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Stock Market Reaction to Regulatory Action in the Continental Illinois Crisis*

This study examines the stock market reaction to the Continental Illinois crisis and the regulatory action taken in response to that crisis. Through the use of stock market data, this study reveals that there was significant market response to the crisis in terms of both negative abnormal returns and positive abnormal volume of trading. The most significant effect was found in those banks that had a large amount of Latin American debt and other nonperforming assets. But while there was a clear market reaction to information revealed in the crisis about banks' asset quality and regulatory policy, depositors apparently did not withdraw funds in the massive way that regulators anticipated.

I. Introduction

Continental Illinois Corporation is a bank holding company whose principal subsidiary is Continental Illinois National Bank, a wholesale unit bank.[1] In December 1983, it was the eighth largest bank in the United States and the largest in the Midwest. It had assets of $42.1 billion, 75% of which were financed by rate sensitive liabilities.[2]

Restricted by Illinois law from branching, Continental relied heavily on large deposits from other domestic banks (about 16%) and on foreign deposits (40%). These were liquid short-term deposits, and their withdrawal was the precipitating factor in the virtual collapse of the bank in May 1984. Moreover, insured deposits amounted to only $3 billion (Isaac 1984, p. 3). Thus Continental Illinois was bearing high liquidity risk and interest rate risk, relative to other money center banks.

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1. The distinction between the holding company and the bank is an important regulatory issue in the Continental Illinois crisis and is discussed later (see Black, Miller, and Posner 1978; Swary 1983). The terms "bank" and "holding company" are used interchangeably.

2. For various measures of these risks and an industry comparison, see *Bank Analysts' Quarterly Handbook* (1984).

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Following a period of rapid expansion in a stable interest rate environment, the bank was badly hurt when rates rose unexpectedly following the shift in the monetary policy regime on October 6, 1979. In addition, the bank suffered heavy losses from foreign loans and from oil and energy loans it had taken from Penn Square, the Oklahoma bank that collapsed unexpectedly in July 1982.

The extent of the troubles of Continental Illinois first surfaced publicly in the first quarter of 1984, when the bank reported an increase of $400 million in nonperforming loans to $2.3 billion, a figure that exceeded Continental Illinois stockholders' equity. In May 1984, rumors of the bank's problems led to a massive run on its deposits, and total deposits decreased by $10.8 billion during 1984 alone. At that time the authorities apparently came to the conclusion that the problems of Continental would not remain self-contained and decided to take action.

The fear that the failure of one bank might cause a collapse of confidence in the system as a whole and lead to a chain reaction of bank runs by depositors has always been one of the main reasons for regulation.[3] That fear was frequently voiced by regulators during the Continental Illinois crisis.[4] On the other hand, the chairman of the House Banking Committee charged that the FDIC concocted a misleading "domino theory" to justify the rescue of Continental Illinois Corporation.

An additional consideration was the instability of the banking system as a whole resulting from the deterioration in the quality of both domestic and foreign loans and the added risks in the wake of deregulation. That instability was qualified by the perception that the banks enjoyed regulatory backing, a perception that was not closely examined until the Continental Illinois crisis occurred.

The purpose of this study is to analyze the Continental crisis in an attempt to detect its effect, if any, on the performance of the banking industry as reflected in capital market data, share price changes, and volume of trading. This analysis focuses on groups of banks that could be vulnerable to a similar run on deposits, in an attempt to determine the degree to which one bank's crisis affects others. In addition, the implications of the regulators' policy are also examined.

The approach adopted herein relies on the event study methodology,

3. See, e.g., Meltzer 1967; Dean and Giddy 1981; and Diamond and Dybvig 1983. In addition, Bernanka (1983) provides evidence from the Great Depression of the real costs of bank runs.

4. For example, Chairman Paul A. Volker stated (1984, p. 16) that, if Continental deposits of over $100,000 were not guaranteed, questions would be raised "about whether pressures would extend to banks that might be in a fundamentally more solid position than Continental was." The FDIC chairman, William Isaac, warned (1984, p. 9), "The cost of the domino effect, as other banks failed, would have been incalculable."

based on a market model for stock returns and a modified log form market model for the volume of trading.

In Section II the potential effect of the Continental crisis is examined and the various degrees of bank vulnerability to it are categorized according to the bank's solvency and reliance on FDIC extended coverage. Section III includes a discussion of the methodology and estimation procedure, and Section IV presents the effect of the crisis on bank stocks' profitability. In Section V the effect of the crisis on trading of bank stocks is examined, in Section VI the empirical results are further analyzed, and, finally, Section VII summarizes the study.

II. Stock Market Reactions to Continental Crisis

The Continental Illinois crisis could potentially affect bank stockholders' wealth in two ways. First, a crisis in a bank of Continental's size could cause the public to lose confidence in solvent banks, thereby causing their share price to decline. This is the bank-run effect. Second, information about regulatory policy and banks' asset quality that is revealed by the crisis could lead investigators to revise their valuation of other banks. This is the informational effect (see Aharony and Swary 1983).

According to the bank-run effect, any bank failure leads depositors, in particular, uninsured depositors, to become less confident in the solvency of their own institution and hence to withdraw their funds. Such a withdrawal of funds forces these banks to borrow expensive funds or liquidate assets, thus reducing shareholders' profits. These potential losses motivate government authorities to take actions or adopt policies to limit this behavior.

The informational effect states that the market response to a bank failure is based on the information revealed. Accordingly, the market reaction to the Continental crisis reflects the assimilation of news regarding regulatory policy and banks' asset quality.

A crisis in a bank the size of Continental Illinois could conceivably give rise to both effects. Continental was heavily dependent on interbank loans. The chairman of the FDIC, William Isaac (1984, p. 3), estimated that 179 banks that had uninsured deposits with Continental greater than half their total equity would have been seriously jeopardized if the bank had been allowed to fail. (The House Banking Committee, however, puts the number at only 28.) Regulators felt that the entire banking system could have been destabilized by a failure at Continental, given the additional problems stemming from deregulation and the general deterioration in banks' assets (see Thurow 1984).

