DOCUMENT RESUME

07355 - [C2978065]

Are Pension Beneficiaries Harmed by Large Bank Trust Department Sales of Large Common Stock Positions? The Evidence. PAD-78-75; B-192918. October 19, 1978. 3 pp. + 3 appendices (37 pp.).

Report to Sen. Lloyd Bentsen, Chairman, Senate Committee on Finance: Private Pension Plans and Employee Fringe Benefits Subcommittee; by Elmer B. Staats, Comptroller General.

Contact: Program Analysis Div.
Budget Function: Interest (900).
Organization Concerned: Department of Labor; Securities and Exchange Commission.
Congressional Relevance: Senate Committee on Finance: Private Pension Plans and Employee Fringe Benefits Subcommittee; Senate Committee on Finance. Sen. Lloyd Bentsen.

A study was conducted to provide a comparative analysis of the time taken to sell out large common stock positions by large and small bank trust departments. It was suggested that, because large institutions hold large positions in certain securities, when they eliminate one of these positions, selling should be spread over longer periods to avoid or reduce destabilizing impacts on that stock's price. It was also suggested that if an institution takes a long time to sell a single stock, long selling periods might adversely affect investment performance and thus injure that institution's beneficiaries. Position eliminations by the 20 largest reporting bank trust departments and by 20 smaller bank trust departments were examined. Findings/Conclusions: The positions ultimately sold out by large bank trust departments represented a maximum of 1.3% of the assets being managed for pension beneficiaries, with a comparable figure of 0.4% for the smaller banks. A weak statistical relationship (representing the selling behavior of a single bank) was found between the size of positions eliminated and the time taken to eliminate them. The length of time taken to sell off large positions had little, if anything, to do with the size of the position during this period. In general, prices were higher during the selling periods than at the beginning of the selling periods. There was no evidence that prices declined on large positions that were sold over long periods of time and no basis was found for concern about the potential adverse impacts on pension beneficiaries. (SC)

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REPORT BY THE

Comptroller General

OF THE UNITED STATES

Are Pension Beneficiaries Harmed By Large Bank Trust Department Sales Of Large Common Stock Positions? The Evidence

The Chairman, Subcommittee on Private Pension Plans and Employee Fringe Benefits, Senate Committee on Finance, requested that GAO examine the relationship between the size of major stock position changes and the length of time taken to achieve such changes by bank trust departments.

It was suggested that because large banks hold large positions in common stocks, when there is a desire to sell out some of these positions, long rather than short selling periods ensue. This could have an adverse impact on portfolio performance if prices are declining during selling periods. This, in turn, would harm pension beneficiaries whose assets these banks manage.

GAO analyzed data on bank trust department trading patterns between the end of 1974 and the first quarter of 1977, finding only very weak evidence of the suggested type of trading behavior and no evidence of the suggested type of price behavior. GAO concludes that there is no cause for concern that pension beneficiaries are harmed by sales of large positions over long periods of time by large bank trust departments.

PAD-78-75

OCTOBER 19, 1978

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-192918

The Honorable Lloyd Bentsen
Chairman, Subcommittee on
Private Pension Plans and
Employee Fringe Benefits
Committee on Finance
United States Senate

Dear Mr. Chairman:

In response to your February 22, 1978, request and later discussions with your office, we analyzed the relationship between length of time taken by large and small bank trust departments to achieve major position changes in their common stock holdings. Where resources permitted, we expanded the scope of the analysis to cover areas which your office felt were of additional importance. We briefed the Subcommittee staff on our work in May, and we are transmitting the final results of our analysis at this time.

You expressed concern over whether large common stock holdings by major bank trust departments are detrimental to the interests of pension beneficiaries whose assets these banks manage. It was suggested that, when there is a desire to eliminate a particular large common stock holding, selling must be spread over long periods in order to reduce price impacts. Because smaller banks are not thought to hold such large positions, logic suggests that they can eliminate positions more quickly. Long selling periods would decrease the value of assets managed for pension plans if prices received during such periods are less than those that could have been received had the entire position sold out at prices prevailing when selling began.

You also requested that our analysis generally be based on a study proposal provided by the Subcommittee staff. The proposal describes the potential for the type of bank trust department trading behavior with which you are concerned and its implications for the welfare of pension beneficiaries. It also specifies certain preselection criteria designed to

define a relevant sample of banks and positions for purposes of statistical testing for evidence of such behavior. We generally agreed to adopt the preselection criteria specified in the study proposal; however, the design of both the methodology used to develop evidence and tests of the evidence was to be at our sole discretion.

Our findings are summarized below. A full discussion of the methodology, m detailed results, the assumptions made, and qualificatic to conclusions based on data base shortcomings are contained in appendix I. A list of the market capitalizations of all issues identified as position eliminations is contained in appendix II.

Our analysis was directed at answering three basic questions:

1. Were position eliminations important during the period of analysis (end of 1974 through the first quarter of 1977)?

--We conclude that they were not. In our sample of large bank trust departments, the positions ultimately sold out represented a maximum of 1.3 percent of the assets being managed for pension beneficiaries. In our sample of smaller banks, the comparable figure is 0.4 percent. Even if the positions that were sold out had become worthless--which they obviously did not--the overall condition of the assets managed for pension beneficiaries would not have been altered in a massive way. (This analysis, and the related qualifications, are discussed on pages 10 to 13 of app. I.)

2. What was the nature of the relationship, if any, between the size of positions eliminated and the length of time taken to eliminate such positions? Are there any discernible differences between large and small bank selling behavior?

--With respect to our sample of large banks, there was a weak statistical relationship (reflecting the selling behavior of a single bank) between the size of positions eliminated and the time taken to eliminate them. Statistically, the size of the position accounted for 9 percent of the variation in selling period; the remaining 91

percent of variation reflected other unknown factors. There were so few position eliminations by the smaller banks that they could not be analyzed statistically or compared meaningfully with the larger banks. From this analysis, we conclude that the length of time taken to sell off large positions had little, if anything, to do with the size of the position during this period. (This analysis is discussed on pages 14 to 25 of app. I.)

3. In general, did prices rise, fall, or behave randomly on positions which were eliminated, relative to prices prevailing at the beginning of selling periods?

--In general, prices were higher during selling periods compared to the beginning of the sellout. In part, this reflected the strongly positive overall market trend for stock prices during the period covered by the analysis. When the data were adjusted to exclude this influence, it was found that prices behaved randomly during selling periods. That is, sometimes they rose, sometimes they declined, and sometimes they remained unchanged. There was no evidence that prices declined on large positions that were sold out over long periods of time. (This analysis is discussed on pages 25 to 30 of app. I.)

In summary, from the available data, we found no basis for concern about potential adverse impacts on pension beneficiaries resulting from the elimination of large positions.

We hope that these results will be useful to you. The data base and many intermediate results not reported in the appendix are available for review or use by your staff.

As agreed with your office, copies of this report will be made available to other interested parties.

Sincerely yours,

Comptroller General
of the United States

APPENDIX I

ARE PENSION BENEFICIARIES HARMED BY LARGE BANK TRUST DEPARTMENT SALES OF LARGE COMMON STOCK POSITIONS?

THE EVIDENCE

Contents

CHAPTER 1

BACKGROUND

The research proposal calls for a comparative analysis of the time taken to sell out large common stock positions by large and small bank trust departments. The concern is that, because large institutions hold large positions in certain securities, when they eliminate one of these positions, selling is spread over long periods to avoid (or reduce) destabilizing impacts on that stock's price. In this sense, large holdings by large banks are considered "illiquid." On the other hand, small banks do not hold such large positions in individual issues of common stock, and their holdings are felt to be more "liquid." Another concern is that, if an institution takes a long time to sell a single stock, long selling periods might adversely affect investment performance and thus injure that institution's beneficiaries.

The proposal calls for an examination of position eliminations by the 20 largest reporting bank trust departments and 20 smaller but still substantial trust departments, probably with about $200 million in assets. Each bank position exceeding 1 percent of a company's outstanding shares on December 31, 1974, and December 31, 1975, was to be examined to determine whether such positions decreased to 10 percent or less of the original position thereafter. After positions that were nearly or completely sold out were identified, data on the duration of such selling programs were to be assembled. An analysis of the relationship between position size and length of selling program was proposed.

The reason for examining position eliminations, as stated in the research proposal, is as follows:

> "'Sell' decisions have irrefutable goals, elimination of the position (or, at least, reduction to about 10% of the original holding, which might be retained because of special circumstances in certain accounts). If a lengthy period is occupied with consistent selling--i.e., in every quarter--it may be that the manager had simply started out intending to 'lighten up' and, as events unfolded, continued in that direction, but there

would be quite a burden on managers to show that they had not been simply 'locked in.' The impression I have built up from limited discussions with several money managers is that they will make 'sell out' decisions more often than they will set precise targets once they decide to buy; that is, they may have a minimum target size of position, but often will raise that target if the price doesn't rise or if events become even more affirmative. Therefore, attributing stretched-out buying to illiquidity would seem far more vulnerable to refutation, than so attributing stretched-out sales. * * * There seems more dramatic significance to being 'locked in' to a holding as the price drops and thus having illiquidity impose actual losses, than there is in being 'locked out' as a price rises and thus losing only greater gains."

It was later requested that the scope of our analysis be expanded to:

--Attempt to maximize comparability of large and small bank trust departments with regard to the proportion of their total portfolio managed for the benefit of pension accounts.

--Provide, along with other data, each studied issue's market capitalization.

--Examine the performance of stretched-out sales. It was suggested that each issue's price be adjusted for market price movements. A comparison was then suggested between the adjusted price that would have been realized if all shares had been sold at the average price for the quarter when selling began and the weighted average adjusted price that probably was realized over the full period of selling. If resources permitted, it was also suggested that each issue's price be adjusted for "relative volatility"--a measure of risk.

