honor those guarantees, then the stock returns of insured institutions should reflect that assessment, and firms insured by the decapitalized FSLIC should suffer more than their FDIC-insured counterparts. Larger declines by FSLIC-insured institutions could also result from a belief that the influx of ODGF thrifts to FSLIC would reduce confidence in federal guarantees or lead to higher insurance premiums.

Finally, if investors viewed the ODGF crisis as reaffirming the incentive-conflict model, thereby signaling continued regulatory forbearance and a strengthening of implicit guarantees, the stock returns of FSLIC firms could exceed those of their FDIC counterparts. This is because reaffirming FDIC guarantees would have been relatively unimportant compared to reaffirming FSLIC guarantees. Better-capitalized depository institutions would also lose from continued forbearance, because insolvent institutions would continue to compete away lending margins. To the extent that FDIC-insured banks were better capitalized than FSLIC-insured firms, the former's stocks would have a less positive reaction to the government's handling of the ODGF. This interpretation implies that investors do not view the events predicted by the incentive-conflict model as a certainty. That is, they

might well believe that government bailouts of depositors are likely and that capital forbearance will probably continue, but that neither outcome is inevitable.

Our results show that the ODGF crisis produced much information important to financial markets, and that it did indeed have different impacts, depending on the insurer. On average, FSLIC firms did reasonably well during a 41-day event window centered on the ODGF's Bank Holiday, while FDIC firms did not. Stockholders of FDIC-insured firms began to absorb losses 19 days prior to the Bank Holiday. They also lost rather heavily during a two-day event period consisting of the Bank Holiday and the day before, and during the days shortly after. By comparison, though, FSLIC-insured thrifts lost early in the 41-day event window, began to recover about seven days before the Bank Holiday, and on average gained more than 2.1% during the event window. More important, differences in abnormal returns of FDIC and FSLIC firms were consistent with a reaffirmation of the incentive-conflict model. When government authorities moved towards a bailout of the ODGF, stock returns on FSLIC-insured institutions exceeded those of FDIC-insured institutions. When authorities sold off entry privileges to out-of-state banks, the relationship was reversed.

This paper is organized as follows: The next section states our hypotheses and describes our method and data. Section III reports the results. Section IV summarizes our findings.

## II. Hypotheses, Method, and Data

### Hypotheses

We test the following groups of hypotheses, each group predicting different stock-return behavior for institutions insured by the FSLIC and the FDIC:

1. Financial-market participants viewed the guarantees of the FSLIC and FDIC as a) comparable, or b) at least sufficient to weather the information released during the ODGF crisis.

2. Financial-market participants a) considered the credibility of FSLIC guarantees to be weakened by the crisis, or b) feared an influx of weak ODGF thrifts to the FSLIC that might lead to higher insurance premiums.

3. Financial-market participants viewed the ODGF crisis as a) increasing the likelihood of a federal bailout of the FSLIC fund, or b) reaffirming regulatory forbearance, in accordance with the incentive-conflict model.

Hypothesis 1 implies that abnormal returns on the stocks of FDIC-insured institutions would not differ significantly from those of their FSLIC counterparts. Hypothesis 2 implies that abnormal returns on the stocks of FSLIC-insured institutions would be lower than those of FDIC-insured firms. Finally, to the extent that investors view government bailouts as uncertain, Hypothesis 3 implies that abnormal returns on the stocks of FSLIC-insured institutions would be higher than those of FDIC-insured firms. Reaffirming regulatory forbearance for FDIC institutions is unimportant compared to a similar reaffirmation for those insured by the decapitalized FSLIC.

### Method

We apply a variant of the method used by Mikkelson and Partch (1986) to obtain our event-study results. Their approach uses the single-index market model to obtain predicted returns, standardizes the resulting prediction

errors, and constructs a Z-statistic to determine the statistical significance of these standardized prediction errors. Because the equities of financial institutions are in general more sensitive to interest rates than other stocks, we augment the market model with the yield on ten-year government bonds, as suggested by Stone (1974). We estimate the parameters of the market model using returns from 180 days prior to the event through 21 days prior to the event. The event-period window begins 20 days before the event date and continues until 20 days after it. The estimation equation is:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \gamma_j Y_t + \epsilon_{jt} \qquad (1)$$

where

$R_{jt}$ = return on security j on day t,

$R_{mt}$ = return on the equal-weighted portfolio, with dividends, provided by the Center for Research in Security Prices (CRSP), on day t,[1]

$Y_t$ = the yield on ten-year government bonds, and

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1. Brown and Warner (1980) report that a value-weighted index is more prone to problems than the equal-weighted index we use, and that using the equal-weighted index led to no major difficulties. To check our results, we replicated portions of our study using a value-weighted index with no important differences. In their later paper (1985), Brown and Warner report that even extreme event clustering has relatively little impact, although with similar industry groups some methods tend to reject the null of no abnormal performance too often. Using the two-index model in this paper helps to minimize this potential problem, and Brown and Warner (1985) report that using more complex approaches could result in potentially large losses in power. Most important, corrections for event clustering adjust the standard error of the abnormal returns, not the abnormal return itself. Given that our paper's main focus is the differences between FDIC and FSLIC institutions, event clustering is not likely to be a problem.

$\epsilon_{jt}$ = a mean-zero, serially uncorrelated error.

