Chapter Four

SPECIALIST PERFORMANCE

A. Market Maker Performance

1. New York Stock Exchange ("NYSE")

a. Introduction

The stock exchanges trade securities in what is termed "a continuous two-sided auction market." 1/ In this market, each security which is traded on an exchange is traded at one designated place on the "floor" of that exchange called a "post." At each post there are one or more exchange members who are registered with that exchange as "specialists" in one or more securities. At the larger exchanges, each equity security is allocated to a single specialist. 2/ These specialists are awarded, in effect, a monopoly right to make a market in that security on the exchange floor, in return for which the specialist undertakes certain responsibilities.

With respect to the securities in which they specialize, specialists perform the dual functions of brokers and dealers. In the capacity as a broker, the specialist holds and executes buy and sell orders for others. Generally these orders are forwarded to the specialist by exchange members. The orders may be "market" orders (i.e., orders to buy or sell a security at the best current market price), but are usually "limit" orders (orders to buy or sell a security at a specific price), or "stop" orders. 3/

The primary mechanism used by the specialist to handle limit and stop orders is the specialist's "book." The specialist is the only broker who has the "book". Limit and stop orders are entered into the book in the sequence in which they are received

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1/ In an auction market, investors or brokers representing them trade directly with each other as opposed to a dealer market where most trades are made through a dealer at the dealer's bid or ask price. In a continuous market, trades in a security may take place at any time during an exchange's business hours as opposed to a call market where a security is traded only at specific times during the day.

2/ There is an exception for a relatively small number of inactive securities which are traded through a "cabinet" order matchup system (i.e., no specialist is assigned a security and orders to buy or sell are left in the "cabinet" to await the arrival of offsetting orders.) As of December 1987, there were 55 specialist units operating on the NYSE with more than 400 individual specialists registered in approximately 1,625 common stocks. The largest specialist unit on the NYSE floor currently handles 125 stocks with 24 registered specialists on the floor. The next two top firms handle 78 stocks and 77 stocks, with 22 and 19 registered specialists, respectively. The smallest ten specialist units, in terms of number of specialty stocks allocated, trade 81, or about 5%, of the total number of common stocks traded on the NYSE and handle 15 stocks or less per unit.

3/ Stop orders require the specialist to buy or sell a security once a certain price level has been reached. Once the market reaches that price, the stop order effectively becomes a market order.

with the appropriate price, number of shares, and the name of the firm which forwarded the order. 4/ The specialist usually charges a commission for this activity.

The specialist's second function is to act as a dealer to the extent necessary to maintain fair and orderly markets. As a dealer, the specialist is responsible for purchasing and selling securities in a manner that contributes to the maintenance of a fair and orderly auction market in the particular security or group of securities to which he is assigned.

The specialist's activities are circumscribed by Section 11 of the Securities Exchange Act of 1934 ("Exchange Act") 5/ and the rules thereunder, and by the rules of the exchange where the specialist is registered. Commission Rule 11b-1(a)(2), which articulates the primary responsibilities of a specialist, states that a specialist's course of dealings must be designed to "assist in the maintenance, so far as practicable, of a fair and orderly market." 6/ The specialist must adhere to this standard at all times in buying and selling his specialty stock(s) as a broker or as a dealer.

The rules of the NYSE, which will be examined here as a model for specialist regulation, provide detailed additional regulation of specialists. For example, NYSE Rule 104, the primary rule governing the activities of specialists at the NYSE, requires the specialist to maintain a fair and orderly market, as measured by the maintenance of price continuity and depth, and the minimization of the effects of any temporary disparity between supply and demand. 7/

A specialist's dealer responsibilities are referred to as "affirmative" and "negative" obligations. 8/ Pursuant to their affirmative obligations, specialists are obliged to trade for their own accounts to minimize order disparities and contribute to continuity and depth. 9/ Conversely, pursuant to their negative obligations, specialists are precluded from trading for their own accounts unless such dealing is necessary for the maintenance of a fair and orderly market. In view of these obligations, the price trend in a security should be determined not by specialist trading, but by the movement of the incoming orders that initiate the trades. The specialist, however, is sometimes

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4/ Historically, the specialist's system for recording stop and limit orders is called the "book" because orders are, in fact, recorded in a physical loose-leaf binder. Increasingly, however, the stop and limit order recordkeeping function is being handled electronically through the use of computerized stop and limit order files.

5/ 15 U.S.C. Sec. 78k.

6/ 17 CFR 240.11b-1(a)(2).

7/ See NYSE Rule 104.10(1).

8/ These obligations derive from Section 11(b) of the Exchange Act, Rule 11b-1 thereunder, and NYSE Rule 104.

9/ NYSE Rule 104.

responsible (e.g., at the opening) for helping to determine the appropriate price level for the specialty stock. 10/

The specialists' responsibilities to trade do not require them to stem general downward or upward price movements, but only to temper sudden price movements and keep any general price movements orderly. In this regard, the specialists are expected to buy for their own accounts to offset order imbalances when the price of their stock is falling and to sell when the price is rising. This proprietary specialist activity is expected to alleviate temporary disparities between supply and demand so that advances and declines will occur smoothly. When this cannot be accomplished because the order disparity is too great, the exchange may halt trading (or delay opening the stock) so that quote indications can be disseminated to determine the price level at which the disparity is low enough for the imbalance to be corrected.

The specialists also are regulated by certain NYSE rules designed to guard against inappropriate specialist dealer activity. NYSE Rule 104 sets forth most of these "negative" obligations. These include prohibitions against specialist trades on destabilizing ticks (i.e. purchases on plus or zero plus ticks and sales on minus or zero minus ticks). Other examples are prohibitions under certain conditions against buying more than 50% of an outstanding offer if such offer represents substantially all the selling interest in the market, or selling to more than 50% of the bid if it represents substantially all the buying interest. 11/

Specialist market making performance is reviewed daily by the NYSE. To evaluate whether the market for a specialty stock is orderly, the NYSE examines a number of factors, such as continuity (absolute price change on continuous sequences), depth (absolute price change in 1,000 share sequences), and spreads between the bid and ask. To further analyze specialist dealer performance, dealer participation figures are compiled indicating specialist trading as a percentage of total volume. Stabilization

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10/ In contrast to the specialist, an over-the-counter ("OTC") market maker has few affirmative and negative obligations. The primary affirmative obligation requires OTC market makers to maintain a two-sided quote for their own accounts on a continuous basis. While options specialists and market makers have the affirmative obligation to maintain a fair and orderly market, traditional indicators of orderliness, such as continuity and depth, are difficult to apply to a derivative product. (See Chicago Board Options Exchange Rule 8.7). Traders in the stock index futures pits have no market making obligations. While certain prohibitions limit their activities, there is no obligation that futures traders ensure that markets established by their crowds are fair and orderly. In addition, there are no requirements that price movements in stock index futures be smooth or orderly. The futures markets depend upon competition to provide the necessary incentives to ensure deep and liquid markets.

11/ See NYSE Rule 104.10. The Rule contains an exception. A specialist is permitted to make such a trade, with the approval of a floor official, when in less active markets, such trades "are an essential part of a proper course of dealings and where the amount of stock involved and the price change, if any, are normal in relation to the market." Id.

rates are also compiled to determine the percentage of specialist trades executed on stabilizing ticks. 12/

This chapter reviews specialist performance during the October market break. The first portion of the chapter examines the specialists' performance in attempting to contribute to the depth, liquidity, and orderliness of the market. The second discusses the adequacy of specialist capital.

b. Methodology

Over the past 25 years, the Commission has analyzed specialist performance on the NYSE several times. In its 1963 Report of the Special Study of Securities Markets,13/ the Commission examined in depth the exchange markets and the NYSE specialist system. Although the study did not find widespread abuses or patterns of illegality among the NYSE specialists, it did find serious problems in the specialist system as it operated at that time and in its surveillance and regulation by the NYSE. The Study's recommendations regarding the specialist system resulted in a series of significant regulatory changes relating to, among other things, the specialists' obligation under Section 11(b) and exchange surveillance of specialists and their capital compliance.

The 1971 Institutional Investor Study Report 14/ analyzed general market making performance of 30 NYSE specialist units and the impact of institutional trading on the specialists' market making function. The study examined the ability of specialists to handle price disparities and fluctuations and to provide liquidity and depth to the market through their stabilizing activity. By grouping NYSE specialists into high, medium and low proprietary activity categories, 15/ the study concluded that "high inventory" specialists did a better job than the others in stabilizing price fluctuations in their stocks and were more willing to adjust inventories to provide liquidity and decrease day-to-day price changes. The medium/low activity groups were less likely to purchase stock to improve liquidity and reduce price disparities. Overall, there were wide variances in market making performance among specialists.

In addition to these two extensive studies, the Division of Market Regulation ("Division") staff consistently has reviewed various aspects of the NYSE specialist

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12/ A stabilizing trade is a purchase (sale) at a price that is below (above) the most recent different price of the stock. For example, if the stock trades at 50, 50 1/2, and 50 1/2 again, if the specialist sold at the 50 1/2 trades the sales would be stabilizing. If the specialist had bought at the 50 1/2 trades, they would not be stabilizing.

13/ SEC, Report of the Special Study of the Securities Markets, H.R. Doc. No. 95, 88th Cong., 1st Sess. (1963).

14/ SEC, Institutional Investor Study Report of the Securities and Exchange Commission, H.R. Doc. No. 64, 92nd Cong., 2nd Sess. (1971).

15/ High category specialist units had average net proprietary activity exceeding $155,000 per day, medium category units had between $90,000 and $155,000 and lower category units had net proprietary activity below $90,000 per day.

system. 16/ Further, the Division, as part of its oversight responsibility over self-regulatory organizations ("SROs"), regularly examines and reviews NYSE surveillance of specialist performance.

To analyze specialist activity during October 1987, the Division concentrated on 67 stocks. These issues contain 50 of the most heavily capitalized stocks as well as several less active issues and takeover stocks selected for comparison purposes. Of the 67 stocks, the Division selected nine for a more in-depth review of specialist activity during October 19 and 20: Coca-Cola, Dayton Hudson, Exxon, General Electric, General Motors, Household International, International Business Machines, Merck and Co., and Newmont Mining. 17/

The Division examined the general indicators of specialist performance for the 67 securities (continuity, depth, quote spread, and specialist participation) as well as specialist handling of openings and trading halts. The Division also examined specialist activity during the key periods of declines and advances (the afternoon of October 16, the morning and afternoon of October 19, and the morning of October 20) to determine whether specialists were buying or selling during steep price movements. Finally, the Division reviewed general measures of specialist performance for October 26 (and later where available) to determine the extent to which specialist performance was still being affected by the October 19 decline.

The Division obtained most of its data from the NYSE. This included audit trail information, 18/ Form 81's, 19/ and various measures of specialist activity (e.g., continuity and depth analyses). Part of the data was unavailable or unusable for some of the 67 stocks. 20/ Consequently, several types of analysis have been performed using less than 67 stocks. Where this has occurred, the number of stocks used is shown. The Division, in conjunction with the Commission's Directorate of Economic and Policy Analysis ("DEPA"), also examined broader measures of NYSE trading activity such

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16/ See, e.g., SEC, Staff Report on the Securities Industry in 1979 (Directorate of Economic and Policy Analysis) (July 1980).

17/ These stocks are handled by nine different specialist units, comprising 16% of the total number of specialist units on the NYSE.

18/ The audit trail is a transaction journal that matches tape submissions with clearing information. The audit trail provides time, price, size and participants (including clearing members) of each trade, and whether the trade was agency or proprietary. Even on normal volume days, however, the audit trail is not completely accurate, and the increased volume on the days in question exacerbated that situation.