CHAPTER 2

THE DATA BASE

A data base was constructed using information published on a quarterly basis in "Spectrum 4, Bank Portfolios," by Computer Directions Advisors, Inc. (CDA). CDA obtains its data from quarterly transactions and annual holdings reports filed by federally chartered banks with the Comptroller of the Currency. Each quarter, "Spectrum 4" provides an alphabetical list of all common stocks held by federally chartered banks with equity assets exceeding $75 million. For each security held, data are shown for the net change in holdings during the quarter, shares held at the end of the quarter, the market value of the position at the end of the quarter, the percentage of the bank's portfolio that the position represents, and the percentage of a company's outstanding shares that are held by the bank. Data were compiled using 10 issues of "Spectrum 4," beginning in the fourth quarter of 1974 (the quarter in which data first became available) and ending in the first quarter of 1977. All of 1977 was not covered for reasons discussed below. Only one starting date (December 31, 1974) was used for examination of 1 percent or greater positions. Analysis of a second starting date could not be done because of resource and time constraints.

PRESELECTION PROCEDURES

Bank preselection

Two groups of banks were selected for analysis: (1) 20 banks reporting the largest common stock portfolios in "Spectrum 4" as of December 31, 1974, and (2) 20 smaller banks whose common stock portfolios were closest to $200 million (above or below) as of the same date.

The suggested research is a time series analysis of quarterly data. Because of this, the included large and small banks would have to report continuously during the period of analysis. This preselection criterion resulted in the elimination of 6 banks from the original top 20 bank sample and 8 banks from the smaller 20 bank sample. The banks eliminated from the top 20 bank sample were: Harris Trust and Savings, Security Pacific National Bank, National City Bank, Wells Fargo Bank, Provident National Bank, and Wachovia Bank and Trust. The next six largest banks with a continuous reporting history were substituted.

A CDA official said that there was no continuous reporting history for some banks because of late reporting of either quarterly transactions or annual holdings. If a bank reports late, supplements to "Spectrum 4" are not prepared and data on the missing quarter(s) for a particular bank can only be obtained in copies of the relevant reports from the Comptroller of the Currency. 1/ Time limitations did not allow this additional data-gathering effort.

Selecting smaller banks to maximize comparability of their pension asset holdings with larger banks was not possible for two reasons:

--To some extent, the discontinuities in the "Spectrum 4" bank portfolio data prevented both selection of small banks with pension assets roughly comparable with those of larger banks and preservation of the large-small bank distinction. As it is, the asset size distinction between the "large" and "small" bank samples is not great because of the substitution of smaller "large" banks for nonreporting "large" banks and the substitution of larger "small" banks for nonreporting "small" banks. The smallest bank in the top 20 bank sample reported common stock asset holdings of $428.2 million on December 31, 1974. The largest "small" bank's common stock holdings were valued at $338 million on the same date. Since many of the "small" banks did not manage a proportion of pension assets comparable to "large" banks, other "small" banks would have had to be selected. But this process would have involved selecting larger "small" banks and much smaller "small" banks, and the asset size distinction would be blurred even further.

--It also became apparent that the top 20 banks vary considerably in the percentage of assets managed for pension beneficiaries. Thus, large banks cannot be characterized as holding any typical percentage of their assets for pension beneficiaries. In view of this, it is not possible to maximize comparability with regard to pension assets

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1/This discussion of untimely reporting and later discussion of quarterly reporting errors is not intended as a criticism of CDA.

managed by large and small banks in the first place. The only clustering of percentages of pension assets managed apppears to occur among the top 10 or so banks. Even here, the composition of trust-department-managed assets varies substantially between banks.

Stock preselection

All positions held by included banks which equaled or exceeded 1 percent of a company's outstanding shares on December 31, 1974, were identified. These data were prescreened to assure either a continuous reporting history or clear-cut evidence that a security was completely liquidated. Sellouts were classified as holdings that decreased at some point during the study period to 10 percent or less of their level before the sellout.

In some cases, a security held by a bank simply disappeared from one quarter to the next with no apparent explanation. A CDA official said that this phenomenon could be due to either reporting errors by the bank, mergers, or name changes. This problem was particularly acute in the first quarter of 1976 and the first quarter of 1977, but was also evident in other quarters.

The CDA data base reporting error arises because banks' quarterly transactions reports are not completely accurate. Holdings, however, are reported on an annual basis, presumably without error. CDA compiles its quarterly data on holdings as follows. Starting from holdings reported annually by banks, CDA computes new holdings for the following quarter by adding or subtracting net purchases or sales as shown in quarterly transactions reports. Subsequent quarterly holdings are computed by adjusting the previous quarter's computed holdings by net transactions data in ensuing quarters. The problem is that, when the following year's holdings report is filed, the reported holdings do not, in many cases, reconcile with the end-of-year holdings figure computed by CDA based on quarterly transactions data.

When annual reports by banks are filed, the true end-of-year holdings are reflected in "Spectrum 4," but not until the first quarter issue in the following year. Even here, to determine what the true end-of-year holdings were, it is necessary to net first quarter holdings of first quarter transactions. Because of this reporting error

problem, a stock may have sold out during a year, or have merged, with no indication that this occurred. When a bank's annual holdings report is filed, stocks which sold out during the year, but whose transactions were incorrectly reported, are not included. In "Spectrum 4," such stocks disappear in the following year's first quarter figures. Again, this problem also occurs in other quarters, but less frequently.

The holdings histories of these disappearing stocks were examined. When the holding dropped to about 10 percent or less of its December 31, 1974, level and then disappeared, it was included in the sample of all positions for the bank exceeding or equaling 1 percent of shares outstanding. If before its disappearance, the position was at more than 10 percent of its December 31, 1974 level, it was dropped from the sample because there were no justifiable grounds for assuming that it sold out or, if it did, when or at what price. In a few cases, stocks that had greater than 10 percent retention rates before disappearing were included when there was evidence of a strong selling trend.

Of 2,328 identified positions exceeding 1 percent of shares outstanding on December 31, 1974, for all banks, 172 were not included in the sample because their fate could not be determined precisely. For the top 20 bank sample, 136 out of 2,097 positions (6.5 percent) were not included; for the small bank sample, 36 out of 231 positions (15.6 percent) were not included.

THE QUARTERLY ERROR IN TRANSACTIONS REPORTS FILED WITH THE COMPTROLLER OF THE CURRENCY AND ITS ANALYTICAL IMPLICATIONS

Since the reporting error affects the accuracy of holdings figures, it also affects the accuracy of shares held as a percentage of outstandings figures. Position eliminations were identified by screening for situations in which shares held as a percentage of outstandings equaled or fell below 10 percent of shares held as a percentage of outstandings at the beginning of sellouts. This normalized all data for the effects of stock splits and stock dividends. If a comparison had been made between share holdings figures and, for example, a two-for-one stock split occurred, a 10-percent or lower retention rate might be achieved but would go unnoticed.

The problem caused by the quarterly transactions reporting error is that the precise quarterly change for many positions could not be determined with complete certainty, and in about 24 percent of the cases in which a sellout definitely occurred, the beginning and ending points of the sellout could not be determined. Thus, in these cases, it was not possible to determine precisely how long it took to eliminate the position.

The yearly cumulative error in the quarterly holdings data can be observed by comparing first quarter holdings figures for the following year (net of first quarter transactions) with the fourth quarter holdings figure for the previous year. Unfortunately, this does little to improve the data for purposes of cross-quarterly analysis. Although the size of the error is known, there is no basis for allocating this error across quarters during the year. Allocating the error evenly across four quarters of the year would bias results toward longer selling periods when that is a variable whose accurate measurement is important. On the other hand, failing to adjust data produces both shorter and longer selling periods than probably occurred. This is not a problem for all position eliminations, but is a problem for some positions that were reported to sell down to a 10-percent or lower retention rate in the first quarters of 1976 and 1977. On balance, this problem would appear to produce a net bias in the direction of overstatement of the length of the selling period.

Short of not considering questionable issues in the quantitative analysis, there is little that can be done about the reporting error problem since we do not wish to "manufacture" data. Thus, the problem issues were not included in the quantitative analysis of relationships between size of position and length of selling period, or in the price history analysis. To have included such issues might have biased results, and would certainly have introduced some statistical "noise" in the data. This, in turn would reduce the "closeness" of any relationship in which the variable to be explained is length of selling period.

Our analytical framework was designed to minimize the sensitivity of results to the reporting error problem. In addition to the problem of disappearing stocks and the inability to determine the length of selling period in some cases, it is not possible to determine the size of

position change in a given quarter for many of the issues identified as sellouts. Because of this, no interquarter transactions data analysis was done. In spite of our efforts, the problems posed by the reporting error cannot be completely overcome.

Some of the 172 positions that disappeared with no explanation were probably sellouts. But to have included these disappearing securities in the sellout sample would have been fruitless. Assuming that all of these issues sold out, we could still not have determined when the position was eliminated or at what price. The sample would have been larger, but it would also include a large number of issues that would have been estimated to sell out in one quarter. This would have introduced a very strong bias in the data toward shorter sellout periods than may have actually occurred.

The analysis ends in the first quarter of 1977 because of the quarterly reporting error and because quarterly positions over the course of a year are not reasonably adjusted for the error and reported until the first quarter of the following year. Research design and stock and bank screening had been completed before the "Spectrum 4" for the first quarter of 1978 was published.

OTHER CONSIDERATIONS

The "Spectrum 4" data on common stock holdings do not distinguish between pension plan holdings and other holdings. If there are differences in trading patterns of stocks held for personal trusts and estates versus pension plans, such differences cannot be identified. Furthermore, the data reported in "Spectrum 4" do not distinguish between proportions of holdings which may be partially or wholly controlled by others and those over which bank trust department portfolio managers have complete discretionary control. Because of this, the source of the decision regarding time taken to eliminate a position is never entirely clear cut. This analysis assumes that such decisions are made at the discretion of trust department portfolio managers.

