
APPENDIX F

REGIONAL STOCK EXCHANGE TRADING

This Appendix analyzes in more detail market making activity on each of the five regional stock exchanges. 1/

A. Midwest Stock Exchange ("MSE")

During October 16, 19, 20, and 26, the daily average number of trades on the MSE was 34,390 and the average volume was 22,939,933 shares. This compares with a September average daily of 13,969 trades and 12,326,418 shares. For the four day period MSE executed an average of 285 block trades 2/ per day involving an average daily volume of 11,252,274 shares or 49% of the total average daily volume of the MSE for each of the four days. During the market break period MSE traded 20 of the 22 stocks for which the Division of Market Regulation ("Division") requested audit trail and transaction journal information. 3/

For Friday October 16, MSE executed 25,981 trades, 186% of the September 1987 average, and had a volume of 19,311,032 shares, 157% of the September daily average. Among the seven blue chip issues in our sample, four were net buyers, and three were net sellers. By the close of trading on October 16, specialists were long in only three of these stocks, and these were relatively small positions. Among the small capitalization issues in our sample traded on October 16, four had no net change in position. For example, the specialist in Genrad opened with no position, bought 1,600 shares, sold 1,600 shares, and closed with no position. Specialists in four other small capitalization issues were net sellers on the 16th.

On October 19, for all issues traded, MSE executed 37,424 trades, 268% of the September daily average, with a volume of 22,711,906 shares, 184% of the September average volume. During the day MSE executed 285 block trades involving 10,328,300 shares or 45% of the total volume of shares traded on the 19th.

Specialists in blue chip issues were primarily net sellers on October 19, but the volume of trading on blue chip issues generally was lower than on October 16. 4/ Surprisingly, the closing position for specialists in the four blue chip issues that were net sellers on October 19 were short and, while modest by NYSE standards, some were relatively large for regional specialists (e.g., General Motors, -9,140 shares and Zenith -9,800 shares).

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- 1/ See Chapter Four for detail of order flow and number of trades on the regional exchanges.
 - 2/ The term "block trades" as used in this portion of the Study means trades of 10,000 shares or more.
 - 3/ MSE provided data on all the sample stocks except Towle Manufacturing and Universal Matchbox.
 - 4/ For example, volume for Eastman Kodak on October 16 was 83,300 shares versus 30,230 shares on October 19. For General Motors, 89,250 shares were traded on October 16 versus 60,000 shares on October 19.

Specialists in six of the 10 small capitalization issues and all of the takeover issues were net buyers on the 19th. The volume of purchases and sales of shares by the specialists in these issues, however, tended to be low and the closing positions, although long, were generally only a few hundred shares.

Tuesday, October 20, was the heaviest trading day on the MSE for the market break period. During interviews with MSE specialists and floor brokers, they indicated that the increase in orders came from firms that normally routed only a portion of their orders to the MSE but that were now sending up to 100% of their volume to the exchange, and surmised that this was in response to the delays on the New York Stock Exchange ("NYSE"). MSE data shows 46,722 trades were executed, 334% of the average daily trades for September, with a volume of 25,574,422 shares, 207% of the average September daily volume. The trading activity picked up considerably on the 20th. For example, the General Motors specialist participated in trades totalling 224,978 shares (but was a net buyer of only 5,678 shares). Again, in the 20 sample issues MSE provided data for, specialists were generally net sellers (in 12 issues specialists were net sellers, in seven issues specialists were net buyers) on the 20th. Most notably, the Dayton Hudson specialist was a net seller of 12,965 shares, and closed short 12,465 shares.

On October 20, it appears that specialists did not want to close with substantial long positions in the blue chip issues. Indeed, specialists generally ended the day with short positions in the blue chip issues. Closing positions in the small capitalization issues were generally long and small, while takeover issues all closed short with generally small positions.

Monday, October 26, was another heavy volume day for the MSE with 27,436 trades reported, 196% of the September average, and a volume of 24,127,984 shares, 196% of the average September daily volume. The 197 block trades executed accounted for 61% of the shares traded. As with the other days in the study, MSE specialists were usually net sellers on the 26th (12 of the 20 issues). Again, the blue chip specialists were mostly net sellers, as were the specialists in the small capitalization issues.