19/ A Form 81 is compiled by a specialist firm to show its trading activity in specialty stocks for the day, whether the proprietary trades occurred on an uptick or downtick, and the changes in position in the specialist's trading accounts. The forms are submitted when requested by the NYSE.

20/ The Division has relied upon data transmitted by the specialists to the NYSE. The Division has not been able to verify the accuracy of all the data transmitted.

as bid-ask spreads. 21/ In addition, staff from the Division interviewed NYSE staff responsible for specialist surveillance and the specialists in 12 stocks. 22/

c. **Market Performance During the October Market Break**

In reviewing the objective measures of specialist performance, several general observations are important. First, specialist capital is limited; it is modest compared to the capital of upstairs firms (i.e., large firms which regularly facilitate positioning block orders away from the exchange floor). 23/ Second, the specialist system did not assume that specialists would engage in unlimited buying and selling to correct any magnitude of imbalance; rather, it assumed that specialists' trading would be sufficient to keep the markets orderly and continuous. Third, upstairs firm activity, whether block positioning or equity trading, was regarded as providing an additional source of liquidity to the specialists, an activity that became more important with the increasing institutionalization of the market. During the market break, these assumptions did not work. Specialists were confronted with extraordinary imbalances that required unprecedented capital commitments and the upstairs firms did not provide the anticipated liquidity.

During the week prior to the market break, the NYSE was subject to unusually high volatility. The intra-day volatility experienced over the entire week was particularly disturbing. Beginning on Wednesday, October 14, measures of intra-day volatility began to surpass the average for the previous several months; for the week, intra-day volatility more than doubled that for September. Further, the volatility during the week was accompanied by increasing volume and selling pressure, culminating in the then record volume and Dow Jones Industrial Average ("DJIA") point loss on October 16.

During the week of October 19, intra-day price volatility reached historic proportions. For October 19 and 20, DEPA found that intra-day volatility measures were 10 times higher than during August and September, and the volatility for the entire week increased 380%. 24/

The volatility also was reflected in a decline in market quality. DEPA found that, entering the week of October 19, the quality of the markets for NYSE issues had deteriorated relative to those prevailing in August and September 1987, especially in the

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21/ At the end of this Chapter there are various charts on market quality prepared by DEPA. For most of the charts, DEPA has broken down NYSE issues by decile, according to capitalization weight.

22/ The Division staff had an extremely limited time in which to review the relevant information. The key NYSE data took weeks to collect and aggregate. Moreover, because of the huge volume of data, it was not possible to analyze all of it. After analyzing the data, the Division also spoke with several specialists.

23/ Indeed, some market participants have criticized the specialist system as inadequate in light of the increased volume and size of trading over the past several years. See The Chicago Board of Trade's Response to the Presidential Task Force on Market Mechanisms, December 1, 1987, Part III at 13-15.

24/ See Chart 4-2. DEPA calculated price volatility relative to average trade price.

large capitalization stocks. Average quote size diminished and bid-ask spreads began to widen, indicating specialists' difficulty in maintaining deep and tight markets. 25/

The Division has examined specialist performance during the market break to determine how specialist market making fared during this stressful period. The analysis contained in this section is divided into four sections. The first reviews specialist proprietary activity during the crucial periods of the market break -- the afternoon of October 16 to the close on October 20. The second examines specialist performance generally during October 19 and 20. The third reviews specialist activity on October 26 and after the break. The fourth discusses upstairs firm activity in relation to specialist performance.

(1) Specialist Proprietary Activity

(a) October 16 and 19

On October 16, the last trading day before October 19, specialist activity was mixed. Although the DJIA declined 108 points that day, only 36 of the 67 specialists 26/ were net buyers on October 16. 27/ By the end of October 16, the specialists had net long positions in 57 of 67 stocks. The average position, however, was only 33,400 shares per long stock.

Nevertheless, some early signs of the burden placed on the specialist system throughout the week of October 19 surfaced on October 16. First, specialist participation and buying increased. The specialists' participation rate for the sample stocks for the day, or TTV, 28/ increased to 12.63%, from a January through September average of 11.7%. The heavier participation occurred during record volume, so that specialists participation by share volume was even more significant. During the last hour of trading on October 16, when the DJIA dropped 57 points and over 18 million

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25/ For example, the average bid-ask spread relative to share price increased from \$0.25 in September to \$0.32 during October 12-16 for the highest capitalized NYSE issues, and from \$1.65 to \$1.97 for the lowest capitalized stocks. Similarly, quote depth as a percent of average trade size had decreased over 30% by October 15 from its level on September 18, 1987, for both the high capitalization stocks (September 18 average of 245% for bid, 313% for ask) and smaller issues (385% for bid, 271% for ask). See Chart 4-1.

26/ The same specialist may have been responsible for more than one stock, but we refer to each stock as though it had a distinct specialist.

27/ Collectively, the specialists in the 67 stocks were net buyers of 287,000 shares, averaging 4,300 shares bought per specialist. Specialists overall that day were net buyers of 3.9 million shares. For October 14 to 16, specialists were buyers of 9.6 million shares.

28/ TTV, or "twice total volume," indicates the relative frequency of specialists' proprietary activity in their specialty stock. The equation represents specialist purchases plus sales (not netting) divided by twice the total volume. Because specialists can never be on both sides of a trade for their own accounts, the highest percentage TTV they can achieve is 50%.

shares of program related selling reached the floor, an increased majority of specialists were buyers. During that hour, 35 specialists were net buyers, 19 were net sellers and 3 specialists were flat (proprietary specialist intra-day trading information was not available for 10 of 67 stocks for October 16). Second, there was mixed specialist activity during the afternoon decline, even though specialists were called on to participate to a larger degree than normal. For example, the 22 specialists that were net sellers or flat had a below average TTV of 9.35%.

Specialists interviewed by the Division indicated that they were very nervous during the weekend before October 19 concerning the possibility of massive selling on October 19. This, along with the volatility experienced on October 16, provided specialists with a great deal of concern heading into Monday morning.

Before the opening on October 19, specialists were faced with large sell imbalances in many stocks. Some stocks had sell imbalances of several hundred thousand shares. 29/ The imbalances forced delayed openings in a total of 183 stocks. 30/ Of the 30 DJIA stocks, 13, representing 54% of the DJIA's price weight, were opened at 10:00 a.m. or later. 31/ Twenty-four of the 67 stocks studied by the Division were also unopened by 10:00 a.m. Some imbalances facing specialists were extremely large. For example, Eastman Kodak had a sell imbalance of 257,800 shares, and Exxon, 361,200 shares.

In response to the imbalances, specialists moved down the prices of their stocks at the opening to the point at which other buying interest would supplement the specialist. In Coca-Cola, for example, 273,700 shares traded at the 9:53 a.m. opening, with the price dropping 3 1/2 points to 36 1/4 from the previous day's close. In Eastman Kodak, 398,400 shares traded at the 10:40 a.m. open, with an opening price of $76 per share, 13 1/2 points lower than the close on October 16. In Exxon, opening (10:47 a.m.) volume was 1,380,000 shares, with a price of 40, down 3 1/2 points from the previous close.

29/ The imbalances do not include limit orders, only market orders. The direction and magnitude of the market orders, however, provide a reasonable approximation of the total imbalance in each stock.

30/ If there is a large imbalance on one side of the market that would cause a substantial price change from the previous day's close, the specialist may not open the stock unless he has Floor Official approval. A delayed opening in the stock may be called because of the imbalance. During the delay, the specialist will disseminate indications of interest (issuing quote indications) to attract orders on the other side to reduce the imbalance. Under NYSE procedures, the specialist is required to wait at least 15 minutes from the first indication before opening the stock. If more than one indication is issued, the specialist must wait an additional 10 minutes if the last and preceding indications do not overlap or an additional 5 minutes if the last and preceding indications overlap.

31/ The dramatic impact on the DJIA is highlighted by the fact that only 40% of the S&P 500 and 36% of the NYSE Composite Index (as measured by index value) were not opened by 10:00 a.m. Similarly, on October 20, although 53% of the DJIA had not yet opened by 10:00 a.m., only 38% of the S&P 500 and 34% of the NYSE Composite had not opened.

By 10:00 a.m., the DJIA had dropped 68 points, or 3.4%, to 2,178, with many stocks still not open. 32/ During this drop, most specialists were relatively heavy buyers. Of the stocks opened by 10 a.m., specialists were net buyers in all but five of the stocks, and only in Schlumberger, Inc., was the specialist a significant seller (31,500 shares). 33/ The specialists who were net buyers averaged approximately 72,500 shares purchased per stock. Assuming an average stock price of $50, 34/ these specialists bought an average $3.6 million worth of stock at the opening in our sample stocks.

Considering the magnitude of the sell imbalances and the level of specialist participation, the delayed openings and openings at prices substantially below the closing price may well have been reasonable in most stocks. Nevertheless, the size of some of the gaps raises concerns. For example, Eastman Kodak fell 15% at the opening, with the specialist purchasing over 130,000 shares. Similarly, the Coca-Cola specialist purchased 88,000 shares in the opening, and the stock dropped 9%. 35/ In all, the Division identified seven stocks in the pilot group whose prices dropped 10% or more by the opening, or shortly thereafter, from their October 16 closing price, and which had a significant price rebound by noon. The Division appreciates that the specialists in these stocks were called on to accept substantial risks in positioning a large part of the order imbalance in order to open the stock. Nevertheless, openings involving such large price movements followed quickly by price recoveries should be scrutinized by the NYSE to assure that the specialist met his obligations to ensure a fair and orderly market.

During the remainder of October 19, specialists were subjected to unprecedented volume and imbalances. Orders came in so quickly that specialists could not keep up with the order flow. 36/ Although the DJIA fell over 200 points from 10:00 to 2:00, the specialists were extremely mixed in their net buying and selling during this period. During the middle of the morning, the brief rally in the DJIA allowed many specialists to sell some of the long positions they had accumulated at the opening. 37/ Even after

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32/ If all of the DJIA stocks had opened together at 9:30 a.m., at their eventual opening prices, the DJIA would have dropped over 200 points at the opening. Due to the staggered openings, however, not all of the openings were reflected in the average at one time.

33/ Schlumberger had dropped 4 points (10%) by 10:00 a.m. from its October 16 close.

34/ The average closing stock price for the 67 stocks on October 16 was $56. The opening prices for the stocks on October 19 were much lower.

35/ Twenty minutes after the opening, Eastman Kodak regained eight of the 13 1/2 points lost in the opening. By 11:30, Coca-Cola had regained most of its opening loss.

36/ For the week of October 19 to 23, the typical NYSE specialist handled 93% more trades than normal and 31% more shares per trade. These figures were even greater on October 19 than for the rest of the week.

37/ Most specialists do not use options or futures to hedge their positions. The specialists interviewed by the Division all stated that they do not hedge with derivative products. The NYSE questioned all of the specialists, and found seven the rally, specialists were mixed as to their buying and selling, including specialists whose stocks opened after 10:00 a.m. Indeed, some specialists were net short for the day by the early afternoon. 38/

At 2:00, the last major wave of selling began. Institutional buy orders had dissipated, and the upstairs firms were not buying much stock. 39/ From 2:00 p.m. to the close, the DJIA dropped over 200 points, although a minor rally occurred from 2:15 to 2:45. From 2:00 until 4:00 p.m., a majority of specialists were net buyers. Overall, 39 of the 67 specialists bought more than they sold in those two hours. During that period, however, the total net specialist buying and selling activity was almost flat. 40/

Broken down into hour time brackets, from 2 to 3 p.m., 35 of the 67 specialists were net sellers, aggregating 434,800 shares sold. From 3 to 4 p.m., specialist buying increased somewhat, as 47 of the 67 specialists were net purchasers. The total net purchases amounted to only 655,000 shares, and the net buyers averaged only approximately 31,300 shares net bought per specialist.