The increased risk can be seen in the sharp rise in the number of U.S. bank failures. There were 79 commercial bank failures in 1984, compared with 48 in 1983, 42 in 1982, and far fewer failures in prior

years. Questionable loans totaled 58% of equity capital for all insured banks in 1983 ("Behind the Banking Turmoil" 1984, p. 101). For many larger banks, such loans amount to more than 100% of shareholder equity, casting some doubt on their solvency (see table 1).[5]

Clearly, what enables these banks to continue to attract deposits and remain viable is FDIC coverage (see Diamond and Dybvig 1983). In the past, the FDIC provided de facto 100% coverage to all depositors, mainly by arranging purchase and assumptions merger. One important exception, however, is the Penn Square failure in 1982.[6] Any changes in this policy as a result, for example, of the increased number of failures could destabilize the entire banking system, given the large number of banks whose solvency was questionable.[7]

The FDIC insurance fund is currently almost $17 billion (accumulated through premia charged banks and the interest earned on investments). But the ratio of the fund to total insured deposits is shrinking (see FDIC 1984, table 129). From 1938 to 1980, the annual losses and expenses to the fund were less than 5% of bank premia. In 1981 and 1982, losses totaled 74% of the premia received. And the $4.5 billion the FDIC provided as part of the Continental rescue represented 26.8% of its funds, a figure larger than the combined total spent on all previous rescues. Thus the Continental failure calls into question the ability of the FDIC to guarantee its liabilities, which then raises the question of who will come to the aid of the FDIC.

On March 16, 1982, Congress passed a resolution (Res. 290, 97th Cong.) affirming that insured deposits are in fact backed by the "full faith and credit of the U.S."[8] Thus there is no doubt that the government provides a full backing of insured deposits. But if FDIC funds are insufficient, uninsured depositors might not be paid.

III. Methodology and Estimation Procedure

A. Critical Events Preceding Continental Crisis

In order to determine whether Continental's failure in fact had an effect on the wealth of bank shareholders, I focus on those dates when infor-

5. Since bankruptcy is a legal phenomenon, I refer to financial insolvency (i.e., losses that exceed stockholders equity) as failure in economic terms.

6. For reviews, see Barnett, Horovitz, and Silverberg (1977); and *The FDIC* (1984).

7. Diamond and Dybvig (1983) compare the pre-1930 arrangement to prevent bank runs to the post-1930 one. They support the FDIC arrangement as a binding commitment to bail out banks unconditionally, as compared to the discretionary power of the Federal Reserve (pre-1930). The Fed's discretionary power led to uncertainty for depositors and creditors. They ignore, however, the discretionary power of the FDIC to liquidate failed banks (limited coverage) or to arrange purchase and assumption (100% coverage). This power could lead to uncertainty for ininsured depositors and creditors as well.

8. The FDIC has the right to borrow up to $3 billion from the U.S. Treasury to be paid back at the market rate of interest, but it has never exercised this right.

mation about the deteriorating solvency of the bank was revealed (see App.). The two major events were, first, the interim rescue plan that contained the FDIC announcement that it would guarantee all deposits including those above the maximum $100,000 (*EW*) and, second, the permanent rescue plan (*W* + 10).[9]

Assuming market efficiency, unanticipated (unfavorable) information about Continental should be reflected in bank stock prices and the volume of trading. The point of departure of this study is that there is a relation between Continental's problems and the abnormal behavior of its stock price and the volume of trading. This study then examines the abnormal performance of other bank stocks at that time. (A 6-month time frame prior to the announcement of the permanent rescue was adopted for the purpose of this study. The *New York Times* and the *Wall Street Journal* were the main sources of information employed.)

B. Data

To study the effect of the Continental crisis on the banking industry, I selected a sample of 68 banks (including Continental). This sample included virtually all actively traded banks: 38 on the NYSE or the ASE and 30 on the OTC market.

To test the extent to which a bank-run or an informational effect exists, the sample of banks in the survey is broken down into two classes (see table 1). Class A includes all those banks whose solvency was questionable, and class B includes the solvent banks. Class A is further divided into those banks that managed liabilities and those that did not.

At the time of the sampling, 46 were solvent banks, and 21 had "problem" loans or "questionable" debts (as a percentage of shareholders' equity) that were similar to those of Continental. Within the latter category a subset of banks relied on liability management and hence were much more dependent on 100% insurance coverage in addition to their solvency being questionable (see table 1). The questionable group included all the money center banks, thus allowing a test of the hypothesis that big banks are generally immune to bankruptcy because the regulators will not allow them to fail (see, e.g., Horvitz 1975; Mayer 1975; and Pettway 1980).

To be included in the sample, each bank was required to have data available on weekly rates of return and volume of trading for 2 years prior to March 10, 1984 (several weeks before the deterioration in Continental), and through August 10, 1984 (2 weeks after the perma-

9. The interim rescue plan was announced in a "Joint News Release" by the comptroller of the currency, the FDIC, and the Federal Reserve Board on May 17, 1984. The permanent assistance program for Continental Illinois National Bank was announced by the three banking agencies on July 26, 1984.

TABLE 1 **Estimates of Insolvency Risk of U.S. Banks, December 31, 1983**

Banks and Bank Holding Companies	Total Assets ($000,000) (1)	Net Purchased Liabilities as % of Total Assets* (2)	Shareholders' Equity ($000,000)† (3)	Nonperforming Assets ($000,000)‡ (4)	South American Debt ($000,000)§ (5)	Doubtful Debt as % of Shareholders' Equity‖ (6)
			Class A: Insolvent Banks			
1. Manufacturers Hanover	64,332	55.6#	2,671	984	8,450	353.2
2. Chase Manhattan	81,921	50.7#	3,426	1,940	6,139	235.8
3. Continental Illinois Corp.	**42,097**	**58.3**	**1,822**	**1,985**	**2,012**	**219.3**
4. Citicorp	134,665	48.1#	5,771	2,221	10,350	217.8
5. BankAmerica Corp.	121,176	31.6	5,136	3,675	7,289	213.5
6. Chemical New York Corp.	51,165	46.4#	2,305	943	3,856	208.2
7. Irving Bank Corp.	18,586	39.8#	816	233	1,453	206.6
8. Crocker National Corp.	23,393	42.8#	1,231	1,022	1,517	206.2
9. Morgan, J. P., Eco. Corp.	58,023	58.9#	3,319	628	6,164	202.4
10. Bankers Trust, Corp.	40,003	52.6#	1,790	618	2,755	188.4
11. Wells Fargo & Co.	27,018	19.7	1,348	826	1,612	180.8
12. Equimark Corp.	3,215	9.6	63	113	...	179.3
13. Marine Midland Bank	22,872	30.9	1,046	424	1,334	168.1
14. First Chicago Corp.	36,323	50.4#	1,742	854	2,019	164.9
15. First Pennsylvania Bankcorp	5,152	28.7	304	159	253	135.5
16. Security Pacific Corp.	40,382	35.2	1,782	1,004	1,340	131.7
17. Bank of Boston	19,538	44.7#	1,007	336	960	128.7
18. Mellon National Corp.	26,433	32.0	1,460	480	1,363	126.4
19. First Wisconsin Corp.	5,062	22.1	272	177	159	123.5
20. Republicbank Corp.	17,445	44.0#	977	344	807	117.8
21. Republic New York Corp.	10,119	14.6	590	29	653	115.6
22. Interfirst Corp.	21,736	47.0#	1,079	716	341	97.9
Mean: Class A	39,575	39.3	1,816	896	2,765	178.3