Although specialists on the MSE both bought and sold throughout the days we studied, it is clear that many did not want to change substantially their positions from the previous day's close. Because of the specialists' perceived difficulty in laying off positions through the Intermarket Trading System ("ITS"), it also appears that the specialists were not as aggressive in buying, and accordingly, often sold more than they bought during the day, many going into the next trading day with short positions.

B. Pacific Stock Exchange ("PSE")

On Friday, October 16, the PSE executed 21,186 trades, 184% of the September average of 11,525 trades per day, and handled a volume of 11,862,400 shares, 162% of the September average volume of 7,345,343 shares. For the day, the PSE specialists were mixed as to buyers and sellers. ^{2/}

On October 16, specialists in five of the seven blue chip issues in our sample were net buyers with two other issues net sellers. The most active net selling blue

^{2/} PSE provided data on 15 issues.

chip issue was IBM, where the Los Angeles ("LA") and San Francisco ("SF") specialists combined decreased their long positions by 15,309 shares. Specialists in the blue chip issues all closed long.

Specialists in three of the four small capitalization issues for which PSE provided data for the 16th were net sellers. Specialists in the small capitalization issues all closed short with small positions. Two of the three takeover issues were net buyers, and specialists in the takeover issues generally closed long with small positions.

On Monday, October 19, the PSE executed 37,175 trades, 323% of the September average, with a volume of 15,899,200 shares, 216% of the average September volume. On October 19, specialists in six of seven blue chip issues were combined net sellers. Several of the specialists in net selling issues closed with relatively large short positions and had large combined net changes in positions. For example, the Zenith specialist closed short in LA 9,344 shares, short in SF 775 shares, and had a combined net change of -10,855 shares for the day.

Among small capitalization issues specialists were net sellers in two and were net buyers in two. Specialists in net buying small capitalization issues closed with relatively small positions and had relatively moderate combined net changes. The specialists in one net selling small capitalization issue, Geico, had a combined net change of -1,951 shares. Specialists in takeover issues generally were sellers on the 19th.

On Tuesday, October 20, PSE executed 35,877 trades, 311% of the September average, on a volume of 14,746,000 shares, or 201% of the September daily average volume. October 20 saw heavy selling in all blue chip issues. Eastman Kodak had the most active selling, with the specialists closing short 16,362 shares in LA, short 15,752 shares in SF, with a combined net position change of -28,163 shares. The specialist in IBM also had active selling even when combining the LA and SF figures, and was the only issue to have significantly different trading between the LA and SF floors. The specialists in IBM closed long in SF 12,751 shares for a net change of +10,968. In LA, however, the specialists in IBM closed short 34,330 shares with a net change of -34,336. The combined net change for LA and SF in IBM on the 20th was -23,368 shares. Specialists in blue chip issues generally closed short with relatively large positions.

Specialists in small capitalization issues were all net buyers on the 20th while specialists in takeover issues were generally sellers. Specialists in both small capitalization and takeover issues generally closed short with small positions.

On Monday, October 26, volume returned to normal on the PSE, with 9,605 trades executed, or 83% of the September average, and a volume of 7,329,500 shares, 99% of the average daily September volume. As with October 19, a majority of specialists in blue chip issues were net sellers although on a greatly reduced scale. Only the specialists in USX Corp. showed significant buying activity (a combined net change of +7,452 shares). Specialists in blue chip issues generally closed short with smaller positions than on October 19 and 20.

Specialists in takeover issues were all net buyers, although, again, on a greatly reduced scale from the 20th. Specialists in takeover issues generally closed short with small positions.

In summary, many of the PSE specialists in the blue chip stocks were buyers on October 16 and entered October 19 with long positions. After October 16, however, there appeared to be a selling trend by the specialists, generally, for both October 19 and 20. By October 26, when market volume had dropped significantly, it appears specialists remained somewhat reluctant to close with either substantially long or short positions. Generally, they attempted to maintain relatively flat positions, although there was more of a tendency to be short rather than long by the close.