Further, there were examples of heavy specialist selling during rapid drops in the price of some stocks. For example, the Atlantic Richfield specialist was a net seller of 36,700 shares during the last hour, during which time the price of the stock fell from around 72 to 65 (9.7%). The DuPont specialist was a net seller of 68,100 shares during that hour; DuPont stock fell from 90 to 85 (5.5%). The BellSouth specialist sold 188,700 shares (including 25,800 short) while the price of the stock fell approximately 3 points to 29 (9.3%).

Some of the selling occurred when an occasional block buy order reached the floor late in the day, allowing the specialist to sell some of his long position. For example, the WalMart specialist sold 208,000 shares during the last hour of trading, of which 200,000 was against a block buy order. Similarly, the Exxon specialist managed to sell short 106,500 shares, all of which was in the last trade against a block buy order.

An analysis of five selected stocks provides a capsule view of the specialist activity on October 19.

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that used derivative products to hedge, but only to a small degree.

38/ By 2:00 p.m., specialists had a long position of less than 10,000 shares (or were short) in 14 of 67 stocks.

39/ See infra for a discussion of upstairs firm activity. From time to time during the last half hour, however, a large buy order hit the floor in a few stocks.

40/ The net sell figure averages out to approximately 560 shares sold per specialist during that period, which represents a very small percentage of actual specialist activity. That figure may be skewed somewhat by the trading activity in WalMart Stores stock. From 2 to 4 p.m., the WalMart specialist sold 233,300 shares. Taking that figure out of the sample, specialists were average net buyers of approximately 9,900 shares, still a small portion of their overall proprietary activity.

1. Merck opened at 10:47 at 162, down 22 points. The specialist bought 106,000 shares and sold 45,000 shares until 11:00 (the majority of selling occurred from 10:50 to 11:00 as the stock rebounded). The specialist's activity was mixed generally from 11:00 until shortly before 3:00, with the stock trading up at several points, peaking at 175, but returning to around 164 shortly before 3:00. During the last hour, the stock dropped 13 points to 152, but there was less specialist activity than in the morning. During this period he bought 34,000 shares and sold 5,000 shares. For the day the specialist was a net buyer of 73,600 shares.

2. Coca-Cola opened at 9:53 at 36 1/4, down 4 1/2 points. The specialist bought 87,000 shares from the opening until 10:00. His activity was primarily as a seller until approximately 3:00 p.m., with the stock trading up briefly before declining to 35. During the last hour, the stock dropped five points to 30; the specialist bought 84,000 shares, but sold 81,000. For the day, the specialist was a net seller of 5,700 shares.

3. IBM opened at 10:44 at 124, down about 10 points. The specialist bought 120,000 shares and sold 60,000 shares by 11:00 a.m. The stock remained steady until 1:00, during which time the specialist was primarily a seller. From 1:10 to 2:00 the stock dropped about 10 points, with the specialist buying 65,000 shares and selling 52,000. From 3:00 until the end of trading, IBM dropped from 116 to 103, during which time the specialist bought 42,000 and sold 80,000 shares. For the day the specialist was a net seller of 24,300 shares.

4. General Motors opened at approximately 9:30 at 65, down one point. From 9:30 to 10:00 the specialist bought 50,000 and sold 29,000 shares. From around 1:00 to the close, General Motors dropped 14 points to 50, with the specialist buying 157,000 shares, but selling 161,500. For the day the specialist was a net buyer of 26,600 shares.

5. Exxon opened at 10:47 at 40, down 3 1/2 points. The specialist bought 107,710 shares of the 1,380,800 share opening. From 12:00 to 2:00, the stock dropped six points to 34 1/2, with the specialist a net buyer of 78,000 shares. From 2:30 to 2:55, the stock rebounded 2 1/2 points to 37, and then dropped to 33 1/2 at 3:58, before rebounding to 35 at the close. From 2:00 to 4:00, the specialist bought 27,000 shares and sold 257,000 shares, of which 106,500 shares were sold short on the last trade of the day. 41/ For the day, the specialist was a net seller of 239,000 shares.

Some interesting points emerge regarding specialist trading on October 19. First, not surprisingly, most specialists were net buyers for the day. For 50 of the 67 stocks surveyed, specialists were net buyers, with an average of approximately 44,500 shares net bought that day, or approximately $2.2 million per stock. Overall NYSE data indicates that specialist units increased their net long positions by $470 million during the day on October 19. As discussed in more detail in Section B of this Chapter, these long positions were enormous compared to the positions normally maintained by the specialist firms, and substantially depleted specialist buying power. Compared to the buying power of the large trading or investment banking houses, however, these positions were not particularly large. For example, four large broker-dealers lost $421 million on their equity portfolios from October 16-30, 1987. Further, 15 of the major investment houses suffered combined equity portfolio losses during that two week period of between $800 and $900 million.

41/ On the last trade, Exxon rose a point on 135,000 shares.

Second, the specialists were forced to participate in far more trades on October 19 than usual. From January to September 1987, all specialists had a combined TTV of 11.7%. On October 19, the TTV increased to 17.5%. This increase is more impressive considering that the volume on this day was almost three times the average. Interestingly, the TTV varied significantly among stocks. For example, Exxon and R.J. Reynolds had TTVs of 6.5% and 8.8% respectively, while WalMart had a TTV of 27.7%.

Third, the performance of specialists varied greatly. 42/ While most specialists were buyers on the 19th, some were significant sellers. Buying and selling activities also varied greatly in the last hour of trading. Moreover, as discussed above, specialists differed in the amount they participated in trading. Some of the differences in the specialist performance may be attributed to the order flow peculiar to the various stocks. However, the trends were so strong and pervasive across stocks that the differences seem to have derived primarily from individual specialist skills, capital, willingness to accept risk, and trading strategies. One explanation suggested for specialists selling or lack of buying in some stocks is that they were increasingly long in other specialty stocks, and thus did not want to raise their long exposure in all stocks. The Division believes that all stocks should be subject to adequate specialist performance; activity by a specialist in one specialty stock is not relevant to evaluating performance in a different specialty stock.

b. October 20

Prior to the opening on October 20, specialists again faced large order imbalances in a great number of stocks. Unlike Monday, however, the imbalances were mixed from stock to stock, with the most significant imbalances on the buy side. As a result of these imbalances, and the prior day's unprecedented volume, many stocks delayed opening on the 20th. Fifteen of the 30 DJIA stocks, representing 52.3% of the price weight, were not open by 10 a.m. All together, 92 NYSE stocks had delayed openings on the 20th, including 26 of the 67 stocks studied by the Division.

One of the important aspects of the delayed openings on October 20 was the size of the bid-ask spreads in the pre-opening indications. The size of the spreads in many of the indications were so large as to provide little guidance as to where the stock might eventually open. Faced with the record setting market drops and volume of the previous two trading days, and another surge of pre-opening orders on Tuesday morning, it appears that a number of specialists were unable to identify opening prices for their stocks. For example, General Electric, which closed at 41 7/8 on Monday, had an initial pre-opening indication of 45 bid, 65 ask at 9:52 a.m., then another indication of 40 bid, 55 ask, at 10:33 a.m., before opening at 10:55 a.m. at a price of 46 1/2. Newmont Mining, which closed at 33, had a pre-opening indication of 22 bid, 33 ask at 12:29 before opening at 1:18 p.m. at a price of 29. The J.P. Morgan specialist, whose stock had closed at 27 3/4, put out pre-opening indications of 35 bid, 45 ask, then 40 bid, 50 ask, before opening the stock at 47 at 10:08 a.m., up 69% on 500,000 shares.

42/ The NYSE already has undertaken several investigations of specialist performance during the week of October 19 which have resulted in specialists in two stocks agreeing to withdraw as specialist in those stocks.

Many specialists did not even put out a pre-opening indication until several hours after 9:30. For example, Goodyear, which closed at 39, had a pre-opening indication of 30 bid, 40 ask at 12:20 p.m. 43/ A number of smaller issues did not have opening indications until after 2:00 p.m.

As on October 19, the substantial imbalances resulted in some large gap openings. For example, Allied-Signal had a pre-opening market order imbalance of 86,000 shares, and opened at 10:26 a.m. at 33, up 5 points on 150,000 shares. General Motors reported a market order buy imbalance of 324,100 shares, and opened up 15 points at 65 on 560,500 shares. Exxon had a market order buy imbalance of 107,200 shares, and opened 5 points higher on 1,065,000 shares. Further, many specialists opened up their stocks on gaps without putting out pre-opening indications; still others had significant gap openings on seemingly small imbalances. For example, the Atlantic Richfield specialist had a market order buy imbalance of 13,000 shares. The stock, however, opened up 10 points at $75 per share on total opening volume of 267,600 shares.

Specialists were extremely heavy sellers on the opening transactions and during the first 30 minutes of trading on October 20, as many used the opportunity to liquidate their large positions from the previous day. Specialists in 35 of the 41 stocks opened by 10 a.m. were net sellers. Cumulatively, specialists in those stocks sold 2,691,100 shares, or approximately 65,600 shares per specialist.

Specialists also were sellers for stocks experiencing delayed openings. For those stocks, 44/ specialists were net sellers of 426,700 shares at the opening, for an average of 17,800 shares sold per specialist. By 10:30 a.m., most stocks had opened, including 26 of the 30 DJIA stocks and 60 of the 67 stocks studied by the Division. During that one hour period, the DJIA had risen 196 points, a gain of 11.3%. A significant portion of that rise apparently was a result of the large gap openings. Eighteen of the twenty-six DJIA stocks open by 10:30 opened at prices two or more points higher than their closing prices on the 19th. The percentage price gain resulting from gap openings ranged from a 6.8% rise in Texaco to a 33.3% rise in Coca-Cola. 45/

It is difficult to generalize on the performance of NYSE specialists during the opening on October 20. With the unprecedented volatility of the day before and the uncertainty entering the opening, it was inevitable that the market would need time to find its place, and that each specialist would need time to sort out a particular stock's situation. The fact that over 85% of the S&P 500 stocks opened by 10:00 a.m. in these circumstances is testimony to special efforts undertaken by some of the specialists. On the other hand, unusual circumstances, even in the extreme case of October 20, can not excuse specialist inadequacy. The Division has noted several instances of specialist performance in opening their stocks that raise questions about the specialist's

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43/ Immediately before Goodyear opened that day, it had a market order imbalance of -75,800 shares. The imbalance was probably greater earlier in the day.

44/ Two stocks, DuPont and Digital, were excluded from the analysis of the October 20 opening, because they remained closed until 12:52 and 2:10, respectively.

45/ For the 18 stocks with gap openings on October 20, five had increases of less than 10%, 7 had increases of 10% to 19%, and 6 had increases in excess of 20%.

maintenance of a fair and orderly market. 46/ The Division also is concerned about the dissemination of quote indications in some stocks that were so wide as not to be useful in communicating a likely opening price and the failure to disseminate pre-opening indications in securities that opened significantly away from the previous day's close. As with October 19, the Division believes openings on October 20 deserve scrutiny by both the Commission and NYSE.