It is not possible to precisely determine the length of selling periods because purchase and sales information is reported quarterly. Theoretically, a one-quarter position elimination may take anywhere from 1 to 90 days. In

addition, since end-of-quarter prices were used to value positions, the analysis of price histories on identified sellouts implicitly assumes that such prices prevailed over the course of an entire quarter. Nothing can be done about this problem, but because interquarter transactions analysis is avoided, the problem is not particularly acute. To the extent that end-of-quarter prices are not representative of actual selling prices, the discrepancies are assumed to be random across securities.

Finally, because our analysis begins on December 31, 1974, some sellouts that were identified as having begun at that time probably actually began earlier. Out of 128 positions whose selling periods and price histories were analyzed, 39 percent were defined as having begun on December 31, 1974. This could affect the results of the price history analysis because the methodology relates subsequent quarterly prices on sold-out positions to prices at the beginning of the selling period. Nothing can be done about this problem because data are not available for prior periods. Throughout this analysis, we assume that sellouts identified as having begun on December 31, 1974, did, in fact, begin on that date. Where this assumption has a potential important bearing on results, alternative results are presented for a sample of sellouts which excludes all issues whose selling periods were defined to begin on December 31, 1974.

This problem does not affect the precision or reliability of the relationship estimated between length of selling period and position size. For example, if there are two eliminations of 3 percent of outstanding share positions, logic would suggest that, other things equal, they would take about as long to eliminate regardless of the fact that one of the positions may have begun to sell out from, say, a 5 percent of outstanding shares level before December 31, 1974. On the other hand, the assumption probably does result in some understatement of the results for the true average size of position eliminated and average length of selling period, though its extent is indeterminate.

CHAPTER 3

THE ANALYSIS

The analysis was directed toward answering three basic questions:

--Were position eliminations important in the first place during the period of analysis?

--Is there any relationship between the size of position eliminations (as a percentage of shares outstanding) and the time taken to eliminate such positions? If there is a relationship, what are its characteristics and are there any discernible differences in this relationship between large and smaller banks?

--In general, did prices on positions that were eliminated rise, fall, or behave randomly relative to prices prevailing at the beginning of selling periods? Are there indications that price declines were associated with long selling periods?

ARE POSITION ELIMINATIONS IMPORTANT?

Statistical detail on ratios of common stock and total assets held for employee benefit accounts to total portfolio assets for each bank trust department included in the analysis is shown in table 1. Measures of the relative importance of position eliminations are shown in table 2. Several things are apparent. First, there are not enough observed position eliminations for the small bank sample to perform any detailed comparative analysis between large and small banks. Second, though the number of position eliminations was around 7.7 to 7.8 percent of all 1 percent or greater positions for large and small banks, their value at the end of 1974 was very low relative to the total value of common stock portfolios. On their face, these results indicate that position eliminations are not important. A "first glance" interpretation of the results in column 6 of table 2 is that if, on December 31, 1974, banks had given away the positions which were ultimately sold out, the value of large bank common stock portfolios would have declined by slightly over 1 percent. Small bank portfolios would have declined by slightly under 0.6 percent on the same date.

This interpretation must be qualified. Since the analysis only covers position eliminations of stocks exceeding 1 percent

Table 1

Comparative Data on Assets Managed for Pension Beneficiaries by Bank Trust Departments

Top 20 bank sample

Bank trust department	(1) Total trust department portfolio size (note a)	(2) Employee benefit accounts as a percent of total portfolio size (note a)	(3) Common stock portfolio size (Compt. of Currency) (note a)	(4) Common stock portfolio size (CDA) (note b)	(5) Common stock for employee benefits as a percent of common stock portfolio size (note a)	(6) Common stock for employee benefits as a percent of total portfolio value (note c)
	(millions)	(percent)	(millions)	(millions)	(percent)	(percent)
Morgan Guaranty Trust Co.	d/$23,525.0	d/59.81	N/A	$10,758.0	N/A	d/42.34
Citibank, N.A.	15,644.9	41.55	$7,041.5	6,749.0	54.43	24.49
Chase Manhattan Bank	12,135.3	60.68	7,883.2	6,475.9	61.05	39.66
Mellon Bank, N.A.	9,336.2	33.06	3,653.9	3,544.7	43.34	16.96
First Nat'l Bank of Chicago	6,066.1	54.27	3,786.6	3,457.3	54.95	34.30
First Nat'l Bank of Boston	4,674.7	61.96	3,058.7	3,134.5	64.16	41.98
First Nat'l Bank of Detroit	5,646.6	61.01	3,264.2	3,079.9	60.48	34.96
Continental Illinois Nat'l Bank	5,800.2	39.26	3,082.2	3,011.8	42.16	22.40
Bank of America Nat'l Trust	6,465 5	57.70	3,581.1	2,222.5	61.11	33.85
Crocker Nat'l Bank	2,645.6	36.81	1,567.3	1,283.0	41.61	24.65
New England Merchants Nat'l Bank	1,178.5	6.16	801.7	1,036.4	6.47	4.40
Mfrs. Nat'l Bank of Detroit	1,885.9	63.12	1,093.9	967.6	69.65	45.19
Hartford Nat'l Bank & Trust Co.	1,692.4	19.02	1,037.5	894.2	20.63	12.65
Mercantile Trust Co., N.A.	1,451.3	23.15	882.4	795.7	19.36	11.77
Pittsburgh Nat'l Bank	2,035.5	19.68	1,073.6	782.8	17.93	9.40
Republic Nat'l Bank of Dallas	1,164.7	38.46	707.8	689.2	53.74	32.66
Rhode Island Hospital Trust Nat'l Bank	1,107.3	19.05	658.8	579.2	12.72	7.57
Merchants Nat'l Bank & Trust Co.	661.5	7.65	457.7	497.3	5.29	3.66
American Security & Trust Co.	1,362.0	14.25	653.5	462.8	16.36	7.84
Union Nat'l Bank of Pittsburgh	797.2	17.75	457.6	428.2	4.67	2.68

Smaller 20 bank sample

First & Merchants Nat'l Bank	718.2	11.25	401.8	338.4	12.40	6.94
Indiana Nat'l Bank	1,049.7	12.66	371.7	319.6	10.83	3.83
First Nat'l Bank of Atlanta	957.8	31.85	361.6	300.4	22.03	8.32
Midlantic Nat'l Bank	643.8	17.94	337.1	296.8	15.76	8.25
North Carolina Nat'l Bank	845.7	29.88	360.1	279.1	26.36	11.22
American Nat'l Bank & Trust of New Jersey	427.4	6.66	254.0	257.3	3.37	2.00
Citizens & Southern Nat'l Bank/Atlanta	1,584.5	16.41	549.0	243.6	10.68	3.70
Texas Commerce Bank, N.A.	657.7	20.65	312.7	242.4	21.51	10.23
First City Nat'l Bank of Houston	691.3	24.20	314.7	228.6	34.92	15.90
Bank of Southwest, N.A./ Houston	453.7	29.64	229.0	210.7	29.96	15.12
U.S. Nat'l Bank of Oregon	645.9	24.80	296.3	208.8	27.96	12.83
United Bank of Denver, N.A.	495.6	41.94	205.9	171.2	42.98	17.86
Commerce Bank of Kansas City, N.A.	515.3	35.78	247.7	162.8	29.50	14.18
Ranier Nat'l Bank/Seattle	461.3	12.07	187.4	162.7	14.17	5.76
Union Planters Nat'l Bank/Memphis	365.1	11.47	167.6	157.1	11.43	5.25
Virginia Nat'l Bank	380.2	16.36	176.3	124.0	12.26	5.69
Nat'l Commercial Bank & Trust	303.6	22.87	125.9	103.8	26.07	10.83
Atlantic Nat'l Bank of Jacksonville	358.5	33.23	113.6	96.0	24.56	7.78
South Carolina Nat'l Bank	344.1	e/25.61	176.2	93.3	27.26	13.96
First Nat'l Bank of Fort Worth	523.8	14.70	118.6	87.9	30.82	6.98

a/Source: Trust Department Annual Reports for Selected Banks for the Year 1974 filed with the Comptroller of the Currency.

b/Source: "Spectrum IV, Bank Portfolios," Quarter ended Dec. 31, 1974. Computer Directions Advisors., Inc.

c/Column (5) times Column (3), divided by Column (1).

d/Source: "Bank Trust Stock Holdings: Responses to Financial Markets Subcommittee Questionnaire," Subcommittee on Financial Markets, Senate Committee on Finance, U.S. Government Printing Office, June. Data are as of June 30, 1975.

e/Data are an average of 1973 and 1975 figures. 1974 figures are unavailable.

Note Data from Trust Department Reports include fully discretionary accounts and investments that are partially or wholly directed by others. All data are valued at market values.