C. Philadelphia Stock Exchange ("Phlx")

For Friday, October 16, the Phlx executed 9,316 trades, or 170% of the average daily trades for September 1987, with a volume of 4,525,600 shares, 144% of the average daily September volume of 3,136,090 shares. 6/

On October 16, specialists in five of the seven blue chip issues were net buyers, with specialists in the remaining two issues net sellers. For example, the Coca-Cola specialist opened short 219 shares, bought 54,100 shares, sold 40,800 shares and closed long 1,618 shares with a net change of +1,837 shares. 7/ Specialists in the small capitalization issues examined were mixed with three net buyers, two net sellers, and two that closed with no net change in position. Similarly, specialists activity among takeover issues was mixed. Specialists in all issues generally closed long with small positions.

For Monday, October 19, the Phlx executed 17,085 trades, 312% of the September average, with a volume of 6,749,700 shares, 215% of the September average. Ninety block trades involving 2,592,200 shares accounted for 38% of the total daily share volume. Among the blue chip issues, specialists were net sellers in four and net buyers in three. Specialists that were net buyers in blue chip issues, with one exception, bought only slightly more stock than they sold. Specialists in the small capitalization issues generally closed long. Small capitalization issues had three net buyers, three with no change in position and one net seller. Specialists in two of the takeover issues were net sellers, each closing with short positions.

On Tuesday, October 20, the Phlx executed 15,246 trades, 278% of the September average daily trades, with a volume of 6,501,100 shares, 208% of the September average. It executed 112 block trades involving 2,976,400 shares or 46% of the total daily share volume. Specialists in four of the seven blue chip issues were net sellers and three were net buyers. Specialists in most of the net selling issues sold significantly more stock than they bought on the exchange, and made up the difference by buying over ITS or the wire. For example, the Eastman Kodak specialist bought 21,900 shares and sold 45,300 shares on the Phlx, but bought 9,300 more shares than it sold on ITS. Specialists in small capitalization issues were predominately net sellers with small changes in position. In spite of this, specialists in the small capitalization issues generally closed long with small positions. Specialists in takeover issues were mainly net buyers.

6/ The Phlx provided data on 17 issues.

7/ Phlx data for specialist buying and selling does not include purchases or sales by the specialist executed on other markets by telephone order (so called "wire" transactions). These transactions are reflected in the net change in positions.

On Monday, October 26, the Phlx executed 7,512 trades, 137% of the September average, with a volume of 3,240,100 shares, 103% of the September average volume. On that day, 49 block transactions were executed involving 1,099,800 shares or 34% of the total share volume.

Specialists in all three categories of issues in our survey were predominately buyers on this day including: five of seven blue chip issues, three of seven small capitalization issues (specialists in three other small capitalization issues had no change in position with one net seller), and two of the three takeover issues. Specialists that were net buyers in blue chip issues had moderate net changes in position in these stocks, for example General Motors (+1279 shares) and IBM (+858 shares).

Specialists in small capitalization issues that were net buyers assumed relatively moderate closing positions and had generally moderate net changes in positions. Specialists in takeover issues all closed long with relatively small positions.

The trend on the Phlx was somewhat similar to that of the other exchanges. Generally, a majority of the specialists the Division studied entered October 19 with small long positions. On October 19 and 20, buying and selling appeared to be mixed, although there was more selling than buying overall. Moreover, specialist positions did not change substantially on the days we examined. Closing positions on both October 19 and 20 remained relatively small, indicating a desire not to enter the next trading day with substantial long or short positions. By October 26 it appeared there was somewhat more confidence on the Phlx floor, with specialists more willing to close the day with long positions, albeit small ones.

D. Boston Stock Exchange ("BSE")

Of the 22 stocks in the Division's sample, the BSE makes markets in all but Universal Matchbox. Several of the stocks, however, are relatively inactive issues on the BSE and no or little trading occurred with respect to them during the days in question. Accordingly, this section focuses on the relatively active BSE issues, on a day by day basis.

The volume on the BSE was relatively heavy on October 16, with 4,016,339 shares traded on the BSE, 133% of the average daily volume for September 1987. Moreover, while specialists were both buying and selling on October 16, slightly more net selling than net buying was taking place, particularly in the blue chip stocks (in contrast to the MSE, PSE, and Phlx). Out of the seven blue chip issues that traded on the 16th, four of the specialists were net sellers and three were net buyers. ^{8/} Indeed, out of the 15 issues which traded on October 16, seven of the specialists were net sellers, six were net buyers and two were flat.