The rapid morning rebound in the DJIA did not last. From 10:30 until noon, the DJIA lost 209 points, or 10.8% of its value, eliminating the gains made during the first hour. 47/ For 15 of the 18 gap-opened stocks, the opening price represented the high price for the day. For example, Atlantic Richfield opened up at 75 at 10:27 a.m., up 10 points from the close, but lost five points in the next 30 minutes and five more points in the following 30 minutes. In all but three of the gap-opened stocks, the price fell below the previous day's close by noon. For two others, the opening price was not exceeded until after 3 p.m., and then only after the price of those stocks had dropped precipitously during the course of the day.

From 11:00 a.m. until noon, specialists became net buyers as prices dropped during that period. Of the 67 stocks, 59 maintained trading during that period. Of that group, 34 specialists were net buyers, purchasing a total of 1,574,200 shares, or 46,300 shares per specialist. While this is significant activity, it is considerably smaller than the selling activity done by the specialists at higher prices on the opening transactions. The 25 specialists who were net sellers during that period sold in smaller amounts, totalling 625,300 shares sold, or approximately 25,000 shares per specialist.

Around mid-day, evidence of a de facto market halt began to emerge. The other eight of the 67 sample stocks did not trade at all from 11:00 to noon. An additional eight of the 67 stocks called trading halts during that hour; thus, trading in 16 of the 67 was halted. Market-wide, trading halts were called in 167 stocks on October 20, 141 of which were commenced between 10:30 and 12:30, during the rapid price drop from the market's opening rise. Again, these halts were called because of large order imbalances. Unlike the delayed openings of earlier that morning, the majority of significant imbalances were sell imbalances. While it is impossible to reconstruct the exact imbalances at the time, the specialists in the 16 stocks examined provided approximations of the imbalances. 48/ The sell imbalances ranged from 30,000 shares in Westinghouse Electric to over 800,000 shares in Primerica Corporation, and averaged over 200,000 shares. Further, there were some instances where stocks which had delayed openings with large price increases halted trading shortly after opening with sell imbalances. For example, IBM opened at 10:23 at 120, up 16 3/4 from the previous day's close. By 11:34, the specialist asked for a trading halt as the price had receded to 112 and the specialist had a 300,000-500,000 share sell imbalance. The specialist for

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46/ See note 42 concerning NYSE specialist surveillance.

47/ The S&P 500 future declined from 229 to 183 (21.8%) during this time.

48/ The NYSE does not keep records of share imbalances when halts are called. In the future, the Division believes the NYSE should record the amount of order imbalances at the time it determines to halt trading in a stock. During the Division's analysis of the NYSE data, the Division requested the NYSE to ask the specialists to give their estimates of the imbalances at mid-day on October 20.

Sears, Roebuck experienced a similar situation. Sears opened at 10:03, up 7 1/4 to 38. By 11:24, the price had dropped back to 34, and trading was halted with a sell imbalance of 370,000 shares. The Philip Morris specialist opened at 10:16, up 7 1/2 points to 95. At 11:31, trading was halted at 77 1/2, with a sell imbalance of 125,000 shares.

In interviews, the specialists all claimed that they stopped trading, not because they could not afford to buy more stock, but because as a business matter they did not want to buy more. Many lost substantial amounts on Monday as a result of the heavy proprietary trading they undertook as part of their specialists' responsibilities. With the market declining so swiftly on Tuesday, they did not want to repeat Monday's experience of heavy buying. Essentially, at that point in time on Tuesday, the specialists concluded that there was almost no buying interest in their stocks (which represented a large percentage of the capitalization of NYSE listed companies) at current prices. They would begin trading their stocks only at a price that would attract other buyers. 49/

Discussions with institutional investors and broker-dealers indicate that the de facto market halt allowed investors to reassess the market. During this period, additional buying interest responding to quote indications put out by specialists reassured investors that the market decline did indeed have a bottom. This helped attract additional buy orders back into the market. For example, Merck, which had a 500,000 share sell imbalance when halted, had a 14,000 share market order imbalance to sell before reopening. IBM's sell imbalance was eliminated before reopening.

The quote indications for most of the halted stocks, while large for normal times, do not appear out of proportion considering the heavy sell imbalances and market volatility. For example, IBM had an indication of 105 bid, 120 ask before reopening at 112, its price before the halt; Eastman Kodak had an indication of 38 bid, 43 ask before reopening at 43, off one point; Primerica Corp. had an indication of 27 bid, 32 ask before reopening at 32, its price before the halt; and Phillip Morris had an indication of 74 bid, 80 ask before reopening at 79, 1 1/2 points from its halted price.

2. General Market Making Analysis

a. Continuity

In analyzing NYSE specialist performance and market quality during the October market break, the Division reviewed much of the same data usually employed in NYSE specialist evaluations to determine the overall quality of the market. First, the Division reviewed continuity data for 57 stocks. 50/ Continuity exists if each succeeding execution price within the auction market process for a single stock bears a reasonable relationship to the execution price which immediately preceded it. Therefore, continuity

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49/ The S&P 500 future halted trading at 12:15 p.m. and reopened at 1:05 p.m.

50/ For 10 of the 67 stocks, not all of the data was available in time to include in every analysis. The group of 57 stocks, however, contains all DJIA issues as well as some smaller capitalization and takeover stocks.

is best evaluated by examining changes in the price of consecutive transactions over a given period of time. 51/

Data for October 19 reveal that continuity was well below average in the markets for the selected stocks. The Division calculated trades moving the market 1/8 of a point or less as a percentage of overall trades for that day. On average, only 73.90% of trades were within the 1/8 point or better range, as compared to 92.59% within that range for the same stocks for September 1987. Historically, in 1986, 90.2% of all trades executed in all stocks on the NYSE were within the 1/8 point parameter; in 1985, the figure was 92.3%. 52/

All 57 stocks experienced at least a minimal decline in continuity, ranging from declines in excess of 25% in highly capitalized companies such as Eastman Kodak (97.5% September average decreased to 67.4%) and Atlantic Richfield (91.2% to 63.0%) to 7.8% in Exxon (99.2% to 91.4%), 7.6% in General Motors (97.8% to 90.2%) and 3.2% in Texaco (99.9% to 96.7%). Many stocks with lower average trading volume, although having continuity figures comparable to the higher capitalized stocks for September, experienced more dramatic declines in continuity. For example, Household International declined 45.0% from its September average (84.8 to 39.8); Irving Bank, 40.9% (90.1% to 49.2%); and Bell and Howell, 33.6% (75.8% to 42.2%).

For October 20, decreased overall continuity, with more dramatic drops in smaller stocks, continued. Again, all 57 stocks showed a decline in continuity from their September averages (43 of the 57 experienced further declines from October 19), with 69.28% of the transactions resulting in price movements of 1/8 point or less, representing a decline of 23.31% from September and a further decline of 4.62% from October 19.

The Division also explored whether the market experienced a greater percentage of excessively wide price movements during October 19 and 20. Again, using September as a comparison point, the percentage of large price jumps (1/2 point or more) increased dramatically over those two days. For September, only 0.26% of transactions in the 57 stocks were 1/2 point or more. For October 19, that figure rose to 3.89%, and for October 20, it increased further to 7.81%.

The Division continued an in-depth examination of the sample nine stocks in its review of specialist performance and market quality. The percentage of trades by price change for the nine stocks for October 19 and 20 are as follows:

51/ The Presidential Task Force found the usefulness of continuity and depth as measures of performance to be negligible on October 19 and 20. (See Report of the Presidential Task Force on Market Mechanisms, January 1988, at p. VI-32-40). The Division believes that continuity and depth provide useful supplements to analysis of actual specialist transactions, even during periods of volatility.

52/ NYSE, Fact Book at 15 (1987). The fact that the September average for the 57 stocks was higher than the total 1986 average may be due to the fact that the 57 stocks are, on average, more highly capitalized and more liquid than the average NYSE stock. Included within the group of 57 securities are 29 of the 30 leading stocks in terms of market value and 20 of the 25 most active stocks for 1986.

	October 19	October 20	September Average
Dayton Hudson (DH) - closing price, 10/16/87 - 44 3/4			
% 0-1/8	77.7	69.3	97.9
% ≥ 1/2	0.3	3.8	0.07
General Electric (GE) - 50 3/4			
% 0-1/8	83.2	82.1	98.4
% ≥ 1/2	0.4	0.3	0.05
General Motors (GM) - 66			
% 0-1/8	90.2	78.4	97.8
% ≥ 1/2	1.0	1.8	0.1
Household International (HI) - 52			
% 0-1/8	39.8	41.2	84.8
% ≥ 1/2	13.3	13.4	0.08
International Business Machines (IBM) - 135			
% 0-1/8	76.6	80.1	97.4
% ≥ 1/2	7.0	8.2	0.07
Coca-Cola (KO) - 40 1/2			
% 0-1/8	86.7	85.7	96.5
% ≥ 1/2	0.8	0.7	0.08
Merck and Co. (MRK) - 184			
% 0-1/8	66.8	51.4	67.2
% ≥ 1/2	23.8	39.3	3.3
Newmont Mining (NEM) - 45 5/8			
% 0-1/8	53.0	48.6	93.2
% ≥ 1/2	5.7	10.9	0.3

Exxon (XON) - 43 3/4

% 0-1/8	91.4	86.4	99.2
% ≥ 1/2	1.8	1.0	0.08

From the sample group of stocks, we can conclude that continuity on October 19 and 20 was down significantly market-wide, regardless of the characteristics of the stocks. 53/

b. **Depth**

To assess further the quality of the market on October 19 and 20, the staff reviewed trading statistics to analyze the depth of the market for 57 NYSE stocks. Depth is measured by assessing price changes over continuous trades totalling 1,000 shares in a given stock (but excludes block trades). As with its analysis of continuity, the staff followed NYSE format and calculated depth as a percentage of trades of 1,000 shares that moved the market by 1/8 point or less as a percentage of total 1,000 share sequences. The depth of the market continued to demonstrate a significant decline, using the 1/8 point dividing line. Fifty-four of the 57 NYSE stocks experienced a decline in depth on October 19, as compared to their September figures, 54/ ranging from significant declines of 50.5% by Household International (82.0% to 31.5%), 42.0% by Newmont Mining (93.5% to 51.5%), and 36.8% by DuPont (97.2% to 60.4%), to minimal declines of 1.5% by Texaco (100.0% to 98.5%) and 2.2% by Exxon (99.9% to 97.7%). Overall, the 57 stocks declined on average 18.38% from September, dropping from 92.50% to 74.12%.

These figures did not improve for October 20, and, in some cases, the depth figures deteriorated further. The percentage of trade sequences of 1,000 shares moving a stock's price by 1/8 point or less dropped farther that day, to 67.62%. Fifty-six of the 57 stocks declined from their September figures, and 44 of the 57 experienced further declines from their October 19 performance. 55/ The declines were significant regardless of price, liquidity, or capitalization.

As with the continuity figures, the number of large price movements in the depth analysis increased for October 19 and 20. For September, the number of 1,000 share sequences resulting in price changes of 1/2 point or more was 0.02%. In fact, the majority of the sample stocks had no price changes of 1/2 point or more for the month

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53/ We observed significant continuity decreases in high and low capitalized stocks, high and averaged priced stocks, as well as very liquid and less liquid stocks.

54/ Only Merck (64.7% to 65.4%), a high priced stock with the lowest depth average for September among the pilot stocks, and F.W. Woolworth (95.0% to 95.3%) registered an increase. The depth figures for price changes of ≥ 1/2 point for Merck on October 19 indicate a huge increase. Navistar, the only other issue not to experience a decline on the 19th, was priced in the 3-6 dollar range. Its depth figures for October 19th matched its September figure of 100%.