Table 2

Relative Importance of the Number of Position Eliminations as a Percentage of All 1 Percent or Greater Positions and the Value of Eliminations at the End of 1974

Bank trust department	(1) Number of sellouts (note a)	(2) Number of 1 percent or greater positions (note a)	(3) Ratio of numbers	(4) Value of sellouts (note a)	(5) Portfolio value (note a)	(6) Ratio of values	(7) Estimated ratio of value of sellouts to total portfolio value as they affect employee benefit plans (note b)
			(percent)	(000 omitted)		(percent)	
Top 20 bank sample							
Morgan Guaranty Trust Co.	35	390	8.97	$232,885	$10,758,012	2.16	1.52
Citibank, N.A.	12	212	5.66	28,196	6,749,049	0.42	0.25
Chase Manhattan Bank	38	330	11.52	142,167	6,475,899	2.20	1.43
Melion Bank, N.A.	18	143	12.59	21,924	3,544,746	0.62	0.32
First Nat'l Bank of Chicago	10	127	7.87	41,815	3,457,372	1.21	0.76
First Nat'l Bank of Boston	3	90	3.33	10,099	3,134,511	0.32	0.22
First Nat'l Bank of Detroit	5	95	5.26	29 419	3,079,875	0.99	0.57
Continental Illinois Nat'l Bank	3	107	2.80	[illegible]	3,011,774	1.58	0.90
Bank of America Nat'l Trust	16	165	9.70	[illegible]	2,222,472	0.94	0.55
Crocker Nat'l Bank	0	32	0.00	[illegible]	1,263,044	0.00	0.00
New England Merchants Nat'l Bank	0	34	0.00	0	1,036,360	0.00	0.00
Mfrs. Nat'l Bank of Detroit	0	26	0.00	0	967,362	0.00	0.00
Hartford Nat'l Bank & Trust Co.	0	40	0.00	0	894,242	0.00	0.00
Mercantile Trust Co., N.A.	1	31	3.23	1,889	795,665	0.24	0.12
Pittsburgh Nat'l Bank	4	28	14.29	12,141	782,768	1.55	0.75
Republic Nat'l Bank of Dallas	8	39	20.51	13,342	689,207	1.94	1.64
Rhode Island Hospital Trust Nat'l Bank	0	27	0.00	0	579,214	0.00	0.00
Merchants Nat'l Bank & Trust Co.	0	15	0.00	0	497,285	0.00	0.00
American Security & Trust Co.	0	19	0.00	0	462,845	0.00	0.00
Union Nat'l Bank of Pittsburgh	1	11	9.09	209	428,181	0.05	0.00
Total	154	1,961	7.85	$60[illegible],513	$50,849,883	1.19	0.88
Smaller 20 bank sample							
First & Merchants Nat'l Bank	5	24	20.83	$ 2,775	$ 338,439	0.82	0.50
Indiana Nat'l Bank	2	14	14.29	5,639	319,567	1.76	0.53
First Nat'l Bank of Atlanta	1	17	5.88	792	300,413	0.26	0.06
Midlantic Nat'l Bank	1	9	11.11	1,023	296,844	0.34	0.16
North Carolina Nat'l Bank	0	17	0.00	0	279,068	0.00	0.00
American Nat'l Bank & Trust of New Jersey	0	3	0.00	0	257,292	0.00	0.00
Citizens & Southern Nat'l Bank/Atlanta	0	24	0.00	0	243,586	0.00	0.00
Texas Commerce Bank, N.A.	2	10	20.00	1,520	242,386	0.63	0.31
First City Nat'l Bank of Houston	1	13	7.69	11,1[illegible]3	228,614	4.88	3.21
Bank of Southwest, N.A./ Houston	1	8	12.50	365	210,678	0.17	0.09
U.S. Nat'l Bank of Oregon	0	7	0.00	0	208,842	0.00	0.00
United Bank of Denver, N.A.	0	6	0.00	0	171,194	0.00	0.00
Commerce Bank of Kansas City, N.A.	1	9	11.11	142	162,821	0.09	0.03
Ranier Nat'l Bank/Seattle	0	5	0.00	0	162,702	0.00	0.00
Union Planters Nat'l Bank, Memphis	0	5	0.00	0	157,063	0.00	0.00
Virginia Nat'l Bank	0	6	0.00	0	124,029	0.00	0.00
Nat'l Commercial Bank & Trust	0	3	0.00	0	103,850	0.00	0.00
Atlantic Nat'l Bank of Jacksonville	1	6	16.67	96	96,027	0.10	0.02
South Carolina Nat'l Bank	0	6	0.00	0	93,269	0.00	0.00
First Nat'l Bank of Fort Worth	0	3	0.00	0	87,939	0.00	0.00
Total	15	195	7.69	$23,515	$4,084,623	0.58	0.28

a/Source: "Spectrum IV, "Computer Directions Advisors, Inc., from the quarter ending December 31, 1974, through the quarter ending March 31, 1977.

b/Calculated as the product of the ratio of common stock managed for employee benefit plans to total trust department portfolio value (table 1) and the ratio of the value of position eliminations to total common stock portfolio value; divided by employee benefit accounts as a percent of total portfolio size (table 1).

of outstanding shares on December 31, 1974, using another starting point to identify 1 percent positions and subsequent sellouts would result in identification of still more position eliminations. Quarter-to-quarter changes in the number of 1 percent or greater positions are probably small, and more position eliminations would probably occur annually.

On the other hand, our analysis does cover 2-1/2 years and not all sellouts began at the beginning of the period. Therefore, on an annual basis, the number and value of position eliminations would be lower than indicated in table 2. Obviously, had a longer period been covered for analyzing December 31, 1974, positions, more position eliminations would have been identified and the ratio of their values to common stock portfolio values would have correspondingly increased.

Since the prescreening procedures resulted in the deletion of 172 issues due to unexplained disappearances, our figures may understate the importance of position eliminations since some of these disappearing stocks probably sold out. Assuming that all 172 positions which disappeared were actually sellouts, the ratio of values shown in table 2 would only increase from an average of 1.19 percent to 1.88 percent for the top 20 bank sample, and from an average of 0.58 percent to 1.34 percent for the smaller 20 bank sample.

There is an additional consideration. To determine how important identified position elimination values were in terms of pension beneficiary interests, the ratios in column 6 of table 2 must be adjusted to take into account the fact that common stock holdings are only part of total trust department assets held for pension beneficiaries. The effect of this adjustment is shown in column 7 of table 2. The figures indicate the decline in the value of assets managed for employee benefit plans if issues which were ultimately sold out had been given away on December 31, 1974. For the top bank sample the decline would have been between 0.8 and 0.9 percent. For the smaller banks, the decline would have been sightly under 0.3 percent. Invoking the assumption made above about disappearing stocks, the ratios would increase to about 1.3 percent for large banks and to about 0.4 percent for the smaller banks.

These results indicate that, even if the concerns about bank illiquidity are empirically verified, position eliminations as they affect pension beneficiaries do not seem very important during the period analyzed.

IS THERE A RELATIONSHIP BETWEEN THE SIZE OF THE POSITION ELIMINATION AND THE LENGTH OF THE SELLING PERIOD?

Procedures for characterizing length of selling period

Ten quarters of data on share holdings and shares held as a percent of outstanding shares were examined to measure the length of sellout periods. Because of the reporting error in the data base, it is not possible to characterize position eliminations as involving consistent versus intermittent selling with a large degree of assurance. There may have been net selling when no activity was reported. Therefore, two measures were developed to characterize the nature of the selling effort over its duration:

--The time elapsed between the point at which the holding as a percent of shares outstanding reached its peak--and then began to sell down--and the point at which shares held as a percent of outstanding shares were 10 percent of the peak position.

--The number of quarters in which selling was reported to have occurred during the sellout period. In many cases, there is a one-to-one correspondence between length of selling period and the number of quarters in which selling occurred. However, much of this correspondence is because many sellouts were only one quarter long.

The reader is reminded that, in about 24 percent of all sellouts identified, the length of selling period could not be determined. These issues are not included in the following analysis.

Table 3

Distribution of Position Eliminations by the Length of Time Taken to Achieve the Elimination and the Size of the Position at the Beginning of the Elimination as a Percent of Shares Outstanding

(Top 20 Bank Sample)

Size of position as a percent of shares outstanding	Total issues	Length of time taken to eliminate position: 1 qtr.	2 qtrs.	3 qtrs.	4 qtrs.	5 qtrs.	6 qtrs.	7 qtrs.	8 qtrs.	9 qtrs.	Average length of time
1.0 - 2.99	86	33	11	6	10	6	5	7	5	3	3.36
3.0 - 4.99	23	9	3	3	3	1	1	1	2	0	3.04
5.0 - 6.99	3	1	0	0	0	0	1	0	1	0	5.00
7.0 - 8.99	6	0	0	0	0	2	0	1	2	1	7.00
9.0 - 10.99	1	0	0	0	0	0	*1	0	0	0	6.00
11.0 - 12.99	2	0	0	*1	0	0	0	0	0	*1	6.00
13.0 - 14.99	0	0	0	0	0	0	0	0	0	0	-
15.0 and Over	1	0	0	0	0	*1	0	0	0	0	5.00
Total	122	43	14	10	13	10	8	9	10	5	3.60
Average size of position	3.05	2.51	2.43	3.60	2.46	4.92	3.75	2.89	4.00	5.20	

Table 4

(Top 9 Bank Sample)

1.0 - 2.99	79	31	8	5	10	6	5	6	5	3	3.43
3.0 - 4.99	23	9	3	3	3	1	1	1	2	0	3.04
5.0 - 6.99	2	0	0	0	0	0	1	0	1	0	7.00
7.0 - 8.99	6	0	0	0	0	2	0	1	2	1	7.00
9.0 - 10.99	1	0	0	0	0	0	*1	0	0	0	6.00
11.0 - 12.99	2	0	0	*1	0	0	0	0	0	*1	6.00
13.0 - 14.99	0	0	0	0	0	0	0	0	0	0	-
15.0 and Over	1	0	0	0	0	*1	0	0	0	0	5.00
Total	114	40	11	9	13	10	8	8	10	5	3.68
Average size of position	3.17	2.45	2.54	3.78	2.46	4.92	3.75	3.00	4.00	5.20	

*Morgan Guaranty Trust Positions.