We calculate announcement-period prediction errors ($PE_{jt}$) using the estimated coefficients $\hat{\alpha}_j$, $\hat{\beta}_j$, and $\hat{\gamma}_j$ in equation (1):

$$PE_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt} + \hat{\gamma}_j Y_t) \tag{2}$$

We calculate standardized prediction errors (SPEs) by dividing each abnormal return in equation (2) by an estimate of its standard error:

$$SPE_{jt} = PE_{jt} / S_{jt}, \tag{3}$$

where

$$S_{jt} = \{V_j^2 \left[1 + \frac{1}{ED} + \frac{(R_{mt} - \bar{R}_m)^2}{\sum_{i=1}^{ED} (R_{mi} - \bar{R}_m)^2}\right]\}^{.5}. \tag{4}$$

In equation (4), $V_j^2$ equals the residual variance of firm j's augmented market-model regression given by equation (1), ED equals the number of days in the estimation period, and $\bar{R}_m$ equals the mean market-model return during the estimation period.

If the Ohio Bank Holiday had no effect on the stock returns of the financial institutions in our sample, these SPEs are not statistically different from zero. If investors perceived this event to be favorable (unfavorable) to these institutions, then the SPEs are significantly positive (negative). To form multiday Z-statistics, we sum the standardized daily returns for each firm across the observation period, average them

across firms, and divide by the sample standard deviation, $1/(\sqrt{N})$, where N is the number of firms.

A variation of the Mikkelson and Partch approach ([1986], hereafter MP) has been developed by Boehmer, Musumeci and Paulsen ([1991], hereafter BMP), who call their variation the standardized-cross-section method and provide evidence that it is robust to a variety of statistical problems, including event clustering. Because all firms in our sample experience the same event date, we also use the BMP method. However, this method does not generalize to multiday return intervals, and BMP report that the MP approach also works well. Consistent with this, we find that results from the BMP approach and the MP method do not differ substantially for one-day event windows. More important for our purposes, prediction errors from equation (2) are the same for both methods, so tests comparing them for FDIC and FSLIC institutions are not affected. Therefore, we concentrate the present analysis on results obtained from the MP approach. The BMP results are available on request.

Data

All of our tests use daily stock-return data from the tapes supplied by the Center for Research in Securities Prices (CRSP) at the University of Chicago. We include firms listed on the New York Stock Exchange, the American Stock Exchange, and those traded over the counter. Of these, 123 are FDIC insured, 66 are FSLIC insured, and one is insured by the Maryland Savings-Share Insurance Corporation (MSSIC).[2]

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2. We exclude firms with more than 40 missing returns during the estimation period, those with more than 10 consecutive missing returns, and those with a missing return on either the event date or the day before. We treat the MSSIC thrift as an FSLIC institution because excluding it leads to similar results.

## III. Results

The appendix presents an abbreviated list of important political events during the 41-day event window surrounding March 15, 1985. A more complete listing is available on request. On Thursday, February 28, Alexander Grant & Co., an outside auditor, released ESM's 1984 financial statements, only to withdraw them the next day, Friday, March 1, which was the final day that ESM was open. Because auditors spent the weekend studying the firm's books, it seems likely that news of its problems surfaced that Friday. After ESM failed, inflicting a loss of $150 million on Home State Savings (compared to the ODGF's net worth of about $136 million), the most likely dates for abnormal returns are Wednesday, March 6 (the first day of heavy runs at Home State Savings) and Wednesday, March 13 (when the Ohio legislature insufficiently recapitalized the ODGF). After the Bank Holiday on Friday, March 15, when the State of Ohio refused to put its full faith and credit behind the ODGF, key dates include Monday, March 18 through Wednesday, March 20. On that Monday, the state legislature passed a bill requiring ODGF thrifts to obtain federal insurance before reopening. On Tuesday, the FSLIC promised to speed applications from ODGF thrifts, but imposed higher capital standards on these applications. On Wednesday, the state legislature rescued the ODGF.

Table 1 contains the event-study results using the FDIC firms. The first two columns represent the calendar dates of the event period and the days in event time (relative to March 15). The next two columns list the daily average abnormal return (AAR) and the MP Z-statistic. The percentage of positive abnormal returns is next, followed by a binomial Z-statistic to determine the statistical significance of that value. Note that this test

does not simply test whether the percentage of positive returns differs from 50%, because stock returns are not equally likely to be positive or negative. To control for this, our binomial statistic tests against the null hypothesis that the percentage of positive returns is the same as that during the estimation period. Here, that value is 41.2%.[3] The last column of the table lists the cumulative abnormal return (CAR) for all 123 firms.

Table 1 also contains five sets of multiday statistics. These five are for the two-day event window encompassing day -1 and day 0, two six-day windows (from day -5 to day 0 and from day 1 to day 6), and two eleven-day windows (from day -10 to day 0 and from day 1 to day 11). In all cases, we also report Z-statistics testing the hypothesis that these returns do not differ statistically from zero. The longer observation windows are particularly valuable in studies of financial crises such as that involving the ODGF, which spanned several days.

Table 1 shows that a great deal of information reached the financial markets around this time. The MP Z-statistic is significant 12 of 41 times.[4] The binomial Z-statistic is significant six times. Figure 1 graphs the daily AAR and CAR for Table 1. There is no obvious trend in daily AARs, though the preponderance of negative values leads to a downward trend in the CAR beginning on day -19 and extending through day 10 before

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3. This does not extend to binomial tests of two-day abnormal returns, because there is more than one way to pair the days, and the results could differ depending on the choice of pairs. Therefore, the proportion of positive two-day abnormal returns is tested against 0.5.

4. Readers will note that the abnormal return and the MP Z-statistic sometimes have opposite signs, which is possible using this approach. Also, some care is needed when interpreting the event-study results because of potential problems with event clustering.

recovering somewhat towards the end of the event window, finishing at -39.5 basis points.