55/ Only F.W. Woolworth experienced increased depth from its September performance, and that increase was minimal (95.0% to 97.2%).

of September on 1,000 share sequences. For October 19, that figure increased to 3.55%, and, on October 20, the figure was 7.99%.

The depth figures for the nine selected stocks are as follows:

		October 19	October 20	September
Dayton Hudson - closing price, 10/16/87 - 44 3/4				
%	0-1/8	73.3	65.1	99.0
%	≥ 1/2	1.3	2.7	0.0
General Electric - 50 3/4				
%	0-1/8	88.2	89.9	99.2
%	≥ 1/2	0.3	0.3	0.0
General Motors - 66				
%	0-1/8	89.9	85.4	98.7
%	≥ 1/2	0.7	0.6	0.0
Household International - 52				
%	0-1/8	31.5	31.8	82.0
%	≥ 1/2	15.7	26.1	0.7
IBM - 135				
%	0-1/8	76.2	79.7	97.6
%	≥ 1/2	7.9	8.1	0.0
Coca-Cola - 40 1/2				
%	0-1/8	91.5	90.4	97.7
%	≥ 1/2	0.7	0.0	0.0
Merck & Co. - 184				
%	0-1/8	65.4	41.7	64.7
%	≥ 1/2	21.2	47.5	3.9
Newmont Mining - 45 5/8				
%	0-1/8	51.5	41.7	93.5
%	≥ 1/2	10.5	8.3	0.1

Exxon - 43 3/4

%	0-1/8	97.7	95.3	99.9
%	≥ 1/2	1.6	0.0	0.0

As with the continuity statistics, the depth statistics were down market-wide on October 19 and 20, regardless of the characteristics of the stocks.

c. **Spreads**

Analysis of the spread between the bid and ask in a particular security is the third primary method of assessing specialist performance. A wide spread usually is an indication of a disparity between buy and sell orders. At times that disparity may be too great for the specialist to bridge, and an exchange-approved trading halt may be called for. Generally, however, specialists are expected to narrow the quote by making the necessary bid or offer for their own accounts. Analysis of the spread, therefore, is an important indicator of the quality of the market. Narrow spreads indicate a highly liquid market, in which the costs of buying and reselling stock are lower. When the spread is wider and, therefore, transaction costs are also higher, the specialists can profit from the wider market. This occurs because a large portion of the dealer transactions of the specialists are based on the quote; that is, the specialists buy at the bid and sell at the ask, and their profit is directly related to the size of the spread. Therefore, wide spreads may indicate, among other things, the inability or unwillingness of specialists to meet their affirmative obligations to trade.

The NYSE traditionally evaluates specialist performance regarding spreads as an analysis of percentage of spreads within a certain parameter, usually 1/4 point. The Commission followed that analysis, but also compiled data on the percentage of spreads 1/2 point or wider. Except for extremely high priced stocks, a 1/2 point spread is generally considered wide.

The data examined for October 19 and 20 demonstrated a broad overall decline in the quality of spreads in the stocks studied. On average, 75.29% of quotes for the group of stocks for September had spreads of 1/4 point or less. 56/ On October 19, the average figure for the 57 stocks had dropped to 32.03%. All but one stock experienced a decline in spread quality for that day. 57/ The largest declines for individual stocks for the 19th were Bristol Myers, which fell from 96.3% to 10.6%, and Eastman Kodak, which decreased from 83.9% to 5.5%. The smallest decreases were in Texaco, which experienced a decline from 99.8 to 96.4%, and Navistar, a lower priced stock, which experienced a decline from 100.0% to 95.5%. As with the analyses of

56/ This figure represented an improvement over recent historical market-wide data. In 1986, 69.8% of spreads on the NYSE were 1/4 or better, in 1985 the figure was 70.6%.

57/ The one stock, Geico, is a high priced, generally illiquid issue. The September spread figures for Geico were by far the lowest (4.2%), and, even with its improvement on October 19, to 6.6%, Geico was in the bottom 10% of the stocks studied.

continuity and depth, the declines were significant regardless of price, capitalization or trading volume.

Examining the percentage of wide spreads for October 19 and 20 also yielded significant results. For the 57 stocks for the month of September, only 6.55% of quote spreads were 1/2 point or greater. Further, even that average is colored by the presence of two higher priced issues in that group (Merck and Geico, which had 63.4% and 94.9% of their spreads, respectively, at 1/2 point or greater for September). On October 19, however, the 57 stocks had an average of 49.36% of spreads 1/2 point or wider. Even the most liquid stocks experienced dramatic increases in the occurrence of wide spreads. 58/ Indeed, the largest overall spread increases were among the most highly capitalized issues. For the 10 highest capitalized stocks, bid-ask spreads increased from an August average of \$0.24 to \$0.57 for the week of October 19, compared to an increase from \$0.21 to \$0.29 for the lower capitalized stocks.

On October 20, the spread figures continued to deteriorate. Overall, the percentage of spreads 1/4 point or less decreased further to 24.26%, while the percentage of spreads 1/2 point or wider increased to 62.23%. For all NYSE issues, bid-ask spreads widened more than 50% for the week, and were most pronounced on October 20, when spreads averaged \$0.49.

The spread figures for the nine selected stocks are as follows:

	October 19	October 20	September Average
Dayton Hudson - closing price, 10/16/87 - 44 3/4			
% 1/8-1/4	43.0	25.0	83.3
% ≥ 1/2	35.7	62.0	1.8
General Electric - 50 3/4			
% 1/8-1/4	38.8	41.4	94.5
% ≥ 1/2	40.6	32.9	0.9

58/ For the 5 most active NYSE stocks for 1986, the figures are as follows:

Spreads ≥ 1/2

	September	October 19
AT&T	0.2	53.5
IBM	1.2	46.3
USX	0.4	20.3
Mobil	2.8	41.3
Eastman Kodak	3.6	90.6

The percentage changes for AT&T and USX are even more notable when their volume and moderate stock price are taken into account.

General Motors - 66			
% 1/8-1/4	64.5	31.6	97.9
% ≥ 1/2	18.9	35.4	0.5
Household International - 52			
% 1/8-1/4	3.8	11.3	43.8
% ≥ 1/2	93.3	85.6	1.5
IBM - 135			
% 1/8-1/4	46.9	25.2	92.0
% ≥ 1/2	46.3	71.8	1.2
Coca-Cola - 40 1/2			
% 1/8-1/4	41.5	47.0	80.6
% ≥ 1/2	30.1	27.2	0.4
Merck & Co. - 184			
% 1/8-1/4	1.3	0.0	23.7
% ≥ 1/2	98.1	100.0	63.4
Newmont Mining - 45 5/8			
% 1/8-1/4	10.5	9.6	74.4
% ≥ 1/2	81.6	86.6	8.4
Exxon - 43 3/4			
% 1/8-1/4	59.7	33.3	95.6
% ≥ 1/2	20.5	38.5	0.0

The nine stocks showed a sizeable widening of spreads on October 19 and 20. Half of these stocks had significantly worse spreads on October 20 than on October 19. Again, the deterioration in this market indicator occurred in all types of stocks.

DEPA provided data on the size of the specialist's quotes in NYSE stocks. Quote size expresses the number of shares bid or offered for a particular stock. During the week of October 19, the share size of the bid and ask quotes for all NYSE issues were about 62% of the norm. Moreover, on October 19 and 20, the average size of quotes for many NYSE issues fell below the average trade size, whereas on normal days average quote size is generally 2.5 to 3.0 times the average trade size. In addition, hundreds of quotes in IBM and several other companies were non-firm on October 19, 20, and 22. 59/ These figures show the lack of liquidity in the marketplace that day, as well as the specialists' unwillingness to make deep markets during a period of extreme volatility.

d. Upstairs Firm Activity

A number of large broker-dealers operate so-called block trading desks and/or equity trading desks. These firms, called "upstairs" firms (as opposed to specialists and other traders on the floor of the NYSE), provide an additional source of liquidity for NYSE-listed issues through their trading activities. The block desks provide liquidity by their ability to "shop" their customer's block order upstairs and find contra-side interest for the order. In addition, these firms will often take a position by buying the block from the customer and selling it to other customers, and the opposite for orders to buy blocks. The risk these firms take in positioning the blocks helps to smooth the impact large block trades would otherwise have on a stock's price. Without this liquidity, institutional orders would be "worked" against incoming order flow and slowly liquidated, or specialists would be forced to be the contra-side to large blocks, which could result in trades at gapped prices.

On October 19, the activity of most block desks and trading desks was reduced. Through interviews with the block desks of several major trading firms, the Division has found that most firms did much less proprietary trading on October 19. Some block positioning was effectuated for clients, but on a much reduced scale. Moreover, firms generally were unsuccessful in "crossing" blocks upstairs. Basically, the firms reported difficulty in finding institutional clients willing to buy a piece of a block.

Data collected by the Division on upstairs firm proprietary activity suggest that upstairs firms were mixed as to buying and selling on October 19. A sample of 14 large upstairs trading firms shows purchases of 33,264,125 shares and sales of 27,599,099 shares of NYSE stocks on October 19, resulting in net buying of only about 400,000 shares per firm for all NYSE issues. This is consistent with data the Division has received from seven large trading desks for October 19 for the 67 NYSE issues. Most of the firms were sellers in most of the issues on October 19; only two firms did significant buying (and only in a few issues). 60/

These results are also consistent with data collected by the Securities Industry Association ("SIA"). The SIA's data indicate that upstairs firms were net sellers for most of early October as the market declined. 61/ From October 1 until October 14,

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59/ A non-firm quotation means that there is no assurance that an order can be executed for the quoted size at the bid or ask price.

60/ No firm had activity in all 67 issues, and some had no activity in most of the 67 issues.

61/ The SIA data came from forms filed by firms with the NYSE weekly, listing round-lot share volume effected on the NYSE. These data are published in the Wall Street Journal.

upstairs firms were net sellers of 14 million shares for their proprietary accounts. Thus, firms were reducing their equity exposure as the October market decline began. On October 15 and 16, the firms changed directions, and were net buyers of 5.1 and 4.7 million shares. Then, on October 19, firms turned sellers again, and sold a net 4.6 million shares.

The uncertainty as to how far the market would drop on October 19 made firms unwilling to buy stocks that were cheaply priced compared to the prior week, and spurred them into selling stocks bought on the previous two trading days. This upstairs selling is in contrast to the specialists' net buying of 21.2 million shares on October 19. Thus, the upstairs firms provided little or no buying support to the market on October 19.

On October 20 and 21, upstairs firms continued to sell, and were net sellers of 9.6 and 17.7 million shares on those days. Specialists were net sellers of 9.1 and 18.2 million shares on October 20 and 21.

e. October 26 and Afterwards

For several weeks following October 19, the stock market continued to experience heavy volume and daily price movements that, compared to 1986 trading, were quite large. For example, on October 26 the DJIA dropped 157 points (8.0%) on 331 million shares (in a shortened trading day); on October 29 it rose 91 points (4.9%) on 309 million shares; on November 3 it dropped 51 points (2.5%) on 243 million shares; and on November 12 it rose 61 points (3.2%) on 240 million shares. Even when volume stabilized, swings in the market kept occurring. 62/

It is reasonable to assume that part of the reason for these relatively large changes was that the willingness of the specialists and the upstairs firms to take large positions diminished greatly in light of the market crash. Indeed, with historical measures of volatility rendered obsolete by October 19 and 20, the willingness of all market participants to take risks was substantially reduced. 63/ Although fear of increased market volatility has affected all market participants, the Division has given particular attention to whether specialist performance has continued at a diminished level since October 19.