	Class B: Solvent Banks					
23. Bank of New York	12,797	...	664	58	515	86.2
24. Centran Corp.	2,884	...	111	44	51	85.6
25. Bank of Virginia	3,850	...	199	29	124	76.9
26. First Atlantic Corp.	5,762	...	309	59	168	73.4
27. Texas Commerce Bankshares	19,499	...	1,019	251	453	69.0
28. First Banking System	20,871	...	1,105	373	372	67.4
29. Mercantile Texas Corp.	11,884	...	661	254	87	66.7
30. Union Trust Bancorp	1,716	...	116	25	52	66.3
31. Southwest Bancshares	7,989	...	413	150	122	65.8
32. First City Bancorp Texas	17,263	...	881	378	189	64.3
33. Southeast Banking Corp.	8,883	...	477	99	193	61.2
34. First Maryland Bancorp	3,655	...	221	51	83	60.6
35. Centerre Bancorp	5,354	...	295	112	66	60.3
36. Norwest Corp.	19,854	...	1,130	279	376	58.0
37. Fleet Financial Group	5,736	...	363	57	141	54.5
38. Maryland National Corp.	5,740	...	328	74	99	52.7
39. NCNB Corp.	12,808	...	609	118	186	49.9
40. Harris Bancorp Inc.	7,425	...	399	70	110	45.1
41. NBD Bancorp	13,245	...	798	120	239	44.9
42. American Fletcher Corp.	3,377	...	193	47	35	42.5
43. Wachovia Corp.	7,850	...	494	69	119	38.0
44. First Tennessee National Corp.	6,934	...	219	47	32	36.1
45. First Security Corp.	4,943	...	342	120	...	35.1
46. Industrial Valley Bank & Trust	1,839	...	95	30	...	31.6
47. First Union Corp.	6,803	...	384	44	72	30.9
48. United Virginia Bancshares	5,415	...	329	34	60	28.5
49. Fidelcor	5,662	...	271	43	32	27.7
50. Boatmans Bancshares	3,505	...	189	30	20	26.5
51. Hartford National Corp.	4,676	...	267	64	...	24.0
52. Shawnut Corp.	5,375	...	291	68	...	23.4
53. Society Corp.	4,283	...	266	37	17	20.3
54. First Empire State Corp.	2,071	...	127	23	1	18.9
55. Citizen & Southern	1,767	...	376	34	33	17.8

TABLE 1 *(Continued)*

Banks and Bank Holding Companies	Total Assets ($000,000) (1)	Net Purchased Liabilities as % of Total Assets* (2)	Shareholders' Equity ($000,000)† (3)	Nonperforming Assets ($000,000)‡ (4)	South American Debt ($000,000)§ (5)	Doubtful Debt as % of Shareholders' Equity‖ (6)
			Class B: Solvent Banks			
56. CBT Corp.	6,072	...	41	7	...	
57. United Jersey Banks	3,635	...	190	32	...	16.8
58. Central Bancorp	2,822	...	185	28	...	15.1
59. Dominion Bancshares	3,255	...	191	27	...	14.1
60. New Jersey National Corp.	1,382	...	80	11	...	13.7
61. Commerce Bancshares	3,477	...	275	38	...	13.8
62. Barnett Banks	9,397	...	511	47	17	12.5
63. South Carolina National Corp.	2,308	...	176	17	...	9.6
64. Baybanks, Inc.	3,710	...	251	22	...	8.6
65. Keybanks	3,492	...	260	22	...	8.4
66. First National State Bancorp	6,417	...	357	20	...	5.6
67. First Virginia Bank	2,360	...	164	8	...	4.8
68. State Street Boston	3,915	...	241	5	...	2.1
Mean: Blass B	6,607	...	367	183	88	38.1

SOURCE.—*A Review of Bank Performance* (1984); annual reports of banks.

* Net purchased liabilities include the sum of domestic time deposits over $100,000, overseas deposits, federal funds purchased, commercial paper, borrowed funds, and floating rate notes puttable minus the sum of federal funds sold and interbank placements.

† Book value shareholders' equity, excluding redeemable preferred stocks and reserves.

‡ The international component of nonperforming assets is not available for a number of banks, and nonperforming assets may include part (overlap) of South American debt. Thus the doubtful debt figure is slightly overstated.

§ South American debt includes debt of Mexico, Brazil, Argentina, and Venezuela. The amount reported includes the debt of these countries that sum to more than 1% of total assets, except for the subsample included in the Salomon Bros. publication, which also includes estimates of the debt of countries that is less than 1% of total assets

‖ Column 6 = (column 4 + column 5)/column 3 × 100.

Banks that both are questionable and base most of their activities on liability management. These compose the 12-bank group in the empirical study on contagion.

nent rescue plan).[10] Weekly rates of return were computed for each bank using either daily returns (where available)[11] or successive end-of-week daily bid prices plus dividends (in weeks where they became ex-dividend) adjusted for stock splits and stock dividends.[12]

For each bank in the sample, and for the NYSE and OTC entire market as well, weekly stock trading volume figures were collected for 74 weeks from March 25, 1983, through August 10, 1984 (2 weeks after the permanent rescue plan). The figures were taken from Standard and Poor's *Daily Stock Prices Record* for the NYSE and the OTC market. The volume of trading was divided by the number of outstanding shares to adjust for changes in outstanding shares.

C. *Measurement of Abnormal Returns*

Following Fama (1976) and others, the following model is specified:

$$\tilde{R}_{jw} = \alpha_j + \beta_j \tilde{R}_{mw} + \tilde{\epsilon}_{jw}, \quad j = 1, \ldots, J; w = 1, \ldots, W, \quad (1)$$

where

$\tilde{R}_{jw}$ = rate of return on security j over week w;
$\tilde{R}_{mw}$ = rate of return on the CRSP value-weighted index of all common stocks on the NYSE and the ASE (used as a surrogate of the market portfolio of risky assets) over week w;
β_j = $\text{cov}(\tilde{R}_{jw}, \tilde{R}_{mw})/\text{var}(\tilde{R}_{mw})$;
α_j = $E[\tilde{R}_{jw} - \beta_j E(\tilde{R}_{mw})]$; and
$\tilde{\epsilon}_{jw}$ = disturbance term of security j in week w, $E(\tilde{\epsilon}_{jw}) = 0$, $\text{cov}(\tilde{\epsilon}_{jw}, \tilde{R}_{mw}) = 0$, assuming that $\tilde{\epsilon}_{jw}$ are normally distributed and serially and contemporaneously uncorrelated with constant variance (σ_j^2).