Although many events during this time suggest themselves as likely to generate abnormal returns, and the event-study results reveal that this was a time of rapid information release, the events identified in the media rarely seem to be the cause of the individual days' abnormal returns. For example, the court-ordered closure of ESM on March 4 generates a positive abnormal return, which is significant according to the binomial test. Conceivably, this represents a flight to quality, benefiting federally insured dealers in government securities, largely FDIC-insured banks. This is consistent with March 1: If ESM's problems leaked and caused a flight to quality, then we would expect to observe positive abnormal returns on that date, as well. A flight to quality can also explain the positive (although insignificant) abnormal return on March 6, the day of heavy runs on Home State.

A flight to quality cannot, however, explain the observed results for March 15 and March 18-20. The Bank Holiday itself leads to significantly negative abnormal returns, and the Ohio legislature's action on March 18, requiring ODGF thrifts to obtain federal insurance, also leads to negative (though insignificant) returns. The FSLIC's promise to speed the application process for ODGF thrifts leads to significant losses on Tuesday, March 19, and the formal rescue of the ODGF the next day leads to insignificantly negative abnormal returns. A flight to quality is inconsistent with the four consecutive losses, totaling almost 72 basis points, by institutions insured by the relatively strong FDIC.

The largest of these four consecutive losses occurred when the FSLIC promised to expedite new insurance applications on March 19. One view of this result is that investors interpreted the FSLIC action as signaling continued regulatory forbearance, to the detriment of well-capitalized institutions. Continued forbearance would mean that undercapitalized and insolvent firms would remain supercompetitors in the sense of Kane's (1989) zombie institutions. These firms, with little or nothing more to lose, would continue to bid down spreads on investments for healthy institutions.

The multiday statistics in Table 1 present a less complex picture. FDIC firms lose almost 30 basis points during the two-day event window encompassing day -1 and day 0, 16.6 basis points during the six-day period prior to and including the Bank Holiday, and a statistically significant 49.4 basis points during the six-day period beginning the day after the Bank Holiday. For the eleven-day window prior to and including the Bank Holiday, FDIC-insured institutions gain an insignificant 19.4 basis points, but this is offset by a loss of almost 34 basis points during the following 11 trading days. In brief, the stocks of FDIC-insured institutions suffer losses that are both statistically and economically significant on the Bank Holiday and during the period shortly thereafter.

Table 2 presents the results for FSLIC-insured thrifts. Only two days (February 26 and April 8) show significantly negative abnormal returns (compared to seven for FDIC institutions), and even a casual glance at the CAR reveals that these institutions did better than their FDIC-insured counterparts. As Figure 1 shows for FDIC institutions, the CAR turns negative very early in the event window and remains negative, finishing at -0.395%. In contrast, Figure 2 reveals that FSLIC firms have negative CARs

only for several days prior to the Bank Holiday and, after recovering before the event itself, the CAR finishes at a positive 2.137%. Further, there are no negative multiday prediction errors for FSLIC institutions. FDIC firms suffer statistically significant losses on the event day and after, whereas FSLIC firms enjoy statistically significant gains during the 11-day period preceding the Bank Holiday, and still more gains thereafter.

However, a formal test of the hypothesis that the daily abnormal return of FDIC-insured firms is equal to that of firms insured by the FSLIC is somewhat inconclusive. We conduct both a t-test and the nonparametric median test, each using all observations on abnormal returns from all institutions. The t-statistic is -1.21, which is not significant, while the statistic for the median test is -4.34, which is significant at the 1% level. We note that about a quarter of the observations in these tests precede the failure of ESM; there is no obvious reason for observations from this period to be different across insurers. Using observations beginning on the date of ESM's closing, the t-statistic is -1.61, which just misses significance at the 10% level, and the statistic for the median test is 3.71, which remains significant.

There is further evidence that financial-market participants distinguished between FDIC- and FSLIC-insured institutions: The difference between the abnormal returns of these groups is statistically reliable on seven days. The rightmost column of Table 2 presents t-tests of the difference between the abnormal returns on FDIC- and FSLIC-insured institutions. On four days the abnormal returns on FSLIC firms exceed those on FDIC institutions, and on three days the ranking is reversed. Further, most of the differences, especially those occurring after ESM failed and the

crisis began, occur on days likely to generate disparities of the appropriate size and sign.

For example, on March 12 the Federal Reserve agreed to help ODGF institutions prepare the documents necessary for FSLIC insurance. If financial markets interpreted this as signaling continued regulatory forbearance, FSLIC thrifts would be expected to benefit more than those insured by the solvent FDIC. Indeed, abnormal returns on the stocks of FSLIC-insured thrifts were statistically larger than those of their FDIC-insured counterparts on March 12. On April 4, the Ohio legislature considered an $85 million guarantee to prospective buyers of Home State, which probably signaled an impending bailout of the ODGF, as predicted by the incentive-conflict model. This, too, would have reaffirmed the implicit guarantee behind the insolvent FSLIC, and, as on March 12, average stock returns on FSLIC institutions were better than on their FDIC counterparts.

The incentive-conflict model also predicts that politicians are likely to sell off entry privileges as the result of a crisis. The Ohio legislature did indeed open the state to interstate banking, but not until October 1988, well after the end of our event window. However, the Maryland state legislature approved a bill on April 8, 1985 that allowed out-of-state banks to set up full-service banks in Maryland. One would expect this to cause the stock returns of FDIC-insured institutions to exceed those of FSLIC-insured thrifts. This is indeed the case: The t-statistic testing the difference in abnormal returns is 3.49, the most significant of all dates in the sample.