Table 5

Distribution of Position Eliminations by the Length of Time Taken to Achieve the Elimination and the Size of the Position at the Beginning of the Elimination as a Percent of Shares Outstanding

(Smaller 20 Bank Sample)

Size of position as a percent of shares outstanding	Total issues	Length of time taken to eliminate position: 1 qtr.	2 qtrs.	3 qtrs.	4 qtrs.	5 qtrs.	6 qtrs.	7 qtrs.	8 qtrs.	9 qtrs.	Average length of time
1.0 - 2.99	5	3	1	1	0	0	0	0	0	0	1.60
3.0 - 4.99	0	0	0	0	0	0	0	0	0	0	-
5.0 - 6.99	0	0	0	0	0	0	0	0	0	0	-
7.0 - 8.99	1	1	0	0	0	0	0	0	0	0	1.00
9.0 - 10.99	0	0	0	0	0	0	0	0	0	0	-
11.0 - 12.99	0	0	0	0	0	0	0	0	0	0	-
13.0 - 14.99	0	0	0	0	0	0	0	0	0	0	-
15.0 and over	0	0	0	0	0	0	0	0	0	0	-
Total	6	4	1	1	0	0	0	0	0	0	2.16
Average size of position	3.00	3.50	2.00	2.00	-	-	-	-	-	-	

Table 6

(Smaller 31 Bank Sample)

1.0 - 2.99	12	5	4	2	0	0	0	1	0	0	2.16
3.0 - 4.99	0	0	0	0	0	0	0	0	0	0	-
5.0 - 6.99	1	1	0	0	0	0	0	0	0	0	1.00
7.0 - 8.99	1	1	0	0	0	0	0	0	0	0	1.00
9.0 - 10.99	0	0	0	0	0	0	0	0	0	0	-
11.0 - 12.99	0	0	0	0	0	0	0	0	0	0	-
13.0 - 14.99	0	0	0	0	0	0	0	0	0	0	-
15.0 and over	0	0	0	0	0	0	0	0	0	0	-
Total	14	7	4	2	0	0	0	1	0	0	1.50
Average size of position	2.71	3.43	2.00	2.00	-	-	-	2.00	-	-	

Table 7

Distribution of Position Eliminations by the Length of Time Taken to Achieve the Elimination and the Size of the Position at the Beginning of the Elimination as a Percent of Shares Outstanding

(Top 20 Bank Sample)

Size of position as a percent of shares outstanding	Total issues	Number of quarters in which net selling took place: 1 qtr.	2 qtrs.	3 qtrs.	4 qtrs.	5 qtrs.	6 qtrs.	7 qtrs.	8 qtrs.	9 qtrs.	Average length of time
1.0 - 2.99	86	33	13	18	11	7	3	0	0	1	2.55
3.0 - 4.99	23	9	3	4	3	3	0	1	0	0	2.65
5.0 - 6.99	3	1	0	0	0	1	1	0	0	0	4.67
7.0 - 8.99	6	0	0	0	2	3	1	0	0	0	4.83
9.0 - 10.99	1	0	0	0	0	0	1	0	0	0	6.00
11.0 - 12.99	2	0	0	1	0	0	0	0	1	0	5.50
13.0 - 14.99	0	0	0	0	0	0	0	0	0	0	-
15.0 and over	1	0	0	0	0	1	0	0	0	0	5.00
Total	122	43	16	23	16	14	6	2	1	1	2.83
Average size of position	2.93	2.51	2.37	2.78	3.12	4.80	5.00	5.00	12.00	2.00	

Table 8

(Top 9 Bank Sample)

1.0 - 2.99	79	31	10	17	11	6	3	0	0	1	2.57
3.0 - 4.99	23	9	3	4	3	3	0	1	0	0	2.65
5.0 - 6.99	2	0	0	0	0	0	1	1	0	0	6.50
7.0 - 8.99	6	0	0	0	2	3	1	0	0	0	4.83
9.0 - 10.99	1	0	0	0	0	0	1	0	0	0	6.00
11.0 - 12.99	2	0	0	1	0	0	0	0	1	0	5.50
13.0 - 14.99	0	0	0	0	0	0	0	0	0	0	-
15.0 and over	1	0	0	0	0	1	0	0	0	0	5.00
Total	114	40	13	22	16	13	6	2	1	1	2.85
Average size of position	3.17	2.45	2.46	2.82	3.12	5.01	5.00	5.00	12.00	2.00	

Table 9

Distribution of Position Eliminations by the Length of Time Taken to Achieve the Elimination and the Size of the Position at the Beginning of the Elimination as a Percent of Shares Outstanding

(Smaller 20 Bank Sample)

Size of position as a percent of shares outstanding	Total issues	Number of quarters in which net selling took place: 1 qtr.	2 qtrs.	3 qtrs.	4 qtrs.	5 qtrs.	6 qtrs.	7 qtrs.	8 qtrs.	9 qtrs.	Average length of time
1.0 - 2.99	5	3	1	1	0	0	0	0	0	0	1.60
3.0 - 4.99	0	0	0	0	0	0	0	0	0	0	-
5.0 - 6.99	0	0	0	0	0	0	0	0	0	0	-
7.0 - 8.99	1	1	0	0	0	0	0	0	0	0	1.00
9.0 - 10.99	0	0	0	0	0	0	0	0	0	0	-
11.0 - 12.99	0	0	0	0	0	0	0	0	0	0	-
13.0 - 14.99	0	0	0	0	0	0	0	0	0	0	-
15.0 and over	0	0	0	0	0	0	0	0	0	0	-
Total	6	4	1	1	0	0	0	0	0	0	1.50
Average size of position	3.00	3.50	2.00	2.00	-	-	-	-	-	-	1.50

Table 10

(Smaller 31 Bank Sample)

1.0 - 2.99	12	5	4	2	0	1	0	0	0	0	2.00
3.0 - 4.99	0	0	0	0	0	0	0	0	0	0	-
5.0 - 6.99	1	1	0	0	0	0	0	0	0	0	1.00
7.0 - 8.99	1	1	0	0	0	0	0	0	0	0	1.00
9.0 - 10.99	0	0	0	0	0	0	0	0	0	0	-
11.0 - 12.99	0	0	0	0	0	0	0	0	0	0	-
13.0 - 14.99	0	0	0	0	0	0	0	0	0	0	-
15.0 and over	0	0	0	0	0	0	0	0	0	0	-
Total	14	7	4	2	0	1	0	0	0	0	-
Average size of position	2.71	3.43	2.00	2.00	-	2.00	-	-	-	-	1.86

Frequency distributions of position eliminations by the two measures of selling period and size of position are presented in tables 3 through 10. In tables 11 and 12, the results of correlation and regression analyses are presented. Regression and correlation analyses are convenient means of summarizing any central tendencies in the frequency distribution data, and they enable one to reach conclusions about the strength of relationships and their statistical significance. 1/

The frequency distributions provide some interesting insights. One of the more important results is that only 13 of the 122 included positions sold out by the top 20 bank sample represented holdings exceeding 5 percent of shares outstanding. For the smaller banks, one out of six sellout positions represented more than 5 percent of shares outstanding.

There is very little difference between the average size of position eliminations for large and small banks.

1/The statistical significance of results (or lack of it) is discussed throughout the remainder of this analysis. It is important to understand what the term "statistical significance" means and why significance tests on correlations between variables and on average values of variables are performed. Since the data are a sample of certain position eliminations for certain banks, over a certain period, we would like to know whether calculated correlations or values of averages would be greatly different if another sample with the same basic characteristics was constructed. The test for significance consists of determining the risk that a calculated value might be accidental in the sense that chance variation in the sample being examined could produce what seem like expected values when no such values are really characteristic of the underlying population being sampled from. All significance tests performed in this analysis are at the "95-percent level of confidence." To say that an observed sample value is statistically significant means that the probability that the true value for the population is zero, given our observed sample value, is less than 5 percent. To say that an observed average or correlation coefficient is statistically insignificantly different from zero means that on the basis of our sample value we cannot be at least 95 percent confident that the true population value is not zero. Whenever we refer to "significant" or "insignificant" results, this is what we mean.

There is a larger difference between the length of time taken by large and small banks to eliminate positions. Large banks took roughly 1-1/2 quarters longer than smaller banks to sell off positions. The number of observations for the smaller bank sample is not large enough to place much inferential reliance on either the calculated average size of position or average length of selling period. (Compare tables 3 and 5.) 1/

There is tremendous variation in the time taken to achieve a position elimination of a given size. Not much can be said about the time taken by large banks to eliminate relatively large positions (for example, those exceeding 5 percent of shares outstanding) since there are few examples. Similarly, little can be said about small banks. It does seem clear that, for those positions which were less than 5 percent of outstanding shares, there are other influences affecting the sellout period which may or may not individually be more important than position size. Collectively, these influences do seem more important. Similar remarks apply regarding the relationship between size of position and the number of quarters in which sales were reported during the selling period. It is beyond the scope of this study to identify other potential influences and quantify their impact on length of selling period.

Where the number of observations was sufficient to obtain some semblance of statistical reliability, correlation analysis was performed on a bank-by-bank basis between position size as a percent of shares outstanding and the two measures used to characterize selling periods. The

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1/When the sellouts identified as having begun on December 31, 1974, are excluded from the averages, the results are as follows:

	Average size of position	Average length of selling period
	(percent)	(quarters)
Top 20 banks	2.85	3.19
Smaller 20 banks	2.70	1.20
Top 9 banks	2.86	3.20
Smaller 31 banks	2.67	2.00

results are shown in table 11. Of the top 20 banks, only half had included position eliminations. 1/ Of those 10 banks, only 7 had enough position eliminations to allow correlation analysis to be made. 2/ Of the smaller 20 banks, only 5 had included position eliminations and none had enough position eliminations for correlation analysis.

There is a significantly positive correlation for Morgan Guaranty Trust Company between position elimination size and both length of selling period and number of quarters in which sales took place. For the other top 20 sample banks that had position eliminations, either there is no correlation between size of holding and measures used to characterize selling period or, if there was a correlation, it was statistically insignificant.

Position elimination data were pooled across banks in varying ways to determine whether there were any central tendencies in the relationship between size of position and length of selling period or number of quarters of selling that would go unnoticed when examining individual banks. Position eliminations were pooled on the basis of the top 20 and smaller 20 distinction called for in the research proposal and, as an alternative, a top 9 and bottom 31 distinction. The alternative method of pooling was based on two considerations. First, the reporting discontinuities in the CDA data base resulted in exclusion of the 2d, 11th, 12th, 13th, 14th, and 16th largest banks from our analysis. As a result, the asset size break is larger between the 9th and 10th largest banks in our sample than it is between the 20th and 21st largest banks. Second, as mentioned above, any clustering of large ratios of assets managed for pension

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1/Recall that, of the 169 issues defined as sellouts, 41 are not included in this analysis of relationships between length of selling period and size of position or in the price history analysis which follows. This is because the beginning and ending points of the selling periods could not be determined. However, since it is known that the 41 issues were sold out, they are included in the previous section. This has the effect of reducing the number of large banks with included sellouts from 13 to 10 and the number of smaller banks from 9 to 5.