I use this market model to determine whether bank stockholders realized abnormal returns in the weeks surrounding the deteriorating solvency of the bank and its rescue; abnormal returns were estimated from the residual errors obtained from OLS regressions of equation (1). For this purpose, an abnormal return is defined as $R_{jw} - \hat{R}_{jw} = \hat{\epsilon}_{jw}$.

The event period interval includes 21 weeks: 8 weeks before the week in which Continental's interim rescue was announced by the FDIC (event week *EW*) and 12 weeks after this date. Dates for this period are listed in the Appendix; weeks are numbered according to their proximity to the week in which the FDIC declared it would guarantee all Continental deposits.

10. Although the word "banks" is used in the text, in actual practice some of the stocks traded were those of bank holding companies.

11. Daily rates of return were obtained from the University of Chicago CRSP tapes. Weekly returns were the compounded daily returns for each calendar week.

12. Weekly prices and dividend data were obtained from various quarterly issues of the OTC's *Daily Stock Prices Record* published by Standard & Poor.

The parameters of equation (1) were estimated for the jth bank in the samples ($j = 1, \ldots, 68$) using the returns data for 52 weeks preceeding $W - 8$ to generate estimates of $\hat{\alpha}_{jw}$ and $\hat{\beta}_{jw}$. Using these estimates, abnormal returns for each bank ($\hat{\epsilon}_{jw}$) were estimated as the differences between the realized security returns in that week (R_{jw}) and the corresponding returns estimated from the market model ($\hat{\alpha}_{jw} + \hat{\beta}_{jw}R_{mw}$).

For any calendar week the average weekly abnormal return across subgroup members is defined:

$$AR_{iw} = \frac{1}{N_i} \sum_{j=1}^{N_i} \hat{\epsilon}_{jw}, \tag{2}$$

where N_i is the number of banks in the sample or subgroup (denoted by i, $i = 1, 4$).

To examine whether these average weekly abnormal returns were significantly different from zero, the standardized average residual for each bank subgroup for each week was calculated as

$$SR_{iw} = \frac{AR_{iw}}{SD_{iw}} \sim t(51), \tag{3}$$

where SD_{iw} is the standard deviation of the average weekly portfolio residuals calculated from the pevious 52 weeks.[13] It is assumed that the SR_{iw} are identically distributed independent random variables and that each has a t-distribution with 51 degrees of freedom.[14]

D. Measurement of Abnormal Volume of Trading

As noted by Beaver (1968), Verrecchia (1981), and Lev and Ohlson (1982), stock price and volume reaction to new information might capture two different aspects of individuals' belief-revision process. Essentially, trading volume might reflect individuals' asymmetric perceptions of firms' future prospects, while stock price reactions capture the "average" individual perception of new information. Therefore an above-normal trading volume or above-normal return could be generated by information disclosure. The Continental crisis increased shareholders' uncertainty regarding banks' asset quality and regulators' behavior. This could have led to a lack of consensus regarding prices and hence above-normal trading volume.

The log form of trading volume implies constant elasticity of trading volume of securities with respect to the market and is specified as

13. To obtain an estimator of the standard deviation in week W that is free of covariability of successive residuals, the following procedure is used. For each bank j in the portfolio in week W, the market model (eq. [1]) is estimated again over weeks $W - 112$ through $W - 61$. The estimated parameters $\hat{\alpha}_j$ and β_j obtained are then used to calculate residuals for each bank j over weeks $W - 60$ through $W - 9$. These residuals are averaged across firms for each of the 52 weeks preceding week W and then used to calculate SD_{iw}.

14. A similar t-test is used by Dodd and Ruback (1977).

follows:

$$\ln \tilde{V}_{jw} = \ln a_j + b_j \ln \tilde{V}_{mw} + \ln \tilde{e}_{jw}, \tag{4}$$

where

V_{jw} = (trading volume in security j in week w)/(number of shares outstanding for bank j in week w);
V_{mw} = (aggregate trading volume on the NYSE in week s)/(number of shares outstanding for NYSE firms in week w);
b_j = elasticity of trading volume of security j with respect to the trading volume in the market;
$\ln \tilde{e}_{jw}$ = disturbance term of security j in week w, $E(\ln \tilde{e}_{jw}) = 0$ (e.g., $E[\tilde{e}_{jw}] = 1$); and
ln = natural logarithm.

This log form of the market model can be used to determine whether bank stocks experienced abnormal volume of trading in the weeks surrounding the Continental crisis. The parameters of equation (4) were estimated for the jth bank in the sample ($j = 1, \ldots, 68$) using trading data for 52 weeks preceding $W - 8$ to generate estimates of $\hat{\alpha}_{jw}$, $\hat{\beta}_{jw}$. Using these estimates of $\hat{\alpha}_j$, $\hat{\beta}_j$, abnormal volume of trading for each bank ($\ln \tilde{e}_{jw}$) was estimated as

$$\ln V_{jw} - \hat{\alpha}_j - \hat{\beta}_j \ln V_{mw}.$$

For any calendar week the *average* weekly abnormal trading across subgroup members is therefore

$$AV_{iw} = \frac{1}{N_i} \sum_{j=1}^{N_i} \ln e_{jw}, \tag{5}$$

where N_i is the number of banks in the sample or subgroup (denoted by $i = 1, \ldots, 4$).

To examine whether these average weekly abnormal volume amounts were significantly different from zero, the standardized average residual for each bank subgroup for each week was calculated as

$$SV_{iw} = \frac{AV_{iw}}{SDV_{iw}} \sim t(51), \tag{6}$$

where SDV_{iw} is the standard deviation of the average weekly portfolio residuals calculated from the 52 weeks of the estimation period (i.e., $W - 9$ through $W - 60$).