The difference in abnormal returns on April 15 is also readily explained, although not by events related to the ODGF. On April 15 the

Wall Street Journal reported that the Federal Home Loan Bank Board would recommend curbs on thrifts' junk-bond holdings. Not surprisingly, FSLIC institutions on average did worse than FDIC institutions on that day.

These results are not due to outliers, nor are they due to distributional properties of the returns. Deleting the most extreme outlier in these seven cases eliminates statistical significance only once, on March 12. Using the nonparametric Wilcoxon test, abnormal returns on FDIC institutions differ from FSLIC thrifts eight times instead of seven.

Of the three groups of hypotheses we consider, the incentive-conflict model is most consistent with the relatively strong performance of FSLIC institutions compared to that of their FDIC counterparts during the Ohio thrift crisis. According to this interpretation, the events of the period reaffirm the federal government's implicit backing of the FSLIC fund, as would be consistent with the incentive-conflict model. The FSLIC was widely suspected to be insolvent by March 1985; the FDIC was strong by comparison. Even if investors believed the predictions of the incentive-conflict model, they likely retained at least some doubt as to the strength of the government's backing of the FSLIC fund. However, after the State of Ohio rescued the ODGF, which it was not legally required to do, investors probably viewed the federal government's implicit guarantee of the FSLIC to be much stronger than before.

This interpretation does require that investors not place complete confidence in the incentive-conflict model. That is, implicit guarantees and taxpayer-funded bailouts may be natural outgrowths of elected officials' incentives to delay recognizing problems and to shift costs to the taxpayer,

but they are not considered inevitable, nor are depositors certain to be made whole.

This interpretation gains force because data constraints require us to select stock institutions; we obviously cannot examine the stock returns of mutual institutions. Given the year when the ODGF crisis occurred, most of our sample thrifts were likely to be recent conversions from mutual to stock charters. Recent conversions probably have stronger capital positions than do thrifts in general. If the market viewed the ODGF crisis as increasing the likelihood that the federal government would continue to forbear and to ignore the growing thrift-industry problems, it could reasonably expect such forbearance to act as a tax on better-capitalized firms, regardless of insurer, as zombie institutions would remain supercompetitors. Despite this and despite the unavoidable selection bias towards better-capitalized thrifts, our sample of FSLIC-insured thrifts enjoys higher stock returns than does our FDIC-insured sample.

## IV. Summary and Conclusions

This paper explores the effect of the collapse of the Ohio Deposit Guarantee Fund on insured financial institutions. We find evidence that this crisis produced much information important to financial markets, and, more important, that the markets treated FSLIC-insured thrifts differently from FDIC-insured institutions. FSLIC-insured thrifts enjoyed statistically significant, positive abnormal returns during the 11-day period prior to and including the Bank Holiday; FDIC institutions lost during the six-day period including and after the Bank Holiday. The cumulative average residual of

FSLIC-insured thrifts is 2.137%, while for FDIC-insured institutions the figure is -0.395%.

These results might seem counterintuitive, because by 1985 the FSLIC was widely recognized to be insolvent. One might have expected the stocks of FDIC firms to perform better than their FSLIC counterparts as investors fled to safer investments. We find the opposite. We argue that our finding is consistent with Kane's (1989) incentive-conflict model, which asserts that taxpayer-funded bailouts are a natural outgrowth of the moral-hazard problem that taxpayers face. Elected officials have incentives to delay recognition of problems and to shift costs to the taxpayer. The state bailout of the ODGF might have illustrated this point to investors, who revised their estimates of the federal government's intentions to continue capital forbearance and its implicit guarantee of the FSLIC fund. The case in favor of the incentive-conflict model gains force from t-tests for differences between the abnormal returns of the two groups. These tests frequently detect differences of the size and sign predicted by the model.

## Appendix: Important Political Events Surrounding March 15, 1985

Thursday, February 28, 1985
Alexander Grant & Co., ESM's outside auditor, releases a "clean unqualified opinion" of ESM's 1984 financial statements.

Friday, March 1, 1985
Alexander Grant & Co. withdraws ESM's 1984 financial statements, released the previous day. Auditors scrutinize its books all weekend.

Monday, March 4, 1985
ESM's auditor says its financial statements "may not be relied upon," and ESM is ordered closed by a federal court. The SEC files fraud charges and a federal district judge appoints a receiver.

Wednesday, March 6, 1985
A run on Home State begins, lasting through March 8.

Friday, March 8, 1985
Home State borrows from the Federal Reserve Bank of Cleveland and announces that it will be closed Saturday, March 9.

Saturday, March 9, 1985
Auditors report a $145 million insolvency at Home State, which closes, driving the ODGF insolvent.

Monday, March 11, 1985
Runs continue on ODGF thrifts. The Federal Reserve helps ODGF thrifts with document preparation to borrow from the discount window. Mr. Thomas Tew, ESM's court-appointed receiver, says that 13 local governments and customers of five ODGF institutions face losses of $315 million.

Wednesday, March 13, 1985
A bill recapitalizing the ODGF with state funds is signed into law during the evening, but funding levels are grossly insufficient and heavy runs continue at four ODGF thrifts. Federal Reserve Chairman Paul Volcker assures Ohio thrift executives that the Fed will provide cash advances at the discount rate.

Thursday, March 14, 1985
Major runs occur at six ODGF thrifts. The FSLIC offers insurance to ODGF institutions, but capital hurdles are too high and the process could take months. At an 8 p.m. press conference, Kenneth Cox, Ohio Director of Commerce, refuses to answer directly questions as to whether ODGF funds are unconditionally guaranteed by the state, and Federal Home Loan Bank Board chairman Edwin Gray refuses to provide immediate backing to ODGF firms that want federal insurance.