2/If the number of observations in any sample cell was less than five, we did not perform any statistical analysis because of the potential unreliability of results. Our cutoff of five is largely arbitrary.

Table 11

Summary Statistics on Relationship Between Both Length of Time of Position Eliminations and Number of Quarters in which Sales Took Place and Percent of Oustanding Shares Held (By Bank)

Bank trust department	Positions eliminated	Average duration of position elimination (quarters)	Average number of quarters in which net selling took place	Percent outstanding shares held	Correlation between percent of outstanding shares held and duration of position elimination (note a)	Correlation between percent of ouststanding shares held and no. of quarters in which net selling took place (note a)
Morgan Guaranty Trust Co.	32	4.84	3.56	4.85	*.3369	*.5896
Citibank, N.A.	10	4.10	3.90	3.03	.3886	.4328
Chase Manhattan Bank	30	3.13	2.43	2.46	.0000	.0855
Mellon Bank, N.A.	17	2.94	2.35	1.87	.0000	.0000
First Nat'l Bank of Chicago	9	3.67	3.33	1.67	.0000	.3444
First Nat'l Bank of Detroit	2	8.50	4.00	2.25	(b)	(b)
Bank of America Nat'l Trust	14	2.14	1.71	2.16	.2185	.1789
Mercantile Trust Co., N.A.	1	2.00	2.00	1.50	(b)	(b)
Republic National Bank of Dallas	6	2.67	2.33	1.50	.0000	.0000
Union Nat'l Bank of Pittsburgh	1	1.00	1.00	5.80	(b)	(b)
Midlantic Nat'l Bank	1	3.00	3.00	1.00	(b)	(b)
Texas Commerce Bank, N.A.	2	1.50	1.50	1.10	(b)	(b)
First City Nat'l Bank of Houston	1	1.00	1.00	7.40	(b)	(b)
Commerce Bank of Kansas City, N.A.	1	1.00	1.00	1.20	(b)	(b)
Atlantic Nat'l Bank of Jacksonville	1	1.00	1.00	2.70	(b)	(b)

a/Corrected correlation coefficients from bivariate least squares regression.

b/Not calculated.

*Indicates statistical significance at the 95-percent level of confidence.

beneficiaries in relation to total portfolio value occurs among the top 10 or so banks. It seemed reasonable to present results for those banks separately.

The quantitative relationship between position size and both length of selling period and number of quarters of selling was estimated using bivariate regression estimation techniques. The results are presented in table 12.

There is a significant positive relationship between the size of position eliminations as a percentage of outstanding shares and the length of selling program for both the top 20 and top 9 banks. There is virtually no relationship of this sort for the smaller 20 or the smaller 31 banks. Though the relationship between length of selling period and position size is statistically significant, it is very weak. Only 9.2 percent of the variation in length of selling period is "explained" by variation in size of position for the top 20 banks sample. The same statistic for the top nine banks is 9.6 percent.

The significant results described above are caused by position elimination data for Morgan Guaranty Trust Company. Only this bank has both very large position eliminations and associated relatively long selling periods. 1/ These observations tend to "pull" the relationship for all banks in the hypothesized direction. When Morgan is excluded from the top 20 and top 9 banks, correlation is virtually nonexistent. 2/

The relationship estimated between number of quarters in which sales took place during the selling period and the size of positions eliminated for the large banks is somewhat closer. All results are statistically significant for the large bank samples regardless of whether Morgan Guaranty Trust Company is included. Nevertheless, the power of size of position in explaining the number of

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1/The positions which we are referring to are indicated by asterisks in tables 3 and 4.

2/The effect of removing observations for Morgan Guaranty Trust Company is to reduce the variance of the independent variable. In general, this would reduce the likelihood of finding the theorized relationship. Nevertheless, examination of the data in tables 3 through 10 indicates that no strong relationship existed during the period analyzed.

Table 12

Pooled Bank Regression Results

(Independent Variable: Shares Held As a Percent of Outstanding Shares)

Dependent variable/ included banks	Intercept	Slope	$\bar{R}^2$	$\bar{r}$	S_e	F
Len. elim./top 20	*2.64 (7.61)	*0.3264 (3.64)	0.0919	0.3031	2.51	13.25
Len. elim./smaller 20	*1.82 (3.60)	-.1333 (.88)	-.0477	.0000	.86	.77
Len. elim./top 20--Morgan Guaranty	*2.73 (5.06)	.1902 (.90)	-.0021	.0000	2.47	.82
Len. elim./top 9--Morgan Guaranty to Bank of America	*2.70 (7.44)	.3305 (3.60)	.0959	.3097	2.53	12.99
Len. elim./Citibank to Bank of America (Top 9--Morgan)	*2.68 (4.57)	.2450 (1.07)	.0019	.0437	2.51	1.16
Len. elim./Mercantile to Atlantic Nat'l (smaller 31)	*2.46 (3.66)	-.2081 (.89)	-.0157	.0000	1.63	.80
Len. elim./Citibank to Atlantic Nat'l (all but Morgan)	*2.78 (5.68)	.1200 (.64)	-.0062	.0000	2.44	.41
#Qtrs. sales/top 20	*1.92 (8.40)	*.3112 (5.28)	.1817	.4262	1.65	27.86
#Qtrs. sales/smaller 20	*1.82 (3.60)	-.1333 (.88)	-.0477	.0000	.86	.77
#Qtrs. sales/top 20--Morgan Guaranty	[illegible]	*.3086 (2.12)	.0379	.1947	1.71	4.51
#Qtrs. sales/top 9--Morgan Quaranty to Bank of America	*1.92 (8.09)	*.3194 (5.31)	.1940	.4405	1.66	28.20
#Qtrs. sales/Citibank to Bank of America (Top 9--Morgan)	*1.75 (4.34)	*.3812 (2.43)	.0572	.2392	1.72	5.92
#Qtrs. sales/Mercantile to Atlantic Nat'l (smaller 31)	*2.28 (4.60)	-.1918 (1.16)	.0269	.1640	1.15	1.36
#Qtrs. sales/Citibank to Atlantic Nat'l (all but Morgan)	*2.01 (5.87)	.2195 (1.68)	.0189	.1376	1.70	2.83

*Denotes statistical significance at the 95-percent level of confidence.

Note: T-values are in parentheses.

quarters of selling is still low. There is no relationship between size of position elimination and number of quarters of selling for the smaller banks.

The results shown in table 12 confirm our impression that many things besides position size as a percent of shares outstanding contribute to the amount of time taken by banks to eliminate positions. The ability of size of position to explain length of selling period, though significant, is quite low and dominated by one bank.

WHAT WAS THE BEHAVIOR OF PRICES ON POSITIONS WHICH WERE ELIMINATED?

In this section, the following question is addressed: Was there any indication of a general tendency for prices to have declined during position eliminations relative to prices at the beginning of sellout periods? If so, are greater price declines associated with longer selling periods? No portfolio performance implications can be drawn from this analysis. The average price at which sold-out positions were purchased is unknown, as are the prices at which individual transactions occurred. Available data include only end-of-quarter prices. In addition, the specific set of positions being examined is a very small proportion of total bank portfolio values.

Prices changes were analyzed as a percentage of prices at the beginning of the quarter in which selling began. All price changes were calculated and summarized by the number of quarters elapsed since the beginning of the position elimination. Both market-adjusted and raw price changes were analyzed on a bank-by-bank basis and also on a pooled basis identical with the method of pooling used in the previous section. This was done only for the sake of analytical symmetry. All averages reflect weighting by position market value at the beginning of the selling period. Results are presented in tables 13 through 15.

Raw price changes

Raw price changes as a percentage of prices at the beginning of position eliminations by time elapsed since the beginning of selling are presented in table 13 on a bank-by-bank basis. These data are value-weighted average price changes on positions whose sellout periods were one quarter or more, two quarters or more, three quarters or more, etc.

Table 1

Raw Price Changes as a Percent of Prices in the Quarter When Position Elimination Began (By Number of Quarters Elapsed Since Sellout Began)

Bank trust department	Number of quarters elapsed since beginning of position elimination								
	One	Two	Three	Four	Five	Six	Seven	Eight	Nine
Morgan Guaranty Trust Co.	*7.36	*23.53	15.34	21.39	17.40	*39.10	*49.96	44.79	a/142.60
Citibank, N.A.	*27.61	40.42	29.47	41.40	*52.76	a/54.59	-	-	-
Chase Manhattan Bank	*7.92	9.91	1.11	-1.60	4.69	33.05	a/67.95	a/87.24	-
Mellon Bank, N.A.	14.93	16.44	-4.57	33.80	a/66.78	a/69.90	a/55.22	a/51.65	a/ 51.45
First Nat'l Bank of Chicago	*18.48	*42.92	27.02	a/43.13	a/37.17	a/64.82	a/84.48	a/96.25	a/107.95
First Nat'l Bank of Detroit	a/34.38	a/27.62	a/28.60	a/55.30	a/72.64	a/78.73	a/91.34	a/76.12	a/46.38
Bank of America Nat'l Trust	3.03	4.89	a/-19.73	a/-7.66	a/-27.94	a/-56.47	a/-59.04	-	-
Mercantile Trust Co., N.A.	a/43.39	a/152.52	-	-	-	-	-	-	-
Republic Nat'l Bank of Dallas	*25.30	a/-17.06	a/10.32	a/53.97	a/46.30	a/.90	a/21.51	-	-
Union Nat'l Bank of Pittsburgh	-	-	-	-	-	-	-	-	-
Midlantic Nat'l Bank	a/127.03	a/221.60	a/271.46	-	-	-	-	-	-
Texas Commerce Bank, N.A.	a/-2.55	a/-33.34	-	-	-	-	-	-	
First City Nat'l Bank of Houston	a/32.38	-	-	-	-	-	-	-	-
Commerce Bank of Kansas City, N.A.	a/-16.42	-	-	-	-	-	-	-	-
Atlantic Nat'l Bank of Jacksonville	a/-51.78	-	-	-	-	-	-	-	-

*Denotes statistical significance at the 95-percent level of confidence.

a/Insufficient number of observations for purposes of statistical testing.