IV. The Effect of Continental Crisis Disclosure on Bank Profitability

Abnormal returns and abnormal trading activities realized by stockholders in their holdings of Continental Illinois and 67 other bank stocks in the sample, for the relevant weeks, are presented in table 2. As can be seen during the week $W - 4$, when the first-quarter results were announced, Continental stockholders realized abnormal losses of

TABLE 2 **Performance Measure for Weeks Surrounding the Continental Crisis: Continental Illinois and a Portfolio of All Banks**

Week Relative to *EW*	Days of Week, 1984		Stock Returns				Stock Trading			
			Continental Illinois		67 Banks		Continental Illinois		67 Banks	
	Saturday	Friday	Abnormal Returns (%)	*t*-Value	Abnormal Returns[a] (%)	*t*-Value	Abnormal Returns[a] (%)	*t*-Value	Abnormal Returns[a] (%)	*t*-Value
−8	March 17	March 23	3.25	1.16	−.03	−.03	123.3	1.69**	−17.5	−1.02
−7	March 24	March 30	.97	.35	−1.57	−1.38	141.2	1.86**	1.3	.06
−6	March 31	April 6	1.89	−.67	−.49	−.43	2.4	.05	−9.8	−.55
−5	April 7	April 13	−3.86	−1.39	−1.10	−.97	11.3	.23	−14.7	−.84
−4	April 14	April 20	−8.88	−3.20*	−.64	−.56	403.8	3.41*	−26.6	−1.64
−3	April 21	April 27	−9.33	−3.35*	.37	.32	256.2	2.68*	−12.4	−.70
−2	April 28	May 4	1.37	.49	.69	.61	110.3	1.56	−4.0	−.21
−1	May 5	May 11	−2.95	−1.06	−.42	−.37	673.7	4.80*	20.9	1.00
0[b]	May 12	May 18	−21.12	−7.53*	−1.25	−1.10	1090.0	5.22*	20.0	.97
+1	May 19	May 25	−28.34	−9.98*	−3.23	2.83*	1527.1	5.88*	53.9	2.29*
+2	May 26	June 1	−19.23	−6.91*	−1.67	−1.46	1056.6	5.16*	10.7	.54
+3	June 2	June 8	20.94	7.52*	.63	.55	826.1	4.69*	26.4	2.24
+4	June 9	June 15	−15.34	−5.32*	.40	.35	583.1	4.03*	20.8	.99
+5	June 16	June 22	−7.77	−2.71*	−1.37	−1.20	166.6	2.06*	.2	.01
+6	June 23	June 29	.75	.27	−.70	−.61	75.7	1.18	−.9	−.05
+7	June 30	July 6	−24.36	−8.78*	.38	.33	370.0	3.18*	−6.7	−.36
+8	July 7	July 13	12.96	4.66*	.41	.36	282.8	2.82*	7.7	.39
+9	July 14	July 20	−23.44	−8.43	1.06	.93	567.3	3.99*	10.8	.54
+10	July 21	July 27	28.44	10.24*	−.58	−.51	1692.7	6.09*	51.7	2.21*
+11	July 28	August 3	−8.91	−2.81*	−1.43	−1.25	641.7	3.86*	6.5	.30
+12	August 4	August 10	3.53	1.18	−.22	−.19	232.9	2.26*	9.2	.41

[a] Abnormal volume of trading as a percentage of expected volume of trading $= V_{iw} - \hat{a}_i V^6_{mw}/\hat{a}V^b_{mw}$.

[b] Week in which interim package and rescue plan was announced.

* Significant at 5% level (two-tailed test).

** Significant at 10% level (two-tailed test).

8.8% (significantly different from zero). This was accompanied by a significant abnormal volume of trading (403.8%). The announcement marks the beginning of the Continental crisis, which culminated in a run on the bank and in calls for regulatory action. The 3 weeks *EW*, *W* + 1, and *W* + 2 are considered the height of the Continental crisis. During these 3 weeks the loss to Continental stockholders amounted to 68.9%, and the volume of trading increased substantially (3,673.7%). It is over this period of time that an effect on the banking system was most likely to surface.

This is indeed what the evidence in table 2 indicates. In week *W* + 1, investors in bank stocks sustained an abnormal loss of 3.23%, while at the individual bank level, 42 of the 67 examined displayed significantly negative abnormal returns. Also in weeks *W* + 1 and *W* + 10 the trading activity for the sample of 67 banks increased significantly (53.9% and 51.7%, respectively). Interestingly, the reaction occurred a full week after the announcement that all Continental depositors would receive full protection. Apparently, the announcement failed to resolve all the uncertainties presented by the crisis.

To gain further insight into the causes of this effect on stock returns (and then on stock trading), three subsamples of bank stocks have been selected: 12 liability-managing banks whose solvency was questionable, 21 banks with questionable solvency, and 46 solvent banks that serve as a control group. Table 3 shows that investors in the group of liability-managing banks whose solvency was questionable sustained significant abnormal losses averaging 7.99% during the 2 weeks *W* + 1 and *W* + 2.

The unfavorable perception of investors regarding the effect of the Continental crisis on the banking system is also mirrored in the fact that seven (in *W* + 1) and eight (in *W* + 2) out of 12 individual banks had significant negative abnormal returns. A similar effect is also evident for the entire group of banks with questionable solvency that registered an average abnormal loss in weeks *W* + 1 and *W* + 2 of 6.28%, with 12 (in *W* + 1) and 13 (in *W* + 2) banks out of 21 individual banks showing significantly negative abnormal returns. Finally, the portfolio of solvent banks sustained losses of 3.31% in week *W* + 1, in which 30 out of the 46 bank stocks had significantly negative abnormal returns.

Using the size of the abnormal returns as a measure of market reaction to the Continental crisis, the effect was stronger for the (liability-managing) banks with questionable solvency than for the solvent group. To test the significance of these differences in abnormal returns while controlling for differences in betas among groups, the following procedure was used.[15]

15. The estimated betas for the different portfolios of bank stocks are $\hat{\beta}_{LQ} = 1.02$, $\hat{\beta}_{QS} = 0.96$, and $\hat{\beta}_{SO} = 0.66$.

TABLE 3 **Weekly Abnormal Returns for Weeks Surrounding the Continental Illinois Crisis**