Friday, March 15, 1985
At a 7:30 a.m. press conference, Ohio Governor Richard F. Celeste announces a Bank Holiday, to last "at least" three days. The State of Ohio refuses to put its full faith and credit behind the thrifts.

Monday, March 18, 1985

The Ohio legislature, acting on a Sunday request by Governor Celeste, passes a bill requiring ODGF thrifts to have federal insurance before they can reopen.

Tuesday, March 19, 1985

The FSLIC promises to speed applications from ODGF thrifts, but imposes higher capital standards than those required for existing insured institutions.

Wednesday, March 20, 1985

During the early morning, the Ohio legislature passes a bill allowing ODGF thrifts to open with the possibility of limited withdrawals, and indemnifying FSLIC for losses incurred in ODGF institutions through July 1, 1987. Federal Reserve discount assistance is republicized.

Thursday, April 4, 1985

The Ohio legislature considers providing a financial guarantee of as much as $85 million to prospective buyers of Home State Savings Bank.

Sources: Cooperman, Lee, and Wolfe (1992), Kane (1992), and various issues of Barron's, the New York Times, and the Wall Street Journal.

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Table 1. Event Day: March 15, 1985 (ODGF Bank Holiday), FDIC-insured Firms

Number of companies used in estimation: 123

Average daily percent positive during the estimation period (from 180 days prior to the event though 21 days prior to the event): 41.2

| Date | Event Day | Daily AAR | Z-Stat. | % Pos. | Binomial Z-Statistic | CAR |
|---|---|---|---|---|---|---|
| 2/14 | -20 | 0.166 | -0.226 | 40.65 | -0.13 | 0.166 |
| 2/15 | -19 | -0.329 | -2.269* | 31.71 | -2.15* | -0.163 |
| 2/19 | -18 | 0.151 | -0.681 | 37.40 | -0.86 | -0.012 |
| 2/20 | -17 | -0.217 | -2.096* | 31.71 | -2.15* | -0.229 |
| 2/21 | -16 | -0.095 | -0.519 | 43.90 | 0.60 | -0.324 |
| 2/22 | -15 | -0.125 | -1.948 | 38.21 | -0.68 | -0.449 |
| 2/25 | -14 | -0.497 | -3.444* | 39.02 | -0.50 | -0.946 |
| 2/26 | -13 | 0.087 | 0.854 | 43.90 | 0.60 | -0.859 |
| 2/27 | -12 | -0.025 | 0.094 | 41.46 | 0.05 | -0.884 |
| 2/28 | -11 | -0.210 | -2.364* | 34.96 | -1.41 | -1.094 |
| 3/1 | -10 | 0.272 | 2.405* | 40.65 | -0.13 | -0.822 |
| 3/4 | -9 | 0.130 | 1.179 | 51.22 | 2.25* | -0.692 |
| 3/5 | -8 | 0.072 | 0.841 | 43.90 | 0.60 | -0.620 |
| 3/6 | -7 | 0.052 | 1.387 | 43.90 | 0.60 | -0.568 |
| 3/7 | -6 | -0.166 | -0.679 | 47.15 | 1.33 | -0.734 |
| 3/8 | -5 | -0.038 | 0.265 | 39.84 | -0.31 | -0.772 |
| 3/11 | -4 | -0.159 | 0.041 | 42.28 | 0.23 | -0.931 |
| 3/12 | -3 | 0.192 | 1.507 | 42.28 | 0.23 | -0.739 |
| 3/13 | -2 | 0.138 | 0.582 | 51.22 | 2.25* | -0.601 |
| 3/14 | -1 | -0.046 | -0.358 | 39.84 | -0.31 | -0.647 |
| 3/15 | 0 | -0.253 | -2.408* | 34.96 | -1.41 | -0.900 |
| 3/18 | 1 | -0.084 | -1.426 | 45.53 | 0.97 | -0.984 |
| 3/19 | 2 | -0.266 | -3.095* | 30.89 | -2.33* | -1.250 |
| 3/20 | 3 | -0.115 | -1.000 | 39.84 | -0.31 | -1.365 |
| 3/21 | 4 | 0.125 | 0.894 | 42.28 | 0.23 | -1.240 |
| 3/22 | 5 | -0.024 | -0.530 | 43.90 | 0.60 | -1.264 |
| 3/25 | 6 | -0.130 | -2.243* | 43.90 | 0.60 | -1.394 |
| 3/26 | 7 | -0.050 | -0.394 | 35.77 | -1.23 | -1.444 |
| 3/27 | 8 | -0.061 | -0.402 | 34.96 | -1.41 | -1.505 |
| 3/28 | 9 | 0.042 | 0.450 | 40.65 | -0.13 | -1.463 |
| 3/29 | 10 | -0.089 | -0.970 | 31.71 | -2.15* | -1.552 |
| 4/1 | 11 | 0.312 | 3.800* | 43.90 | 0.60 | -1.240 |
| 4/2 | 12 | 0.026 | -0.649 | 43.09 | 0.42 | -1.214 |
| 4/3 | 13 | 0.130 | 0.343 | 49.59 | 1.88 | -1.084 |
| 4/4 | 14 | -0.179 | -1.800 | 38.21 | -0.68 | -1.263 |
| 4/8 | 15 | 0.320 | 2.844* | 51.22 | 2.25 | -0.943 |
| 4/9 | 16 | -0.103 | -1.457 | 45.53 | 0.97 | -1.046 |
| 4/10 | 17 | 0.352 | 3.992* | 47.97 | 1.52 | -0.694 |
| 4/11 | 18 | 0.148 | 2.853* | 46.34 | 1.15 | -0.546 |
| 4/12 | 19 | 0.210 | 1.864 | 43.90 | 0.60 | -0.336 |
| 4/15 | 20 | -0.059 | -0.504 | 39.02 | -0.50 | -0.395 |