Note: Price changes are calculated to the first quarter in which retention of original position was 10 percent or less. Price changes are based on changes in the market capitalization of companies whose securities are held by the banks. Changes in market capitalization of companies were used so that price changes would be adjusted for stock splits and stock dividends. These data are subject to a rounding error which is assumed to cancel across securities. All price changes reflect weighting by the market value of positions at the beginning of position eliminations.

Table 14

Market-Adjusted Price Changes as a Percent of Prices in the Quarter When Position Elimination Began (By Number of Quarters Elapsed Since Sellout Began)

Bank trust department	Number of quarters elapsed since beginning of position elimination								
	One	Two	Three	Four	Five	Six	Seven	Eight	Nine
Morgan Guaranty Trust Co.	*-10.30	-.44	-3.70	-6.73	-24.87	-3.70	9.88	7.28	a/92.65
Citibank, N.A.	13.67	18.58	12.53	18.50	19.52	a/27.68	-	-	-
Chase Manhattan Bank	-5.46	.78	-9.20	*-25.36	*-23.40	-9.40	35.49	67.20	-
Mellon Bank, N.A.	3.05	-.87	-22.37	11.48	a/29.82	a/26.41	a/12.92	a/12.24	a/1.50
First Nat'l Bank of Chicago	-3.40	9.18	1.41	a/-11.76	a/-11.55	a/16.22	a/31.19	a/40.20	a/58.00
First Nat'l Bank of Detroit	a/20.68	a/18.01	a/17.98	a/31.29	a/44.11	a/46.84	a/58.89	a/47.69	a/-3.57
Bank of America Nat'l Trust	-3.32	-9.86	a/-27.14	a/-30.37	a/-50.25	a/-82.34	a/-83.96	-	-
Mercantile Trust Co., N.A.	a/18.47	a/114.75	-	-	-	-	-	-	-
Republic Nat'l Bank of Dallas	11.66	a/-20.97	a/4.45	a/32.46	a/24.83	a/-24.97	a/-3.41	-	-
Union Nat'l Bank of Pittsburgh	-	-	-	-	-	-	-	-	-
Midlantic Nat'l Bank	a/102.11	a/183.84	a/245.22	-	-	-	-	-	-
Texas Commerce Bank, N.A.	a/-16.01	a/-34.60	-	-	-	-	-	-	
First City Nat'l Bank of Houston	a/27 62	-	-	-	-	-	-	-	-
Commerce Bank of Kansas City, N.A.	a/-8.05	-	-	-	-	-	-	-	-
Atlantic Nat'l Bank of Jacksonville	-43.42	-	-	-	-	-	-	-	-

*Denotes statistical significance at the 95-percent level of confidence.

a/Insufficient number of observations for purposes of statistical testing.

Note: Price changes are calculated to the first quarter in which retention of original position was 10 percent or less. Price changes are based on changes in the market capitalization of companies whose securities are held by the banks. Changes in market capitalization of companies were used so that price changes would be adjusted for stock splits and stock dividends. These data are subject to a rounding error which is assumed to cancel across securities. All price changes reflect weighting by the market value of positions at the beginning of position eliminations.

Table 15

Pooled Price Change Results for Various Categorizations of Banks
All Price Changes Expressed as a Percentage of Prices When Eliminations Begin

Bank sample category	Quarters elapsed since elimination began								
	One	Two	Three	Four	Five	Six	Seven	Eight	Nine
Raw Price Changes									
Top 20 banks	*11.33	*20.73	*11.78	*18.05	*18.96	*44.71	*60.36	*59.09	a/113.57
Smaller 20 banks	*30.09	a/102.33	a/271.46	-	-	-	-	-	-
Top 9 banks	*10.70	*21.28	*11.82	*17.95	*18.88	*44.93	*60.67	*59.09	a/113.57
Smaller 31 banks	*28.47	15.07	a/30.42	a/53.97	a/46.30	a/.90	a/21.51	-	-
Top 20--Morgan	*14.22	*18.58	*8.90	*15.41	*20.26	*54.37	*78.01	*83.44	a/91.60
Top 9--Morgan	*13.30	*19.46	*8.82	*15.22	*20.11	*55.14	*79.24	*83.44	a/91.60
All but Morgan	*15.14	*19.18	*10.02	*15.41	*20.26	*54.37	*78.01	*83.44	a/91.60
Market-adjusted price changes									
Top 20 banks	*-4.28	1.99	-4.04	-8.26	*-16.98	3.28	20.40	21.77	a/63.62
Smaller 20 banks	23.14	a/81.72	a/245.22	-	-	-	-	-	-
Top 9 banks	*-4.95	2.19	-4.28	-8.38	*-17.11	3.43	20.59	21.77	a/63.62
Smaller 31 banks	*17.47	5.54	a/22.98	a/32.46	a/24.83	a/-24.97	a/-3.41	-	-
Top 20--Morgan	.11	3.84	-4.31	-9.46	-10.42	15.33	*38.25	*46.43	a/41.65
Top 9--Morgan	-.76	4.32	-4.78	-9.68	-10.62	15.91	*39.16	*46.43	a/41.65
All but Morgan	1.45	4.40	-3.24	-9.46	-10.42	15.33	*38.25	*46.43	a/41.65

*Denotes statistical significance at the 95-percent level of confidence.

a/Insufficient number of observations for purposes of statistical testing.

Note: Price changes are calculated to the first quarter in which retention of original position was 10 percent or less. Price changes are based on changes in the market capitalization of companies whose securities are held by the banks. Changes in market capitalization of companies were used so that price changes would be adjusted for stock splits and stock dividends. These data are subject to a rounding error which is assumed to cancel across securities. All price changes reflect weighting by the market value of positions at the beginning of position eliminations.

Nothing indicates that sold-out issues were those that, in general, experienced any price deterioration. Prices were generally higher than prices prevailing when sellouts began. In some cases, prices were significantly higher.

Market-adjusted price changes

Market-adjusted price changes are presented on a bank-by-bank basis in table 14. Prices were adjusted by subtracting the change in the Standard and Poors 500 Index as a percent of the Index at the beginning of selling from raw price change data. The general market price trend was strongly positive between December 31, 1974, and March 31, 1977. In December 1974, the index averaged 67.07. It moved steadily higher throughout the period of analysis, with reversals only in the third quarter of 1976 and the first quarter of 1977. In March 1977, the index averaged 100.57.

There were some significantly negative market-adjusted price changes on eliminated positions for Morgan Guaranty Trust Company and Chase Manhattan Bank. For Morgan, prices were significantly lower after one quarter had elapsed since the beginning of selling, but after that were no different from beginning prices, statistically. For Chase Manhattan, significantly negative market-adjusted price changes occurred after four and five quarters had elapsed since the beginning of selling. In other periods, market-adjusted prices were either insignificantly different from beginning prices or there were not enough observations to calculate measures of statistical significance for these two banks. Market-adjusted price changes were statistically random for each of the other banks included in the analysis.

Pooled results

We pooled our results across banks in a fashion identical to that used for quantifying the relationship between size of position and length of selling period. The results are shown in table 15. Raw price changes were consistently significantly positive for the top 20 bank sample. For the smaller banks, prices were significantly positive after one quarter had elapsed, but there were not enough position eliminations in other quarters for reliable statistical testing. Results were the same for the top 9 and bottom 31 distinction. Neither the magnitude nor significance of raw price change results are meaningfully affected by excluding Morgan Guaranty Trust Company from the calculations.

After the raw price change data were adjusted for market-wide price movements, a pattern of price changes was produced which is somewhat difficult to characterize for the large bank sample. Price changes were significantly negative one, four, and five quarters after selling began and no different from beginning prices in other quarters. Results are nearly the same for the top nine banks. The results are changed somewhat when Morgan Guaranty Trust Company is excluded from the calculations. For both the top 20 (minus Morgan) and the top 9 (minus Morgan) banks, market-adjusted prices were significantly below beginning prices after five quarters had elapsed and significantly higher than beginning prices after seven and eight quarters had elapsed. However, the exclusion of Morgan from the price calculations has no real justification, though its exclusion was important when the relationship between position size and length of sellout was estimated. 1/

There is little, if anything, in these results to warrant concern that there were any general tendencies for raw or market-adjusted prices to decline during stretched-out sales periods. In view of this, it is difficult to attribute stretched-out sales to the notion of being "locked in." Raw price changes from beginning prices were either random or significantly positive. Market-adjusted price changes were sometimes significantly negative, sometimes significantly positive, and sometimes statistically zero.

SUMMARY

The questions addressed in this analysis are interrelated. Support for concerns over adverse impacts on pension beneficiaries which result from large holdings by large bank trust departments should indicate that virtually complete position turnovers occur fairly frequently and in a volume sufficient to at least potentially have an important impact on a bank trust department's portfolio. Assuming that position eliminations are important, it is then necessary to establish that banks do take a long time to eliminate large positions, with larger positions taking longer than their smaller counterparts.

1/Price histories for a sample of sold-out issues purged of those issues whose sellouts were defined to begin on December 31, 1974, are shown in appendix III. The results are not substantively affected when those sold-out positions are excluded; the number of times significant results are obtained is reduced.

While it is difficult to define "long" and "short," it is possible to compare length of selling period with the size of position.

Even if the first two phenomena were found to occur in some important and systematic way, nothing can be said about whether their existence adversely affects pension beneficiaries. To establish adverse impacts from stretched-out sales of large positions, it must be demonstrated that prices received on stocks sold over long periods of time were lower than they would have been without stretched-out sales.