Week Relative to *EW*	12 Questionable Liability-managing Banks					21 Questionable Banks					46 Solvent (Control) Banks				
	Abnormal Return (%)	*t*-Value	P^a	N^b	I^c	Abnormal Return (%)	*t*-Value	P^a	N^b	I^c	Abnormal Return (%)	*t*-Value	P^a	N^b	I^c
−8	.90	.48	0	0	12	.49	.29	1	2	18	−.27	−.24	12	11	23
−7	−2.16	−1.16	2	7	3	−2.35	−1.39	2	12	7	1.22	1.08	3	19	24
−6	−.96	−.52	0	2	10	−.23	−.14	3	4	14	−.61	−.54	7	11	28
−5	.19	.10	2	2	8	−.89	−.52	2	7	12	−1.20	−1.07	3	15	28
−4	−.09	−.05	1	2	9	−.93	−.55	1	6	14	−.51	−.45	8	7	31
−3	−.30	−.16	3	2	7	.33	.20	6	4	11	.38	.34	11	10	25
−2	1.68	.90	1	0	11	.71	.42	5	1	15	.69	.16	12	6	28
−1	−1.36	−.73	0	3	9	−1.35	−.80	0	4	17	.00	.00	8	12	26
0	−1.75	−.94	0	3	9	−.25	−.15	1	5	15	−1.71	−1.52	1	18	27
+1	−3.60	−1.93**	0	7	5	−3.07	−1.81**	0	12	9	−3.31	−2.94*	2	30	14
+2	−4.39	−2.35*	0	8	4	−3.21	−1.89**	1	13	7	−.97	−.86	8	19	19
+3	−.75	−.40	2	2	8	−.99	−.58	3	5	13	1.37	1.21	16	8	22
+4	−.38	−.20	2	2	8	−.25	−.15	4	6	11	.70	.62	11	5	30
+5	−.15	−.08	5	3	4	−.99	−.58	8	6	7	−1.55	−1.38	6	24	16
+6	−2.07	−1.11	0	3	9	−.79	−.47	2	4	15	−.66	−.58	5	12	29
+7	−.33	−.18	4	3	5	.19	.11	5	3	13	.47	.42	6	5	35
+8	3.15	1.69	4	1	7	1.53	.90	5	2	14	−.10	−.08	9	9	28
+9	.54	.29	2	2	8	.52	.30	4	3	14	1.31	1.16	21	5	20
+10	1.36	.73	5	2	5	.06	.03	5	4	12	−.88	−.78	5	15	26
+11	−1.12	−.60	4	4	4	−.27	−.16	7	5	9	−1.96	−1.74**	8	19	19
+12	−.75	−.40	2	4	6	.32	.19	5	5	11	−.46	−.42	10	19	17

[a] Number of bank stocks with positive abnormal returns significantly different from zero.
[b] Number of bank stocks with negative abnormal returns significantly different from zero.
[c] Number of bank stocks with abnormal returns insignificantly different from zero.
* Significant at 5% level (two-tailed test).
** Significant at 10% level (two-tailed test).

To illustrate this procedure, consider the 21 banks with questionable solvency and the control group of 46 solvent banks. For every week outside the event period the market model was estimated for the jth bank in each group, using the previous 52 weeks rate of return. The beta of the group of banks with questionable solvency ($\hat{\beta}_{QS}$) was calculated as the arithmetic mean of the betas of the individual securities in this group. The betas of the securities in the control group of solvent banks were then ranked by increasing order of beta and divided into two subgroups of 23 low-beta and 23 high-beta securities. Portfolio betas were then calculated as the arithmetic means of the betas in these subgroups ($\hat{\beta}^L$ and $\hat{\beta}^H$, respectively). Using these estimated values of $\hat{\beta}^L$ and $\hat{\beta}^H$, a unique set of weights was calculated to ensure that equation (4) held each week,

$$\gamma_w \hat{\beta}_w^L + (1 - \gamma_w)\hat{\beta}_w^H = \hat{\beta}_w^{QS}, \tag{7}$$

where γ_w is the weight applied to the $\hat{\beta}^L$ subportfolio of solvent banks. Using these weights, a weekly return series for the control group of solvent banks (R_w^{SO}) could then be derived as

$$R_w^{SO} = \gamma_w R_w^L + (1 - \gamma_w)R_w^H. \tag{8}$$

Abnormal returns in any week are now measured as the difference between returns on the bank with questionable solvency portfolio (R_w^{QS}) and the solvent bank portfolio (R_w^{SO}):

$$DAR_w^i = R_w^{QS} - R_w^{SO}. \tag{9}$$

The variable DAR_w^i can be interpreted as the *average* rate of return from buying shares of a portfolio of banks with questionable solvency and short selling an equal dollar amount of shares in a portfolio of solvent banks. Because this strategy has zero investment by construction, then $E(DAR_w^i) = 0$ during normal periods. However, if investors' revision of return expectations during the event period is greater for banks with questionable solvency than for solvent banks, while setting intergroup betas equal, then $DAR_w^i \neq 0$. The estimated values for the DAR_w^i's, where $i = 1, 2, 3$, during the event period are presented in table 4.

In Table 4 we see that, after adjustment for beta differences, the solvent bank group had smaller negative abnormal returns of 5.07% and 3.62% than the liability-managing subgroup and the subgroup with questionable solvency in week $W + 2$. The only other week in which differences in performance occur is the week after the permanent plan was announced (week $W + 11$), at which time solvent banks had lower abnormal returns (3.67%) than the "questionable" group.

In general, the results from tables 2–4 suggest that there was a strong market consensus regarding the adverse implications of the Continental crisis on bank stock prices, despite regulatory measures. This effect

TABLE 4 **Percentage Weekly Average Differential Portfolio Return for Weeks Surrounding Continental Illinois Crisis**

	Portfolio Compared			
	46 Solvent Banks Minus 12 Questionable Liability-managing Banks		46 Solvent Banks Minus 21 Questionable Banks	
Week Relative to *EW*	Differential Return (%)	*t*-Value	Differential Return (%)	*t*-Value
−8	−1.00	−.47	−.62	−.34
−7	.54	.25	.79	.43
−6	1.05	.49	.19	.11
−5	−.39	−.18	.52	.28
−4	.01	.00	.78	.43
−3	1.80	.84	.98	.54
−2	−1.44	−.67	−.40	−.22
−1	1.10	.51	1.13	.62
0	.78	.36	−.84	−.46
+1	1.11	.52	.44	.24
+2	5.07	2.36*	3.62	1.99**
+3	2.39	1.12	2.58	1.42
+4	1.77	.82	1.52	.48
+5	−1.54	−.72	−.69	−.38
+6	1.02	.48	−.20	−.11
+7	1.47	.68	.83	.46
+8	−2.73	−1.27	−1.20	−.66
+9	1.18	.55	1.14	.62
+10	−2.33	−1.09	−1.02	−.56
+11	−3.19	−1.49	−3.67	−.02*
+12	−.66	−.31	−1.58	−.87

* Significant at 5% level (two-tailed test).
** Significant at 10% level (two-tailed test).

was much more dramatic on the group of banks whose solvency was questionable.