| | | |
|---|---|---|
| Average percent prediction error for day -1 through day 0 | = | -0.299 |
| Z-Statistic for day -1 through day 0 | = | -1.956* |
| Percent positive prediction errors, day -1 through day 0 | = | 32.520 |
| Binomial Z-statistic for day -1 through day 0 | = | -3.877* |
| Average percent prediction error for day -5 through day 0 | = | -0.166 |
| Z-Statistic for day -5 through day 0 | = | -0.152 |
| Average percent prediction error for day 1 through day 6 | = | -0.494 |
| Z-Statistic for day 1 through day 6 | = | -3.021* |
| Average percent prediction error for day -10 through day 0 | = | 0.194 |
| Z-Statistic for day -10 through day 0 | = | 1.435 |
| Average percent prediction error for day 1 through day 11 | = | -0.339 |
| Z-Statistic for day 1 through day 11 | = | -1.482 |

* indicates significance at the 5% level.

Event Day: Day relative to the event date.

Daily AAR: Average abnormal return for the day.

Z-Stat: Z-statistic testing the hypothesis that the Daily AAR is zero.

% Pos: Percent of abnormal returns greater than zero on the day.

Binomial Z-Stat: Binomial statistic testing the hypothesis that the proportion of positive abnormal returns on the day is greater than the proportion during the estimation period.

CAR: Cumulative abnormal return.

Source: Authors' calculations.

Table 2. Event Day: March 15, 1985 (ODGF Bank Holiday), FSLIC-insured Firms

Number of companies used in estimation: 67

Average daily percent positive during the estimation period (from 180 days prior to the event though 21 days prior to the event): 46.8

| Date | Event Day | Daily AAR | Z-Stat. | % Pos. | Binomial Z-Statistic | CAR | t-Test, FDIC vs. FSLIC |
|---|---|---|---|---|---|---|---|
| 2/14 | -20 | 0.443 | 2.174* | 49.25 | 0.40 | 0.443 | -0.57 |
| 2/15 | -19 | 0.034 | -0.233 | 52.24 | 0.89 | 0.477 | -0.90 |
| 2/19 | -18 | -0.360 | -0.804 | 49.25 | 0.40 | 0.117 | 1.07 |
| 2/20 | -17 | -0.126 | -0.410 | 38.81 | -1.32 | -0.009 | -0.33 |
| 2/21 | -16 | 0.608 | 2.637* | 64.18 | 2.84* | 0.599 | -2.42* |
| 2/22 | -15 | -0.242 | -0.453 | 52.24 | 0.89 | 0.357 | 0.34 |
| 2/25 | -14 | -0.456 | -1.550 | 46.27 | -0.09 | -0.099 | -0.15 |
| 2/26 | -13 | -0.529 | -2.304* | 37.31 | -1.56 | -0.628 | 2.36* |
| 2/27 | -12 | -0.159 | 0.229 | 41.79 | -0.83 | -0.787 | 0.55 |
| 2/28 | -11 | -0.275 | -1.322 | 34.33 | -2.05* | -1.062 | 0.19 |
| 3/1 | -10 | -0.019 | 1.130 | 26.87 | -3.28* | -1.081 | 0.77 |
| 3/4 | -9 | 0.072 | 0.053 | 59.70 | 2.11* | -1.009 | 0.13 |
| 3/5 | -8 | -0.261 | -0.869 | 38.81 | -1.32 | -1.270 | 1.09 |
| 3/6 | -7 | 0.558 | 1.974* | 67.16 | 3.33* | -0.712 | -1.48 |
| 3/7 | -6 | 0.127 | 0.962 | 58.21 | 1.87 | -0.585 | -0.88 |
| 3/8 | -5 | 0.354 | 1.570 | 50.75 | 0.64 | -0.231 | -1.43 |
| 3/11 | -4 | -0.386 | -1.195 | 47.76 | 0.15 | -0.617 | 0.59 |
| 3/12 | -3 | 0.843 | 2.615* | 55.22 | 1.38 | 0.226 | -2.08* |
| 3/13 | -2 | 0.209 | 0.905 | 59.70 | 2.11* | 0.435 | -0.33 |
| 3/14 | -1 | -0.018 | -0.363 | 44.78 | -0.34 | 0.417 | -0.10 |
| 3/15 | 0 | 0.126 | 0.430 | 55.22 | 1.38 | 0.543 | -1.25 |
| 3/18 | 1 | 0.013 | -0.669 | 50.75 | 0.64 | 0.556 | -0.32 |
| 3/19 | 2 | -0.239 | -1.940 | 37.31 | -1.56 | 0.317 | -0.06 |
| 3/20 | 3 | 0.049 | -0.333 | 46.27 | -0.09 | 0.366 | -0.47 |
| 3/21 | 4 | 0.163 | 0.109 | 41.79 | -0.83 | 0.529 | -0.13 |
| 3/22 | 5 | 0.137 | 0.634 | 49.25 | 0.40 | 0.666 | -0.60 |
| 3/25 | 6 | 0.438 | 1.532 | 64.18 | 2.84* | 1.104 | -1.96* |
| 3/26 | 7 | -0.003 | 0.477 | 44.78 | -0.34 | 1.101 | -0.19 |
| 3/27 | 8 | 0.000 | -0.435 | 32.84 | -2.30* | 1.101 | -0.18 |
| 3/28 | 9 | 0.048 | 0.435 | 40.30 | -1.07 | 1.149 | -0.03 |
| 3/29 | 10 | -0.073 | -0.763 | 34.33 | -2.05* | 1.076 | -0.06 |
| 4/1 | 11 | 0.130 | 0.263 | 35.82 | -1.81 | 1.206 | 0.49 |
| 4/2 | 12 | -0.074 | 0.097 | 53.73 | 1.13 | 1.132 | 0.35 |
| 4/3 | 13 | 0.394 | 1.552 | 52.24 | 0.89 | 1.526 | -0.85 |
| 4/4 | 14 | 0.790 | 3.423* | 50.75 | 0.64 | 2.316 | -3.01* |
| 4/8 | 15 | -0.860 | -3.235* | 38.81 | -1.32 | 1.456 | 3.49* |
| 4/9 | 16 | 0.134 | 1.326 | 55.22 | 1.38 | 1.590 | -0.79 |
| 4/10 | 17 | -0.045 | 0.045 | 40.30 | -1.07 | 1.545 | 1.26 |
| 4/11 | 18 | 0.592 | 2.697* | 44.78 | -0.34 | 2.137 | -1.42 |
| 4/12 | 19 | 0.624 | 2.135* | 56.72 | 1.62 | 2.761 | -1.46 |
| 4/15 | 20 | -0.624 | -1.881 | 25.37 | -3.52* | 2.137 | 2.06* |