^{8/} For example, on October 16, the specialist in IBM opened long 3,985 shares, bought 34,664 shares and sold 38,911 shares, closing short 262 shares. It should be noted that the figures cited in connection with trading at the BSE reflect trades done on the floor of the BSE and trades through ITS, and do not reflect trades done through a correspondent broker at the NYSE.

Volume on October 19 on the BSE rose to 5,189,105 shares, 171% of the average daily September volume. Most of this increase came from smaller orders. 9/ The net selling by the specialists on October 16 also continued on October 19. Indeed, overall, more net selling took place on October 19 than on October 16, although this was not the case in connection with blue chip stocks (again, the opposite of the MSE, PSE, and Phlx). 10/ Moreover, although specialists were both buying and selling on October 19, trading data indicate that in general, specialists avoided taking substantially long positions. For example, the BSE specialist in Eastman Kodak opened long 366 shares, bought approximately 42,307 shares and sold approximately 41,695 shares, closing long 978 shares. Similarly, the specialist in Dayton Hudson opened flat, bought approximately 3,300 shares and sold approximately 3,200 shares, closing long 100 shares.

Volume increased slightly on October 20 to 5,952,065 shares, 196% of the September average. Once again, although specialists were both buying and selling, more net selling than net buying was taking place, especially in connection with blue chip stocks. Of the 17 issues that traded on October 20, specialists were net sellers in 11 and net buyers in six. Of the seven blue chip issues that traded on October 20, specialists were net sellers in six and a net buyer in one. 11/

By October 26, volume had decreased to 3,773,013 shares, 125% of the September average. Generally, specialists were both buying and selling on the 26th. Once again, they did not take substantially long positions. For example, the BSE specialist in Coca-Cola opened short 776 shares, bought approximately 10,600 shares and sold approximately 9,487 shares, closing long 346 shares.

Fewer transactions occurred during the week of October 26, and the size of the trades were smaller than those during the week of October 19. On October 26, 4,394 trades were executed on the BSE, as opposed to 10,023 trades on October 19. The average size trade during the week of October 26 was 289 shares, which is approximately 45% of the average size trade of 675 shares during the week of October 19.

9/ During the week of October 19, the average trade size was 640 shares. This is approximately 38% smaller than the average trade size for fiscal year 1987, which was 885 shares.

10/ Out of the 16 issues that traded on October 19, specialists were net sellers in 9 stocks and net buyers in 7 stocks. Specialists were net buyers, however, in 3 out of the 6 blue chip stocks that traded that day. (They were net sellers in the other 3 blue chip stocks.)

11/ For example, the BSE specialist in IBM opened short 1,052 shares, bought approximately 51,857 shares and sold approximately 52,949 shares, closing short 2,144 shares. Similarly, the specialist in Coca-Cola opened short 7,061 shares, bought approximately 76,028 shares and sold approximately 77,485 shares, closing short 8,518 shares. Finally, the specialist in Merck opened long 6,322 shares, bought approximately 19,230 shares and sold approximately 26,149 shares, closing short 597 shares.

E. Cincinnati Stock Exchange ("CSE")

Of the 22 stocks in our sample group, CSE makes markets in the following: Eastman Kodak, General Motors, IBM, Coca-Cola, Merck, and USX Corp. CSE, which uses a multiple market maker system instead of a specialist system, has up to five designated dealers in these stocks. ^{12/}

Of the four days in question, the volume on the CSE was the heaviest on October 16. On that day, 1,589,600 shares traded on the CSE, which is 169% of the CSE's daily average volume for September, 1987. ^{13/} While the designated dealers were both buying and selling on October 16, buy activity was predominant. Moreover, not only were the majority of market makers buying, trading data indicates that, in general, they took and/or retained fairly substantial, long positions. The activity in IBM, one of the most active issues on CSE, illustrates this point. On October 16, the three designated dealers in IBM opened short 20,710, long 91,420 and short 20,564, respectively. They closed long 24,915, long 96,420, and long 27,636, respectively.

On October 19, 1,588,000 shares traded on the CSE, 169% of the September average volume. During the day, the majority of market makers attempted to reduce the long positions acquired on October 16, although they still remained substantially long overall. Moreover, while both volume and the number of transactions on October 19 decreased, relative to the 16th, ^{14/} the number of block trades increased. There were 37 block trades on October 19, the highest amount out of the four days. ^{15/} Over a third of the block trades on October 19 occurred between 3:00 p.m. and 4:00 p.m., when the primary market on the NYSE was dropping precipitously.