To determine the extent to which specialist performance has contributed to the market spikes, the Division examined sample specialist activities on October 26 and in late November. On October 26, the DJIA opened sharply lower, down 75 points by 10:00. There were numerous delayed openings, with 75 of the S&P 500 stocks failing to open by 10:00. Except for brief rallies of 10 to 15 points at 10:15 and 12:50, the DJIA

62/ For example, on November 17 the DJIA opened at 1,947, dropped to 1,895 by noon, then rose to 1,922 at the close on 180 million shares. By January, volatility figures were still high. The historical 30 day volatility for the S&P 500 index for January 15, 1988 was 38%, compared to 16% for September 15.

63/ Interviews with major block desks in December indicate that institutional buying is still reduced from pre-break days, and that block positioning activities are more restrained.

fell steadily the rest of the day, with a 35 point drop during the last hour of trading (1:00 to 2:00).

The specialists were overwhelmingly net buyers in early trading. Of the 55 of 67 sample stocks that opened by 10:00, specialists were net buyers in 48. The size of their buying was much smaller than on October 19, averaging only 21,000 shares per net buyer. If the two largest buyers are excluded, the net buying comes to 16,700 shares per buyer. The volume of activity on October 26, however, was lower than on the previous Monday, with 200 million shares traded by noon as compared to 259 million shares traded by noon on October 19.

After the opening buying activity on October 26, many of the specialists turned net sellers, but not in large amounts. From 10:00 until 1:00, when the DJIA dropped 30 points, specialist activity continued to be mixed, with slightly more buying than selling. During the last hour of trading, even though the DJIA dropped almost 2%, specialists were not significant buyers. Only 34 of the 67 specialists were net buyers during the last hour, while 31 were net sellers (two had little or no activity). For the day, specialists were net buyers, but at a much reduced level from October 19. For the day, all NYSE specialists were net buyers of 4.4 million shares, totalling $176 million. In our sample, 42 of 67 stocks had net buying for the day.

The other indicators of specialist performance (continuity, depth, and spreads) showed improvements from October 19 and 20, but still were considerably below prior averages. Continuity analysis revealed that 82.72% of transactions on the 26th resulted in price changes of 1/8 point or less, an improvement of 13.4% from October 20, but still significantly lower than the September average of 92.58%. Large price changes (≥ 1/2 point) occurred 1.96% of the time, still up from the September average of 0.26%, but lower than the 7.81% for October 20.

Spread data for October 26 displayed similar trends. Spreads at 1/4 or less improved almost two-fold from October 20, to 46.97%; however, this was still significantly lower than the September average of 75.29%. Wider spreads remained prevalent, as well, with 31.14% of spreads on October 26 set 1/2 point or wider, as compared to 62.23% for October 20 and 6.55% for the month of September.

Depth figures for October 26 were similar. For the day, 81.18% of 1,000 share sequences were done at 1/8 point change or less and 2.32% done at 1/2 point or more, compared to 67.62% and 7.99% for October 20 and 92.5% and 0.02% for September.

The Division also examined some general indicators of specialist performance for November. Performance improved significantly, but was not back to the levels for September. First, specialist continuity figures for the month of November show that 86.4% of all trades took place at variations of 1/8 point or less. This is better than the 66.9% for October 20, but less than the pre-October average of over 90%. Second, the depth statistics for sequences of 1,000 shares moving the market 1/8 point or less were 83.2% for November, an improvement from October 20, but still below the 92.5% figure for the pre-break period. Third, spreads of 1/4 or tighter occurred 61.4% of the time in November, compared to 24.3% for October 20 and the 70 to 75% range for pre-October. 64/

The improved figures for specialists in November coincided with the reduced necessity to trade. The overall TTV for specialists normally is 11.7%; 65/ but it was 17.5% and 18.1% on October 19 and 20. During the first week in November the TTV declined to 13.7%, and further declined to 12.3% as of November 23.

In interviews with Division staff, specialists evaluated their performance since the week of October 19 in a manner consistent with these data. They agreed that their trading was still affected by the market crash, and suggested that it may be several more months before their performance returns to pre-crash levels. The specialists were particularly worried about the impact of program trading. Some stated that they monitor the S&P 500 future's value constantly, and become apprehensive when the future is trading at a sizeable discount or premium.

f. Analysis

The Division's analysis suggests a number of general conclusions about specialist performance during the market break. Not surprisingly, the available data indicate that specialist performance in the aggregate declined on October 19 and 20, and overall indicators of performance show that markets were much less liquid on these days. Nonetheless, the Division believes that most (but not all) specialists performed reasonably in light of the unusual circumstances of October 19. Although subject to extraordinary pressure, they increased their aggregate buying activities and maintained reasonably regular markets in their stocks. Without the substantial specialist buying on October 19, it is highly likely that the market decline would have been even worse. Specialists often were the primary, and sometimes the only, buyers during the morning of October 19, and many were substantial buyers during the afternoon of October 19. Very little buying was effected by upstairs trading firms. Nevertheless, specialist buying on October 19, while extremely large when compared to usual activity, was not particularly large compared to upstairs firm trading. Moreover, although specialists were substantial buyers at the opening on October 19, when the final wave of sell orders came late in the afternoon they were incapable of stemming the subsequent decline.

While most specialists performed well under the circumstances on the morning of October 19, there were several instances of questionable specialist activity. A number of stocks were opened at prices well below their October 16 close, without large sell imbalances or substantial specialist buying. Moreover, while specialists in the aggregate were net buyers, a disturbing number were net sellers on October 19 in securities whose

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64/ A Kidder Peabody study has found that as of November 3, representative bid-ask spreads for S&P 500 stocks were $0.29 per share, as compared to $0.23 per share on September 1, 1987. As a percent of stock price, the November spread was .77% of market value, compared to .45% on September 1. S. Bodurtha, The Impact of October 19 on Transaction Costs in the Equity and Stock Index Futures Markets: A Preliminary Update, Kidder Peabody & Co. (undated).

65/ That figure represents the average for January to September 1987.

prices dropped substantially. This problem was highlighted in the afternoon, when specialists reduced their buying and the instances of poor performance increased.

The Division believes that on October 20 specialist performance was uniformly weak, and reflected the panic and exhaustion prevalent on the NYSE floor. General measures of market making performance were lowest on that day, spreads were extremely wide, and markets were thin. Moreover, there were several stocks in which the specialist's handling of the opening was questionable. Finally, during much of the morning specialists in several stocks had difficulty in even making a market.

In part, specialists' difficulties on both October 19 and 20 underline the important function of upstairs trading and block positioning firms. The absence of upstairs firm participation during October 19 demonstrates the precarious position of the specialist in the current institutional market. If market participants come to rely, and expect, substantial liquidity in equity products -- whether through stock equivalents in futures or upstairs block positioning -- and that liquidity suddenly evaporates (or is simply overwhelmed), the specialists will be called upon to act as the buyer (or seller) of last resort. 66/ Under circumstances such as those encountered on October 19, this is a role the specialist cannot, and should not, be expected to perform.

We also believe it is important to emphasize that the market break has had lasting effects on specialists. The initial result was an increased receptivity to acquisition by integrated firms with more capital, as illustrated by the acquisition of A.B. Tompane by Merrill Lynch. On the negative side, the stock market has become more volatile and less liquid as measured by traditional standards. While specialist performance was closer to normal indicators by late November, it was still more sensitive to supply and demand disparities than before the market break. 67/ Some specialists may have developed a "flinch" reflex whereby whenever substantial buy or sell orders entered the market, especially when accompanied by significant discounts or premiums in index futures, trading prices would change more rapidly than before. Due to the diminished upstairs firm participation, and fear of sudden program orders, specialists, when faced with order imbalances, may be willing to let the price of their stocks rise or fall farther before they become participants. This could account, in part, for relatively large market moves with lesser volume during late November and December. 68/ Although more analysis should be done to test this assumption, the increased market volatility since October raises continuing concerns over liquidity in the market and the specialists' performance during volatile periods.

Finally, the analysis done by the Division raises many questions about specialist performance during the market break. Individual performance varied greatly, and not all

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66/ It may be particularly important to review the specialists' role during periods of heavy program trading. Brief periods of program trading may overwhelm the specialists' ability or willingness to provide liquidity except at a price gap.

67/ In effect, all market participants are today paying a risk premium as the market adjusts to the new volatility measures.

68/ This could also account, in part, for the huge one-day decline in the DJIA on January 8, 1988, when the DJIA dropped 140 points, including over 100 points in the last two hours of trading.

specialists performed adequately during the relevant period. The staff believes that, whatever the structural implications of the October market break regarding program trading and the institutionalization of the markets, the NYSE must assume greater responsibility to monitor the performance of individual specialists. As a first step, the NYSE should evaluate the appropriateness of all gap openings and trading halts on October 19 and 20 as well as the compliance by individual specialists generally with their affirmative and negative market making obligations.

In conducting its evaluations, the NYSE should not be hesitant to use its authority under NYSE Rule 476 to reallocate stocks. This rule allows the NYSE to withdraw a specialist's allocation in one or more stocks if, after a disciplinary proceeding, the specialist is found responsible for a substantial or continued failure to maintain a fair and orderly market. This disciplinary power is in addition to the NYSE's reallocation authority under Rule 103A. 69/

In the past, the NYSE has been reluctant to use its reallocation powers. From 1978 until very recently, no specialist had been subject to reallocation. Since the market break, two specialists have relinquished their registration in a specialty stock in connection with performance during the week of October 19, and the NYSE is investigating others. 70/ The Division will review carefully the willingness of the NYSE to use its reallocation and other enforcement authority to address poor specialist performance during the market break and thereafter.

In addition, the market break highlights the need for the NYSE to reevaluate its performance measures. For over 10 years, the Commission has had a continuing dialogue with the NYSE over the proper method to evaluate specialist performance. The NYSE has devised performance measures that use absolute standards to evaluate performance, such that a specialist has to be graded below a certain unacceptable level on the SPEQ 71/ or other performance criteria to be subject to reallocation. The Division has found these measures to be only a limited deterrent to substandard specialist performance because it is extremely unlikely that a particular specialist would be rated unacceptable under these standards. 72/

The Commission has urged the NYSE to adopt relative performance measures so that specialists who were regularly among the lowest ranked specialists would be subject to performance reviews, regardless of whether their performance met an arbitrarily

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69/ Rule 103A permits reallocation if a specialist's performance is below acceptable levels of performance, as measured by specialist evaluation questionnaires ("SPEQ") filled out quarterly by floor brokers. The NYSE is in the process of amending the rule to include other indicia of performance.

70/ The affected stocks were J.P. Morgan & Co. and Gould, Inc.

71/ The SPEQ provides different categories of evaluation. The floor brokers rank specialists on a numeric scale in each category, and each specialist's scores are totalled on an adjusted basis. A total score below a certain level set by the exchange is deemed substandard performance.

72/ See, e.g., letter from Douglas Scarff, Director, Division of Market Regulation, to John Phelan, President, NYSE, dated November 10, 1981.

determined level of unacceptable performance. A NYSE task force headed by then NYSE Chairman Batten on the specialist system in 1976 made findings consistent with the Commission's views. 73/ Nonetheless, the NYSE has retained its absolute measures because it believes that relative standards may punish a specialist whose performance is not necessarily unsatisfactory.