V. The Effect of Continental Crisis Disclosure on Bank Stock Trading Activity

To test the effect of the Continental crisis on trading volume, I use the log form of the market model described in equation (4) to detect abnormal volume of trading on the three subsamples of bank stocks. From table 5 we see that, during the crisis, positive abnormal volume of trading in the stocks of the liability-managing group with questionable solvency occurred in weeks $W + 1$ (55.4%) and $W + 3$ (62.5%) and for the group with questionable solvency in week $W + 3$ (47.6%). No

TABLE 5 Abnormal Stock Trading for Weeks Surrounding the Continental Illinois Crisis

Week Relative to *EW*	12 Questionable Liability-managing Banks: Abnormal Volume of Trading[a] (%)	12 Questionable Liability-managing Banks: *t*-Value	21 Questionable Banks: Abnormal Volume of Trading[a] (%)	21 Questionable Banks: *t*-Value	46 Solvent Banks: Abnormal Volume of Trading[a] (%)	46 Solvent Banks: *t*-Value
−8	−9.1	−.42	−17.4	−.91	−22.5	−1.10
−7	26.4	1.03	17.1	.74	−13.5	−.63
−6	−9.8	−.46	−9.9	−.48	−8.1	−.37
−5	−27.0	−1.39	−19.7	−1.02	−10.4	−.47
−4	−50.0	−3.06*	−40.3	−2.45*	−34.5	−1.84**
−3	−23.2	−1.17	−18.4	−.94	−18.4	−.88
−2	−10.3	−.48	−18.3	−.94	2.8	.12
−1	−7.1	−.32	2.9	.14	6.9	.29
0	−19.8	−.97	−13.4	−.66	1.5	.06
+1	55.4	1.95**	39.1	1.54	5.1	.21
+2	10.4	.43	11.2	.49	−30.0	−1.55
+3	62.5	2.14*	47.6	1.82**	−16.8	−.80
+4	12.7	.52	33.6	1.35	−8.2	−.37
+5	17.1	.69	1.9	.08	−5.1	−.22
+6	19.6	.79	10.8	.48	−10.2	−.47
+7	−17.4	−.82	−10.0	−.49	−20.4	−.97
+8	3.7	.16	−6.8	−.33	6.9	.29
+9	−16.8	−.81	−6.1	−.29	−.6	−.02
+10	10.6	.44	−.1	−.01	19.4	.77
+11	−4.1	−.17	−16.7	−.79	1.5	.06
+12	6.7	.25	−8.2	−.36	16.1	.57

[a] Abnormal volume of trading as a percentage of expected volume of trading $= V_{iw} - \hat{a}_i V^b_{mw} / \hat{a}_i V^b_{mw}$.
* Significant at 5% level (two-tailed test).
** Significant at 10% level (two-tailed test).

significant abnormal volume of trading occurred during the Continental crisis in the solvent bank group.[16]

The unusual amount of trading is further testimony to the contagion effect of the Continental crisis on the stocks of the banks with questionable solvency, both those that managed their liabilities and those that did not. This is not surprising considering that they are the most sensitive to regulatory policy or uncertainty about that policy.

The major market reaction (in terms of trading and returns) to the Continental crisis occurred in the 3 weeks following the interim rescue plan. These findings imply that the Continental crisis affected the "average" individual's perception of the future prospects of the group of

16. Note that significant *negative* abnormal volume of trading for all the group of banks occurred in the week $W - 4$, i.e., the week in which Continental's results for the first quarter of 1984 were released. An abnormal increase in the volume of trading in Continental stock occurred in this week ($W - 4$).

TABLE 6 **Percentage Weekly Average Differential Portfolio Volume of Trading for Weeks Surrounding Continental Illinois Crisis**

Week Relative to *EW*	Portfolio Compared: 46 Solvent Banks Minus 12 Questionable Liability-managing Banks		Portfolio Compared: 46 Solvent Banks Minus 21 Questionable Banks	
	Differential Return[a] (%)	*t*-Value	Differential Return[a] (%)	*t*-Value
−8	−14.8	−.75	−6.4	−.28
−7	−31.8	−1.78**	−26.5	−1.43
−6	1.7	.08	1.8	.08
−5	22.1	.96	10.6	.50
−4	29.9	1.25	9.5	.46
−3	6.3	.28	−.2	−.01
−2	14.6	.64	25.6	1.08
−1	15.8	.66	3.6	.17
0	22.2	.96	12.6	.58
+1	−33.2	−1.83**	−23.7	−1.30
+2	−37.4	−2.13*	−38.6	−2.17*
+3	−48.9	−3.14*	−44.1	−2.68*
+4	−17.9	−.95	−31.2	−1.75**
+5	−18.9	−.98	−7.3	−.33
+6	−24.6	−1.34	−19.1	−.99
+7	−3.7	−.17	−11.2	−.56
+8	3.1	.14	15.4	.65
+9	19.4	.83	5.9	.26
+10	7.9	.36	19.6	.85
+11	5.8	.26	21.6	.93
+12	8.7	.39	25.8	1.10

[a] Differential abnormal volume of trading as a percentage of expected differential volume of trading.

* Significant at 5% level (two-tailed test).

** Significant at 10% level (two-tailed test).

banks whose solvency was questionable and regulatory policy, and it also affected individuals' asymmetric perceptions of this information.

To test further the significance of the differences in trading activity,[17] results are presented in table 6 that show the differences in average abnormal returns among bank groups. To test whether abnormal volume of trading for the solvent group is statistically lower than that of the "questionable" group and the "questionable" liability-managing group during the event period, *t*-tests of the form

$$\frac{DAV_{1,2}}{SD(DAV_{1,2})} = \frac{AV_1 - AV_2}{SD(AV_1 - AV_2)} \sim t(51) \qquad (10)$$

17. Note that betas for the different groups of banks do not show significant differences: $\hat{b}_{QS} = 0.79$; $\hat{b}_{LQ} = 0.56$; and $\hat{b}_{SO} = 0.79$.

were conducted, where $DAV_{1,2}$ is the difference in abnormal volume of trading between bank classes A and B in any week, and $SD(\cdot)$ is calculated from the previous 52 weeks abnormal volume of trading.

As can be seen from table 6, it is possible to reject the null hypothesis of equality of abnormal volume of trading for both the "questionable" versus the solvent group and the liability-managing with questionable solvency versus the solvent group during the weeks $W + 1$, $W + 2$, $W + 3$, and $W + 4$. For the banks with questionable solvency, particularly those that managed liabilities, the abnormal volume of trading reflects the uncertainty regarding future regulatory policy and banks' asset quality.

VI. Analysis of the Results

Using abnormal volume of trading and abnormal returns as measures of market reactions to the Continental crisis, the findings are consistent both with an informational effect regarding regulatory policy and banks' asset quality and with the existence of a bank run. Moreover, the reactions occurred mostly in the group of banks with questionable solvency, a finding that is more consistent with the informational effect. This is because this group of banks is subject to the same types of problems as Continental, including a large exposure to Latin American debt and similar regulatory treatment. The information revealed in the Continental crisis is more relevant to this group. On the other hand, the solvent group (smaller banks) is more likely to be affected by depositors' bank runs, an effect that was not detected in this case.