The designated dealers on the CSE were affected by the market drop on October 19 in several ways. Two stopped making markets, one for the remainder of the week, the other from October 20 through November 20. Apparently, the second market maker experienced capitalization problems after October 19. The other market makers also were affected. As a result of the market drop, a majority of CSE designated dealers widened their bid/ask quotations and lessened quotation size for the remainder of the week. CSE dealers continued to guarantee orders of 2,099 shares or less at the ITS best bid or offer throughout the week.

^{12/} See discussion of Regional Exchanges in Chapter Four.

^{13/} The CSE's figures for their designated dealers' open/close positions reflect trading done on the floor, through ITS, and over-the-counter. Its figures, however, for the number of shares bought and sold per designated dealer, and its aggregate figures on the number of shares traded or on block transactions, and the number of transactions per day, do not reflect trades done over-the-counter or through a correspondent broker. Instead, the latter figures only reflect trades done on the floor of the CSE and through ITS.

^{14/} The number of transactions on October 19 was 903. The number of transactions on October 16 was 1,019.

^{15/} There were 25 block trades on October 20 and 8 block trades on October 26.

On October 20, volume decreased with respect to October 19 with 1,447,900 shares traded, 154% of the September daily average. Although market makers were both buying and selling, net selling activity predominated, probably due to the fact that many of the market makers remained substantially long as of the previous day's close. For example, one IBM market maker was long 24,915 shares by the end of October 16. This position was reduced to 21,170 by the close of October 19 and further reduced to a short position of 2,684 at the close on October 20.

On October 26, volume was substantially less than it had been the week before with 441,700 shares traded, which is 47% of the September daily average. Although market makers were both buying and selling on October 26, no particular trend emerged.

Overall, the CSE market differed substantially from the other exchanges in that a substantial number of market makers entered, and closed, October 19 with very large long positions. As illustrated above, October 20 appears to have been used at least by some market makers to reduce these positions.

**TRADE AND SHARE VOLUME DATA ON THE FIVE REGIONAL
EXCHANGES FOR BLOCK TRADES AND SMALL ORDER EXECUTION SYSTEMS¹**

	Sept. Daily Avg.	10/19	10/20	19th as % of Sept.	20th as % of Sept.
BSE					
Block Trades	50	58	64	116%	128%
Block Volume	1,270,645	1,288,200	1,357,850	101%	107%
% of Volume	42%	25%	23%	—	—
Small Trades	n/a	—	—	—	—
Small Volume	n/a	—	—	—	—
% of Volume	n/a	—	—	—	—
CSE					
Block Trades	25	37	25	148%	100%
Block Volume	455,400	1,026,500	1,069,100	230%	240%
% of Volume	47%	65%	74%	—	—
Small Trades	82	256	592	312%	721%
Small Volume	17,900	84,239	134,634	470%	752%
% of Volume	2%	5%	9%	—	—
MSE					
Block Trades	307	285	333	92%	108%
Block Volume	6,624,000	10,328,300	11,104,000	155%	167%
% of Volume	54%	45%	43%	—	—
Small Trades	8,982	25,653	30,203	285%	336%
Small Volume	2,094,093	6,691,603	7,146,280	319%	341%
% of Volume	17%	29%	28%	—	—
Phlx					
Block Trades	60	90	112	150%	186%
Block Volume	1,543,238	2,592,200	2,976,400	169%	192%
% of Volume	49%	38%	46%	—	—
Small Trades	4,024	14,927	12,519	370%	311%
Small Volume	920,515	3,563,404	2,927,105	387%	317%
% of Volume	29%	53%	45%	—	—
PSE					
Block Trades	42	34	30	80%	71%
Block Volume	1,397,114	640,000	597,900	45%	42%
% of Volume	19%	4%	4%	—	—
Small Trades	5,258	22,410	21,196	426%	403%
Small Volume	1,425,581	6,228,800	5,599,600	436%	392%
% of Volume	19%	39%	38%	—	—

¹The number used in connection with the CSE actually reflect all agency trades. The CSE has indicated, however, that the vast majority of these trades (at least 99%) reflect the automatic execution of public agency markets and marketable limit orders, up to 2,099 shares, at the ITS best bid and offer.