The answers to the questions addressed in this analysis combine to produce the following findings:

--Major position eliminations do not seem very important in the first place during the period analyzed.

--Ignoring this, there was only a very weak relationship between the size of positions eliminated by large bank trust departments and the length of time taken to sell off such positions. Other things being equal, we would expect such a relationship to be strong. Relatively small (large) positions take both a short time and a long time to eliminate, with short sell-off periods somewhat more frequent than long sell-off periods. Relatively large (large) positions also take both a short and long time to eliminate, with longer selling periods somewhat more frequent.

--There is no indication of systematic declines in intrinsic values of stocks that were eliminated from bank portfolios. The results do not support the concern that stretched-out selling is due to being "locked in" to large positions in the face of adverse company or marketwide developments.

Prices on issues that were virtually or completely eliminated from bank portfolios cannot be characterized as having declined during the period of analysis; duration of stretched-out selling is not strongly explained by position size; and if there are isolated instances of the hypothesized phenomenon, the value of such positions would seem so small in relation to the total portfolio value of bank trust departments as to be unimportant to pension beneficiary interests.

APPENDIX II

MARKET CAPITALIZATIONS OF ISSUES IDENTIFIED AS SELLOUTS

Bank	Exchange-ticker symbol	Market capitalization 12/31/74 (000 omitted)
Morgan Guaranty Trust Co.	N-AYL	$ 130,817
	A-ARP	10,045
	*N-AVY	212,962
	N-BKO	389,676
	N-BKI	241,059
	O-ERCC	80,048
	N-ECK	281,886
	N-EVT	39,882
	N-FM	131,471
	N-GLB	26,932
	O-GELI	119,529
	O-HYST	56,710
	N-JP	691,400
	O-JERR	29,280
	O-LCTE	93,846
	N-LNF	29,141
	N-LOM	56,652
	O-MDNT	98,655
	O-MORS	38,400
	N-MFS	158,500
	O-NKNG	225,193
	O-PDRL	76,667
	N-PSY	207,529
	N-PIZ	58,254
	N-REX	72,150
	O-REYN	43,065
	N-RAH	344,000
	A-SIL	1,645
	O-SCNC	50,000
	N-TFB	46,871
	O-UVBK	67,192
	*N-UPJ	1,459,786
	N-VET	193,750
	N-JWC	397,000
	*N-WX	863,417

Bank	Exchange-ticker symbol	Market capitalization 12/31/74 (000 omitted)
Citibank, N.A.	N-BCR	$ 104,677
	*O-BSIM	26,250
	N-DMN	76,118
	*O-DELX	285,750
	N-HE	85,607
	N-RAM	57,821
	N-RTX	26,313
	A-SAO	90,310
	N-TE	117,429
	N-TXT	371,938
	N-WB	139,000
	N-YES	11,660
Chase Manhattan Bank	N-ABG	10,056
	N-AGL	27,371
	O-BAYS	72,500
	N-BEC	64,600
	A-BIC	36,889
	O-CACC	24,750
	*N-CSP	266,962
	N-CNF	109,750
	N-DMN	76,621
	A-DLI	5,926
	N-EQ	67,100
	*A-FGL	22,538
	N-GLB	26,769
	N-HSM	59,824
	N-HR	560,182
	O-KELY	16,743
	*A-KRC	14,789
	N-KIR	27,765
	O-LANE	28,571
	*A-LRI	8,936
	A-MK	6,372
	N-MSA	264,056
	*N-MYM	43,524
	N-MRS	6,188
	O-MTIN	11,964
	*O-OGIL	21,822
	A-OHD	20,161
	N-OSG	87,600
	A-RDC	59,467
	N-SA	888,481

Bank	Exchange-ticker symbol	Market capitalization 12/31/74
		(000 omitted)
	N-BFS	$ 18,571
	N-SXP	17,438
	O-STAG	21,920
	O-SURV	12,634
	A-SYN	829,176
	*O-TYLR	46,867
	*O-TVBC	51,423
	N-TWA	63,000
	A-UVR	8,750
Mellon Bank, N.A.	*N-ADT	90,278
	O-ACOK	33,118
	O-BNEW	69,043
	O-BSIM	27,083
	N-CML	14,178
	N-CQ	285,000
	A-ECY	16,880
	O-FMIS	143,615
	O-HEXP	10,625
	O-HYST	55,176
	O-LOWE	235,417
	O-NDTA	20,208
	O-NOBL	79,583
	N-PON	21,000
	O-ROUS	29,90
	A-RYN	72,962
	N-SFZ	68,333
	N-TMS	129,692
First Nat'l Bank of Chicago	*A-AUG	37,[illegible]77
	N-BNF	101,136
	N-DMN	75,727
	O-FNBF	75,091
	N-GLD	136,080
	N-PCG	1,347,000
	A-PLX	9,818
	N-REV	633,560
	O-SAIR	12,500
	N-VET	201,000
First Nat'l Bank of Boston	*N-ARA	286,727
	*N-EVY	45,571
	*N-FPL	525,583

Bank	Exchange-ticker symbol	Market capitalization 12/31/74
		(000 omitted)
National Bank of Detroit	*N-BA	$ 337,357
	N-CMS	257,765
	*N-NWA	272,150
	N-TA	367,545
	*N-VEL	413,667
Continental Illinois Nat'l Bank	*N-ABC	222,900
	*N-IFF	892,643
	*N-JCP	2,057,125
Bank of America Nat'l Trust	A-AGP	5,359
	N-CMB	893,182
	*A-CX	2,931
	O-CSGA	156,800
	N-CZS	10,000
	O-EXMS	23,500
	N-GLB	26,273
	O-INTS	15,909
	*N-JOL	26,189
	N-LNF	28,455
	N-NHL	47,708
	A-PBM	5,296
	N-PRX	87,158
	O-RYKF	13,038
	N-TCL	18,588
	A-UTK	11,333
Mercantile Trust Co., N.A.	N-PXM	125,933
Pittsburgh National Bank	*N-ESM	329,538
	*N-FOR	117,600
	*N-GR	198,600
	*N-MCA	246,800
Republic National Bank of Dallas	N-FHR	57,000
	N-MNC	275,400
	N-MEQ	27,235
	O-PAYL	16,769
	*A-RHC	1,120
	*O-SMAS	43,429
	N-WJ	34,500
	N-WHR	515,615

Bank	Exchange-ticker symbol	Market capitalization 12/31/74 (000 omitted)
Union Nat'l Bank of Pittsburgh	A-AKN	$ 3,603
First & Merchants Nat'l Bank	*N-HNS	26,609
	*N-ITG	24,846
	*N-MEQ	27,394
	*N-SHB	15,514
	*A-VDC	12,677
Indiana National Bank	*N-KSF	246,118
	*N-SYP	121,250
First Nat'l Bank of Atlanta	*A-JH	52,800
Midlantic National Bank	N-HJ	102,300
Texas Commerce Bank, N.A.	N-BEC	64,923
	N-DBD	67,600
1st City Nat'l Bank of Houston	O-FCBH	150,851
Bank of Southwest Nat'l	*A-HCL	10,429
Commerce Bank, Kansas City	N-IBC	11,833
Atlantic National Bank	N-ACT	3,556

* Indicates the 41 issues which were eliminated due to inability to determine length of selling period.

N--New York Stock Exchange listing.

A--American Stock Exchange listing.

O--All other exchange listings.

APPENDIX III

POOLED PRICE CHANGE RESULTS FOR VARIOUS CATEGORIZATIONS OF BANKS

ALL PRICE CHANGES EXPRESSED AS A PERCENTAGE OF PRICES WHEN ELIMINATIONS BEGAN

(Excluding Position Eliminations Assumed to Begin on December 31, 1974)

Bank sample category	Quarters elapsed since elimination began								
	One	Two	Three	Four	Five	Six	Seven	Eight	Nine
				Raw Price Changes					
Top 20 banks	*8.12	3.67	5.63	*12.37	12.35	*36.94	*44.91	*42.48	-
Smaller 20 banks	*24.36	a/-33.54	-	-	-	-	-	-	-
Top 9 banks	*7.58	5.04	5.38	12.14	12.14	*37.45	*45.28	*42.48	-
Smaller 31 banks	*22.30	a/-24.63	-	-	-	-	-	-	-
Top 20--Morgan	*6.60	3.91	2.11	6.09	6.70	*49.03	*53.34	a/61.56	-
Top 9--Morgan	*5.67	*6.01	1.42	5.70	6.36	*50.61	*54.68	a/61.56	-
All but Morgan	*8.04	3.71	2.11	6.09	6.70	*49.03	*53.34	a/61.56	-
				Market Adjusted Price Changes					
Top 20 banks	-.31	.14	-1.53	-8.08	-8.46	12.88	21.26	22.44	
Smaller 20 banks	18.47	a/-34.60	-	-	-	-	-	-	-
Top 9 banks	-.82	1.38	-1.86	-8.31	-8.67	13.41	21.64	22.44	-
Smaller 31 banks	*15.00	a/-25.69	-	-	-	-	-	-	-
Top 20--Morgan	-1.86	1.22	-4.52	-*14.65	-14.31	25.73	*29.24	a/41.52	-
Top 9--Morgan	-2.74	3.20	-5.27	-*15.02	-14.65	27.39	30.62	a/41.52	
All but Morgan	-.21	1.04	-4.52	-*14.65	-14.31	25.73	*29.24	a/41.52	-

* Statistically significant at the 95-percent level of confidence.

a/Insufficient number of observations for purposes of statistical testing.

Note: Price changes are calculated to the first quarter in which retention of original position was 10 percent or less. Price changes are based on changes in the market capitalization of companies whose securities are held by the banks. Changes in market capitalization of companies were used so that price changes would be adjusted for stock splits and stock dividends. These data are subject to a rounding error which is assumed to cancel across securities. All price changes reflect weighting by the market value of positions at the beginning of position eliminations.

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