| | |
|---|---|
| Average percent prediction error for day -1 through day 0 | = 0.108 |
| Z-Statistic for day -1 through day 0 | = 0.047 |
| Percent positive prediction errors, day -1 through day 0 | = 49.254 |
| Binomial Z-statistic for day -1 through day 0 | = -0.122 |
| Average percent prediction error for day -5 through day 0 | = 1.128 |
| Z-Statistic for day -5 through day 0 | = 1.618 |
| Average percent prediction error for day 1 through day 6 | = 0.561 |
| Z-Statistic for day 1 through day 6 | = -0.272 |
| Average percent prediction error for day -10 through day 0 | = 1.605 |
| Z-Statistic for day -10 through day 0 | = 2.175* |
| Average percent prediction error for day 1 through day 11 | = 0.664 |
| Z-Statistic for day 1 through day 11 | = -0.208 |

* indicates significance at the 5% level.

Event Day: Day relative to the event date.

Daily AAR: Average abnormal return for the day.

Z-Stat: Z-statistic testing the hypothesis that the Daily AAR is zero.

% Pos: Percent of abnormal returns greater than zero on the day.

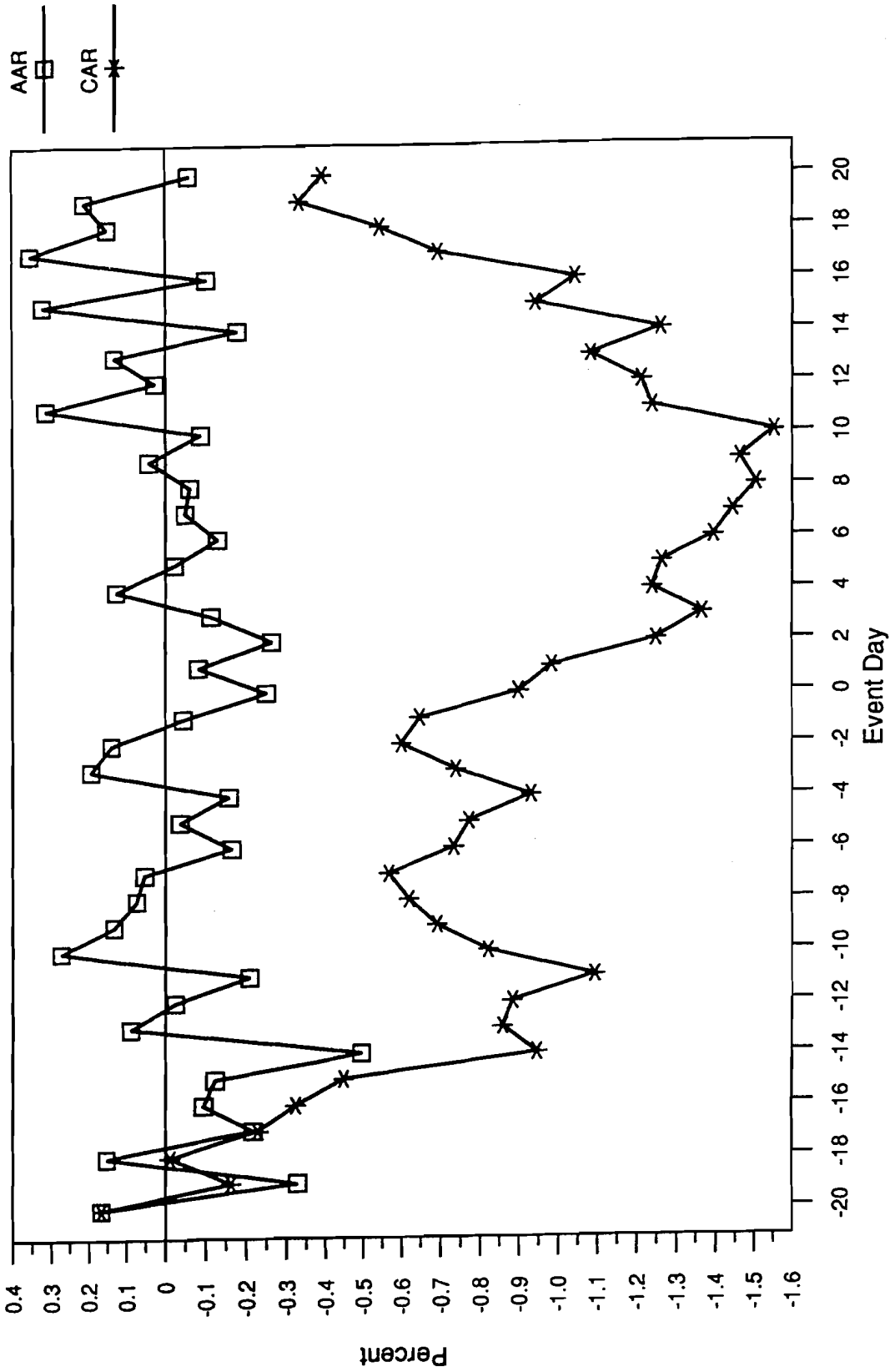
Binomial Z-Stat: Binomial statistic testing the hypothesis that the proportion of positive abnormal returns on the day is greater than the proportion during the estimation period.