The Division's findings on specialist performance during the market break underscore the need for relative measures. Both the Division and the Presidential Task Force have found a wide disparity in specialist performance during this period. 74/ If one or several specialists' performance are widely divergent from the best performing units, then the NYSE should ensure that these specialists have their performance reviewed and, if necessary, reallocate stocks. 75/

The Division does not conclude, however, that the specialist system itself should be substantially revised. As is discussed throughout this Report, each form of market making system had difficulty handling the extraordinary volume and risk exposures during October. In neither our interviews with upstairs trading firms nor surveys of institutional investors was the specialist system singled out as performing particularly poorly. While, as discussed later in this Chapter, steps to ensure that specialists have access to sufficient capital are needed, it should be emphasized that we do not believe that additional specialist capital would have improved substantially overall specialist performance during the market break. 76/ Instead, the Division believes that ongoing analysis by the NYSE and Commission is necessary to evaluate individual specialist efforts to maintain fair and orderly markets.

2. American Stock Exchange ("Amex")

a. Introduction

The Amex is the smallest of the three major marketplaces for primary listings in the U.S., with 843 listed common stocks and warrants. Aside from several dozen listed issues with high capitalization and active trading, Amex issuers are generally smaller companies whose shares are lower priced with average daily volume much less than NYSE issues.

73/ The 1976 New York Stock Exchange Report of the Committee to Study the Stock Allocation System, at p.3.

74/ Report of the Presidential Task Force on Market Mechanisms, January 1988, at 49-50 and Study VI.

75/ Moreover, the Division further believes that in light of the increased volatility of the marketplace, poor performance during volatile periods such as the market break should be weighed heavily against any specialist in allocation determinations for new listings.

76/ The Division indicated in Chapter Three, supra, that it may be appropriate to consider the trading of market baskets on the floor of the NYSE. As discussed in detail in that Chapter, such a step might alleviate some of the order imbalances now imposed on specialists in individual stocks as a result of program trading.

The Amex operates a specialist system almost identical to the NYSE. The Amex imposes affirmative and negative obligations on its specialists equivalent to those of the NYSE. 77/ The Division undertook an evaluation of Amex specialist performance during the market break to determine if the Amex specialists fulfilled these obligations.

The Amex market was subject to extreme volume and volatility during the October 16 to 23 period, but its decline followed a slightly different pattern from the NYSE. On Friday, October 16, the Amex experienced a recordbreaking day, with 18.4 million shares changing hands in 15,097 trades. 78/ The Amex Market Value Index dropped 12.25 points, a 3.7% decline, compared to the 4.6% decline in the DJIA. On October 19, the Amex went through a steep and active sell-off, similar to the NYSE, with 35.4 million shares traded in 28,838 transactions, approximately three times the volume and number of transactions of the average trade day in September 1987. Large sell imbalances in major Amex stocks caused delayed openings in several of the heavier capitalized securities, and the Amex Market Value Index dropped 2% in the first hour of trading. Thereafter, the Amex experienced a "gradual" 11% decline for the rest of the day, with no major rallies and only a brief period around noon when the market stabilized for an hour. The total 13% decline for the day on the Amex was not as steep as on the NYSE.

The next day, October 20, the Amex continued its decline, with a third straight day of record-breaking volume. From 9:30 a.m. until 11:15 a.m., the Amex declined slightly in value, in contrast to the opening rally on the NYSE. Around 11:15 a.m. the Amex had a 7.7% decline in approximately five minutes, and declined another 3.2% by 3:00 p.m. During the last hour the Amex rallied 2%. For the day, the value of stocks traded on the Amex dropped 9% with 43.4 million shares trading in 31,010 transactions, in contrast to the DJIA which rose 6% that day. The remainder of the week of October 19 and Monday, October 26 saw high volume and heavy selling, pushing the price of Amex-listed stocks downward. 79/

77/ Amex Rule 170.

78/ In September 1987, the average volume per day was 12.4 million shares traded in 9,683 transactions.

79/ On Wednesday, October 21, the Amex Market Value Index rose 23.84 points, but resumed its fall the remainder of the week.

	Volume	Trades	Closing Amex Market Value Index
October 16	18.4 million	15,097	323.55
October 19	35.4 million	28,838	282.50
October 20	43.4 million	31,010	258.16
October 21	34.6 million	30,895	282.00
October 22	26.6 million	22,026	269.02
October 23	18.7 million	13,434	264.21
October 26	22.4 million	15,926	239.67

Part of the difference between the Amex and NYSE market movements can be attributed to the normal lag in movements between large capitalization stocks and secondary stocks. Perhaps as important, stock index baskets are comprised mainly of NYSE issues, so that index arbitrage and portfolio insurance selling do not affect as many Amex stocks directly. 80/

To determine how the specialists on the floor of the Amex reacted to the heavy volume and the extent to which they satisfied their market making responsibilities, the Division analyzed data on the performance of the specialists responsible for nine listed stocks: Amdahl Corporation ("Amdahl"), Dillard Department Stores ("Dillard"), De Laurentiis Entertainment Group, Inc. ("DEG"), Giant Food Inc. ("Giant Food"), GTI Corp. ("GTI"), The New York Times Co., Unicorp American Corp. ("UAC"), Wang Laboratories, Inc. ("Wang"), and The Washington Post. Some of these stocks were chosen for evaluation because they are among the Amex's most active listed companies; others were selected because they experienced serious problems during the market break, such as trading halts and wide price swings. Four of the stocks are in the S&P 500. 81/ The Amex provided audit trail information on the nine selected securities for October 16, 19, 20, and 26. The information was examined to assess specialist market making performance during this period, with emphasis on price continuity, 82/ size of quotation spreads, 83/ and the positions the specialists assumed in their stocks. 84/ Comparisons were made to historical data provided by the Amex. 85/ Finally, the Division examined delayed openings and trading halts generally on the Amex to compare the disruptions in that market to those experienced on the NYSE.

80/ Seven Amex stocks are included in the S&P 500.

81/ Amdahl, Dillard, Wang, and Giant Food.

82/ Amex Rule 170, like NYSE Rule 104, requires specialists to assist in the maintenance of fair and orderly markets in their assigned securities when trading for their own account. To this end, transactions effected by specialists in assigned securities should be reasonably calculated to reduce the possibility of extreme price fluctuations. To assess specialists' maintenance of continuity in their stocks, the Division reviewed trades in the nine selected stocks for price changes of 1/8 point or less and 1/2 point or more on October 19 and 20.

83/ Quotation spreads were examined to ascertain the percentage of quotes resulting in spreads of 1/4 point or less and 1/2 point or more.

84/ Specialist positions in the nine selected stocks were examined to determine whether the specialists were willing to support the market by buying and selling stocks for their own accounts to relieve imbalances between supply and demand. To obtain specialist participation rates in the selected stocks, the Division staff reviewed data provided by the Amex that track and tabulate specialist positions (i.e., the number of shares bought and sold by specialists for their dealer account) in the selected stocks. The Division found several discrepancies between the data involving opening positions and the trading by the specialists. The Division has not been able to verify the accuracy of the specialist data it received.

85/ Division staff also interviewed three floor brokers and three specialists.

b. General Analysis of Market Making Performance

Entering October 19, the Amex specialists were long in eight of the nine stocks, with total net long position in the nine stocks 98,174 shares. This was not due to across-the-board buying activity on October 16. Although the Amex floor brokers and specialists interviewed reported that specialists took on heavy positions on Friday, October 16, the data did not completely support this claim. Specialists in five of the nine selected stocks did increase their long positions on October 16, but only by a total of 41,339 shares. Three of the nine sold more than they bought on the 16th, and one purchased only 2% more stock than he sold. The latter four stocks were subject to price fluctuations throughout the day, with each declining 8%, 6%, 3%, 2% for the day. The specialists' TTV in all nine stocks, however, increased substantially for the day, and averaged 26%, compared to a September average of 14.7%. The specialists generally entered the market on October 16 on the buy side at the opening, but as the day progressed they became sellers. This pattern was fairly consistent, but not uniform, for the sample stocks for October 19, 20, and 26.

On October 19, specialist activity was mixed again, as three specialists sold more than they purchased, 86/ and three others accounted for over 20% of the sell volume in their stocks. 87/ Each of these six dropped a minimum of 7% during the day. 88/ For the day, the five stocks in which specialists were net buyers had total net specialist purchases of 140,580 shares, while their stocks' combined volume was 1,332,500 shares. TTV for the day for the eight stocks that traded was mixed, as some were higher than the September averages and some were lower. This trend continued on October 20, when specialists were net buyers in only three of the five sample stocks that

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86/ Dillard, DEG, and Wang.

87/ GTI, Giant Food, and New York Times.

88/

	Oct. 16 Close	Oct. 19 Close	% Drop in Price	Net Specialist Activity	Closing Positions
Dillard	42	39	7%	- 2,100	Long 10,907
DEG	4 5/8	3 7/8	16%	- 200	Long 800
Wang	16 3/4	12 1/4	27%	-23,500	Long 11,097
GTI	7 1/4	4 1/8	43%	+21,900	Long 17,717
Giant	31 5/8	25 5/8	19%	+27,800	Long 42,789
NYT	35 7/8	29 1/4	19%	+25,500	Long 40,341
Amdahl	43	33 3/8	22%	+62,100	Long 83,385
UAC	9 1/2	8	16%	+ 3,280	Long 13,339

The Washington Post did not trade on October 19 and 20 and is therefore not included in our calculations for these trade dates. The Washington Post was trading on October 26 and is included in our figures for that day. *See* discussion *infra* at 4-36.

experienced a price decline that day. 89/ The specialists TTV for October 20, however, was generally higher than in September.

The following Monday, October 26, volume remained high at 22.4 million and the Amex Market Value Index continued its descent to 239.67. Specialist proprietary activity was mixed as to net buying and selling, and participation levels were generally lower than the previous week. 90/

The Amex specialists in the nine stocks experienced deteriorating continuity and had wider spreads beginning on October 19 and into October 20, as had the NYSE specialists. Reduced continuity was more pronounced on October 20 than on the 19th in the eight selected stocks that traded. The declines in continuity, however, were generally not as extreme as they were with the NYSE stocks reviewed.

Continuity

	October 19	October 20	September Average
Amdahl (AMH) - closing price, 10/16/87 - 43			
% 0 - 1/8	96.2%	87.2%	97.5%
% ≥ - 1/2	1.9	1.7	.4
GTI Corp. (GTI) - 7 1/4			
% 0 - 1/8	82.9%	95.3%	97.1%
% ≥ - 1/2	4.3	0	0

89/ On October 20, the specialists in 4 stocks were net buyers and 4 were net sellers.

	Oct. 19 Close	Oct. 20 Close	% Change in Price	Net Specialist Activity
Dillard	39	34	(13%)	2,500 net purchases
DEG	3 7/8	3 1/2	(10%)	4,500 net sales
Wang	12 1/4	11 1/4	(8%)	800 net purchase
GTI	4 1/8	4 1/8	-	15,800 net sales
Giant	25 5/8	29	13%	1,100 net purchases
NYT	29 1/4	32 3/8	10%	31,200 net sales
Amdahl	33 3/8	30 5/8	(8%)	68,600 net sales
UAC	8	6 5/8	(17%)	15,600 net purchases

90/ On October 26, five specialists were net buyers, while the remaining four specialists were net sellers. Overall, the participation rate for specialists in the nine selected stocks was 18% as compared to the September average of 14.7%, and participation rates of 26.9%, 21.7%, and 22% for October 16, 19, 20, respectively.