To study the extent to which the negative effect on the wealth of bank stockholders resulted from the withdrawal of deposits, I examine changes in the amount of various types of funds in the group of large banks at the time of the Continental Illinois crisis. Because of limits in the availability of data, the test is carried out for all banks with total assets of $1.4 billion as of December 31, 1982. The t-statistic is based on the mean and standard deviations of percentage changes estimated in the 52 weeks, $W - 9$ through $W - 60$, for the various sources of funds. These results, for three sources of funds (demand deposits, time deposits, and borrowed funds), are reported in table 7.

As can be seen in table 7, there is no systematic and significant negative effect of the Continental Illinois crisis on deposits available to large banks. An exception is the withdrawal of uninsured borrowed funds in the event week (6.8%, significant at the 10% level) amounting to $13 billion that was almost completely compensated for by an increase in demand and time deposits.[18] Thus it seems that the observed

18. These figures include the withdrawal of $3.6 billion of uninsured borrowed funds from the Continental Illinois in the event week, further reducing the significance of any bank-run effect.

TABLE 7 **Weekly Changes in Sources of Funds in Large Banks at the Time of Continental Crisis[a]**

Source Week[b]	Demand Deposit[c]		Time Deposit		Demand & Time Deposit		Borrowed Funds	
	% Change	*t*-Value	% Change	*t*-Value	% Change	*t*-Value	% Change	*t*-Value
−8	−4.85	−.72	−.03	−.11	−1.37	−.66	−1.79	−.50
−7	2.64	.37	.38	.83	1.01	.46	−1.80	−.50
−6	6.45	.93	.61	1.47	2.26	1.05	1.86	.55
−5	−2.11	−.32	.04	.08	−.58	−.29	.91	.28
−4	.73	.09	−.23	−.85	.04	.01	1.08	.32
−3	−3.16	−.47	−.84	−2.52*	−1.51	−.73	3.25	.95
−2	3.67	.52	.32	.66	1.28	.59	.23	.09
−1	−6.19	−.92	.66	1.62	−1.31	−.64	3.01	.88
0	7.78	1.12	.53	1.25	2.55	1.19	−6.84	−1.94**
+1	−8.01	−1.19	.80	1.99**	−1.77	−.86	−.55	−.14
+2	7.23	1.04	.54	1.28	2.37	1.11	.03	.02
+3	−2.59	−.39	.76	1.89**	−.19	−.11	3.73	1.09
+4	.01	.01	−.04	−.34	−.03	−.03	−5.53	−1.56
+5	.14	.01	−.30	−.40	−.18	−.10	9.92	2.86*
+6	−1.63	−.25	.38	.82	−.19	−.10	−8.56	−2.44*
+7	15.11	2.21*	.74	1.83**	4.73	2.23*	3.11	.91
+8	−10.82	−1.62	−.22	−.82	−3.55	−1.67	−1.43	.39
+9	−.04	−.02	−.09	−.47	−.07	−.05	1.76	.52
+10	−3.99	−.60	−.14	.18	−1.01	−.49	−3.51	−.99
+11	8.71	1.26	.32	.66	2.59	1.21	5.80	1.66
+12	−6.28	−.93	.28	.56	−1.60	−.77	−1.43	.39

SOURCE.—*Large Weekly Reporting Commercial Banks: Domestic Financial Statistics* (Federal Reserve bulletin), various issues.

[a] Large banks series includes all commercial banks with domestic assets of $750 million or more on December 31, 1977. After January 1, 1984, the groups were redefined to include all commercial banks with domestic assets totaling $1.4 billion or more on December 31, 1982 (the banks were almost identical, however).

[b] Weeks are defined as Thursday through Wednesday (for Federal Reserve requirement purposes); hence they are not identical to weeks defined in the capital market study. For example, Week + 12 is the week that runs from August 2–August 8, 1984.

[c] Sources of funds are defined in the above statistics.

* Significant at 5% level (two-tailed test).

** Significant at 10% level (two-tailed test).

negative market reaction to the Continental crisis *was not* in response to the actions of depositors.[19] This finding is strongly consistent with the hypothesis that market reactions reflect a rational response under imperfect information to new evidence of regulatory policy and banks' asset quality.

VII. Summary and Concluding Remarks

The Continental crisis raised several important issues for bank regulations. Clearly, the FDIC could have closed Continental, assuming responsibility for only $3.0 billion of insured deposits and suffering only marginal losses. Instead, the FDIC rescued the bank. Thus it seems to me that the actions taken by regulators were motivated by the fear of potential bank runs.

The findings in this paper show a market reaction to the Continental crisis, in terms of both stock price movements and trading activity, especially for the group of banks with questionable solvency. Such market reaction could reflect either a bank-run effect or an adjustment to new information revealed in this crisis. The evidence seems to be consistent with investors' reaction in an efficient market that operates under imperfect information. The information revealed concerned the quality of banks' assets and regulators' behavior in handling this crisis as well as the FDIC ability to stand future crises. It also raises the question of what would be the effect of a second or third even larger failure. Finally, the informational effect might indeed have led to the kind of "domino effect" that Chairman Isaac alluded to, but this is by no means evidence of bank runs.

Appendix

April 18, 1984	Continental announces first quarter earnings report. An increase of $400 million in problem loans.
May 10, 1984	The comptroller of the currency, C. Todd Conover, issues a statement denying rumors by Japanese and other news agencies that Continental is in serious financial trouble. Some large foreign depositors withdraw funds, starting a run on the bank's deposits.
May 11, 1984	The bank borrows $3.6 billion from the Federal Reserve of Chicago following a run on the bank by foreign investors. Continental says that it has $17 billion in eligible collateral required by the Fed to back the borrowing.

19. It is interesting to note that demand deposits were the most volatile source of funds during the period examined, whereas time deposits were the most stable sources of funds.

May 14, 1984	Continental announces that 16 of the nation's largest banks, led by Morgan Guarantee, have extended it $4.5 billion in credit for 30 days.
May 17, 1984	Continental says that it has arranged additional financial help and is seeking a merger partner. The interim package includes a $1.5 billion capital infusion from the FDIC and $500 million from other banks. Its $4.5 billion line of credit is extended to $5.5 billion with a total of 28 banks participating.
May 18, 1984	To assure the stability of the financial system, federal regulators declare that all depositors and other general creditors of the bank will be fully protected, even with deposits exceeding $100,000.
June 11, 1984	The First Chicago Corporation unexpectedly announces its withdrawal as a serious candidate to purchase Continental.
June 12, 1984	The Chemical New York Corporation says it will not seek to acquire Continental.
July 26, 1984	The three banking agencies announce the permanent assistance program for Continental. Continental is, in effect, nationalized, over Treasury objections.
July 27, 1984	Continental announces second quarter earnings report. Continental experiences a $1.16 billion loss.

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