CAR: Cumulative abnormal return.

In the rightmost column, positive values signify that the abnormal returns for FDIC institutions exceed the abnormal returns for FSLIC institutions.

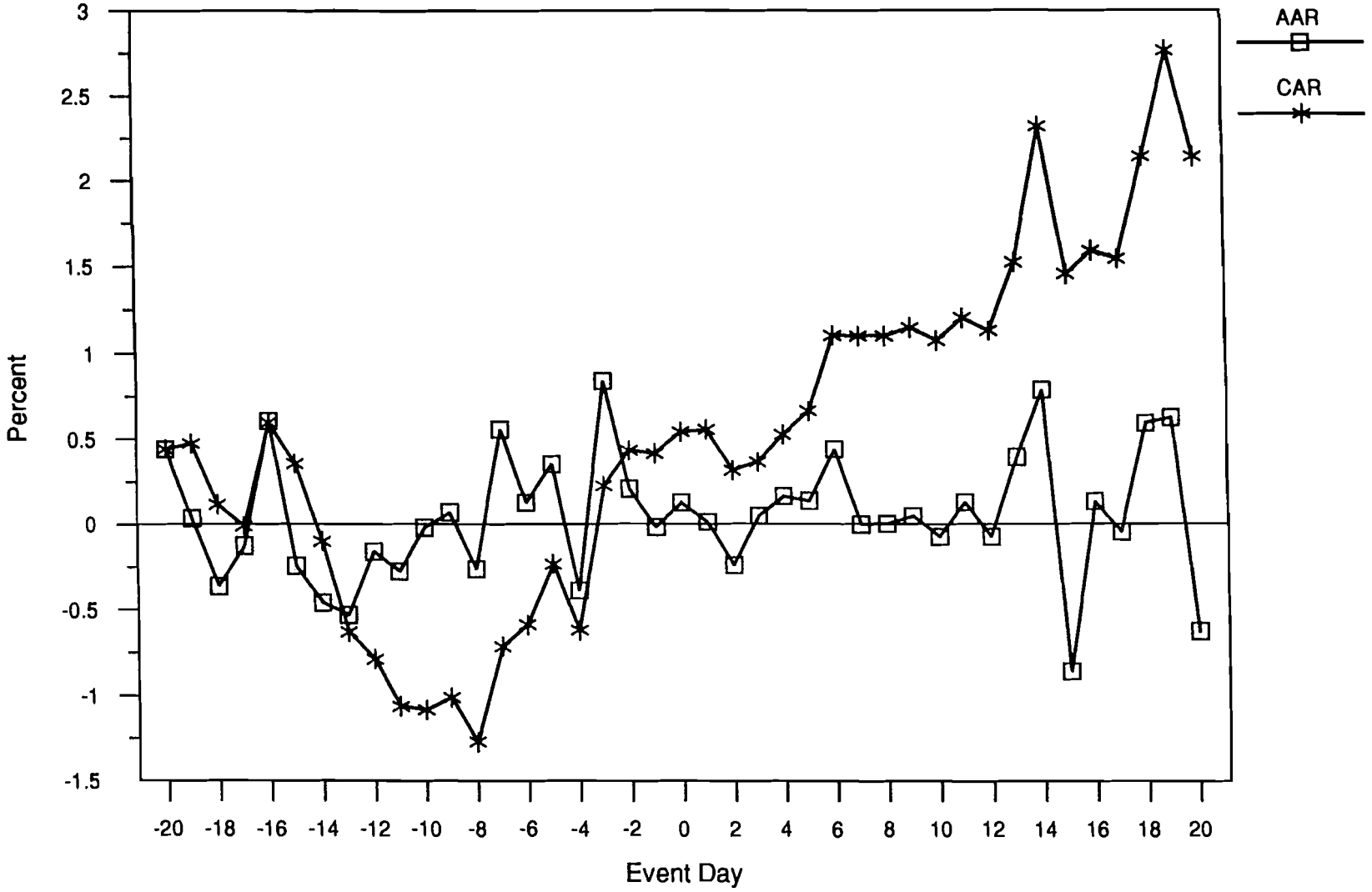
Source: Authors' calculations.

**Figure 1**
**FDIC-Insured Firms**




Source: Authors' calculations.

## Figure 2
## FSLIC-Insured Firms




Source: Authors' calculations.