Unicorp American Corporation (UAC) - 9 1/2

% 0 - 1/8	71.4%	75%	84.1%
% ≥ - 1/2	4.8%	2.8	0

Wang Laboratories, Inc. (Wan.B) - 16 3/4

% 0 - 1/8	81.9%	71.9%	99.5%
% ≥ - 1/2	.2	1.3	0

Dillard Department Stores (DDS A) - 42

% 0 - 1/8	55%	43%	86.9%
% ≥ - 1/2	2	17%	0

DeLaurentiis Entertainment Group (DEG) - 4 5/8

% 0 - 1/8	98%	79%	97.8%
% ≥ - 1/2	0	0	.1

Giant Food Stores (GFS A) - 31 5/8

% 0 - 1/8	84%	63%	86.2%
% ≥ - 1/2	1	.4	.2

The New York Times (NYT A) - 35 7/8

% 0 - 1/8	79%	70%	91.4%
% ≥ - 1/2	1	2	0

Quotation spreads at 1/4 point or less in the eight stocks overall also decreased significantly when compared to the September averages, and spreads at 1/2 point or greater in the selected stocks increased when compared to the September averages. As with the NYSE stocks, the spreads usually widened more on October 20 than on October 19.

Spreads

	October 19	October 20	September Average
Amdahl (AMH) - 43			
% ≤ 1/4	89.5%	99.9%	99.9%
% ≥ 1/2	10.5	0	0
GTI Corp. (GTI) - 7 1/4			
% ≤ 1/4	100%	100%	100%
% ≥ 1/2	0	0	0

Unicorp American Corp. (UAC) - 9 1/2

% ≤ 1/4	95.5%	54.5%	77.8%
% ≥ 1/2	4.5	9.1	0

Wang Laboratories, Inc. (Wan.B) - 16 3/4

% ≤ 1/4	78.7%	62.8%	99.5%
% ≥ 1/2	5.9	1.8	0

Dillard Department Stores (DDS A) - 42

% ≤ 1/4	6%	5%	99.2%
% ≥ 1/2	4	84	.1

DeLaurentiis Entertainment Group (DEG) - 4 5/8

% ≤ 1/4	100%	99%	100%
% ≥ 1/2	0	0	0

Giant Food Stores (GFS A) - 31 5/8

% ≤ 1/4	80%	17%	99.4%
% ≥ 1/2	7	6.2	0

New York Times (NYT A) - 35 7/8

% ≤ 1/4	52%	36%	99.7%
% ≥ 1/2	2	3	.1

c. Trading Halts and Delayed Openings

The Amex, like the NYSE, experienced severe liquidity problems during the week of October 19 that resulted in numerous delayed openings, trading halts, and failures to open stocks. While the incidence of delayed openings was comparable to the NYSE, there were more cases of extremely long delays. Of all Amex listed stocks, 26 experienced delayed openings on October 19. Ten opened by noon, five by 12:34 p.m., five between 1:15 p.m. and 2:52 p.m., and six did not open on the 19th. 91/ Ten stocks experienced trading halts on October 19. One halt lasted 1 hour and 46 minutes, two lasted for 1 hour and 22 minutes, two opened within 50 minutes, and five reopened within 30 minutes.

91/ Of the six stocks that did not open on October 19, four stocks did not open because of order imbalances, while the remaining two stocks failed to open due to pending and/or dissemination of news.

On October 20, 30 stocks experienced delayed openings. Ten opened by noon, six by 2:15 p.m., four by 3:02 p.m., and ten never opened that day. 92/ One hundred and three stocks experienced trading halts. Twenty-eight lasted for over four hours, 10 lasted from three to four hours, 22 lasted from two to three hours, 27 lasted from 1 to 2 hours, and 16 reopened within an hour. In addition, of the nine stocks we examined, Dillard, Amdahl, Giant Food, The New York Times, and Wang each experienced trading halts and/or delayed openings, sometimes accompanied by gap pricing upon reopening.

The Washington Post, one of Amex's top ten listed companies by market value, 93/ did not trade on October 19 and 20. On Friday, October 16, the price of The Washington Post stock dropped steadily from its opening price of 235 to close at 221. On that day, 14,700 shares traded in 40 transactions, with the specialist participating in 21.5% of the volume primarily as a buyer. At the end of the day the specialist was long 16,413 shares. The Washington Post did not open for trading on Monday, October 19, due to pre-opening sell order imbalances of 2,400 market orders and 2,100 limit orders priced between 177 and 240. The specialist posted two indications at 10:06 a.m. and 2:01 p.m. 94/ of a 180 bid and a 210 ask and a bid-ask of 150 and 200, respectively. 95/ The stock did not open for trading until 12:11 p.m. on October 21. 96/ The stock opened at a price of 194, down 27 points, on a volume of 11,400 shares. The audit trail data indicates that the specialist was a seller of 8,000 shares. The stock rose to 204 by 3:20 p.m., during which time the specialist was almost exclusively a seller. The stock dropped to 199 on trades of 5,200 shares, of which the specialist bought 100 shares.

The opening quote on Monday, October 26 was 175 bid, 185 ask. As a result of an imbalance of orders, no trading occurred until 11:53 a.m., when 6,800 shares were sold at 180. 97/ Within twenty minutes, the price dropped another nine points to 171, with the specialist purchasing 100 shares of the 2,200 shares that traded. From 12:22 p.m. to 1:38 p.m. the price remained stable at 173 and then dropped a total of 8 points

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92/ Order imbalances precluded trading in 7 of the 10 stocks; the remaining 3 stocks, on the other hand, did not open for trading because of pending and/or dissemination of news.

93/ Amex 1986 Fact Book, at 13.

94/ The specialist had a market order imbalance of 6,900 sell orders and 7,600 limit orders at 2:01 p.m.

95/ Amex specialists often post indications during a delayed opening (or a trading halt) in a stock when it appears that they will open (or resume trading) for trading in a stock within a short period of time. An indication generally signifies the price level at which a stock is expected to open.

96/ The Amex informed the Division that part of the reason for halting trading in the stock on October 20 was that important news was about to be disseminated by the company. The only news released over the tape during the week occurred on October 20 concerning significantly positive earnings results by the company.

97/ Five hundred shares were bought by the specialist.

in four trades totalling 400 shares, of which the specialist bought 300 shares. The stock closed the day at 165.

There was no trading in classes A and B of Restaurant Associates on October 19 and 20 because of order imbalances. 98/ Their last trades on October 16 occurred at 17 1/8. On Wednesday, October 21, their openings were delayed until 10:46 a.m. when 4,000 class A and 8,500 class B shares were traded at 12. On Thursday, October 22, they opened for a short period but trading was halted at 9:43 a.m. because of an imbalance of orders. They resumed trading at 1:31 p.m. with 2,700 shares trading at 12 1/4 and 2,300 shares trading at 12 1/2 for the class A and B stock, respectively.

d. Individual Specialist Performance in the Selected Stocks

1. Amdahl Corporation

Entering October 19, the specialist was long 22,828 shares. On October 19, the opening of trading in Amdahl was delayed due to an imbalance of sell orders; the stock opened for trading at 1:15 p.m. at a price of 35 1/2, down 7 1/2 points from its closing price of 43 on October 16. Opening volume was 220,000 shares, of which the specialist purchased 51,500 shares (or 23.4%) as dealer for his own account.

After the opening, the price of the stock rose for approximately 20 minutes, then began a gradual decline of very small price variations, until 3:22 p.m., at which time the exchange halted trading in the stock for the remainder of the day due to an order imbalance. 99/ At that point the specialist was long 83,385 shares, and was a net buyer, with purchases for his dealer account exceeding sales by nearly 3 to 1. After the opening, however, the specialist's trades were net buys by only 9,800 shares.

On October 20, Amdahl opened at 33, down 3/8 point on volume of 51,400 shares. The specialist was a buyer on the opening, purchasing 3,900 shares for his dealer account. Trading in the stock was halted at 11:02 a.m. due to an order imbalance. The final quote displayed prior to the trading halt indicated 28 bid-32 ask. Upon the resumption of trading at 1:58 p.m., the price of the stock plunged four points (12%) from 33 3/4 to 29 3/4 on volume of 70,000 shares. The specialist made a single purchase of 100 shares as dealer for his own account on the reopening of trading. The stock closed down (8%) for the day at a price of 30 5/8 on volume of 645,100 shares. The specialist was a net seller for the day with sales exceeding purchases by 2 to 1.

98/ At 9:30 a.m., there were no pre-opening orders to buy or sell any shares of class B of Restaurant Associates. Thus, according to the Amex, the order imbalance in class B occurred within the trading crowd, thereby making the task of reconstructing and providing precise order imbalances to the Commission extremely difficult and time consuming. At 9:43 a.m., there were no orders to buy shares of class A of Restaurant Associates, but there were 15,000 orders to sell at limit prices between $14-$15.

99/ At 1:38 p.m., the stock dropped 1 5/8 points in one trade of 30,000 shares. The specialist was the principal buyer in the transaction, purchasing 29,000 shares for his dealer account.

2. GTI Corporation

The stock of GTI Corporation opened down 1/8 point at a price of 7 1/8 on October 19. The price of the stock declined for the remainder of the trading session and closed down 3 1/8 points (43%) at a price of 4 1/8 on volume of 59,500 shares. The specialist was a major participant in the market on October 19, principally as a buyer. His participation rate was 39.4%, compared with an average September 1987 participation rate of 9.9%. He bought 34,400 and sold 12,500 shares during the day, resulting in a net long position of 21,900 shares at the close of trading. 100/

On October 20, the price of the stock generally remained around $4. GTI closed unchanged for the day at a price of 4 1/8 on volume of 72,500 shares. The specialist's participation rate for the day was 21.2%, well above his September average of 9.9%. The specialist was primarily a seller on the 20th, in contrast to his activity on October 19. The specialist sold three times as many shares from his dealer account as he purchased. Eighty percent (80%) of his sales occurred from 10:00 a.m. to 11:40 a.m. as the price of GTI rose 5/8 point.

3. Unicorp American Corporation

On October 19, Unicorp American Corporation opened down 1/2 point at a price of 9 on volume of 4,100 shares. The price of the stock continued this downward trend for the remainder of the day. Unicorp American closed down 1 1/2 points (16%) at a price of 8 on volume of 25,500 shares. The specialist was a net buyer on October 19, purchasing 5,880 shares while selling 2,600 for his dealer account. His participation rate for the day was 16.6%, a 2.3% decline from his September average participation rate (18.9%).

On October 20, Unicorp opened down 1 1/4 points (16%) at a price of 6 3/4 on volume of 16,700 shares. The specialist was the primary purchaser on the opening, buying 16,100 shares (or 96.4% of the volume) as principal for his proprietary account. Unicorp closed down 1 3/8 points (17%) for the day, on volume of 35,500 shares. After the opening, the specialist purchased 4,600 shares and sold 5,900 shares for his own account; his net purchases for the day totaled 15,600 shares. The specialist's participation rate for October 20 was 39.2%, twice the October 19 participation rate and September average participation rate.

4. Wang Laboratories, Inc.

On October 19, trading in Wang Laboratories opened at 11:02 a.m., down 3 5/8 points (22%) at a price of 13 1/8 on volume of 216,200 shares. The specialist was a buyer on the opening transaction, purchasing 33,600 shares as principal for his proprietary account. During the following hour, Wang traded within the $13-$15 range until 2:00 p.m., at which time the stock began a steady decline into the $12 range on

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100/ As indicated above, the Amex provided data detailing specialist positions during the market break. There appear to be discrepancies in the data which Amex officials attribute to "DKs" (don't know trades) or trades that appear to be misplaced. The data provided by the Amex indicate that the specialist in GTI closed long 17,717 shares on October 19, a 4,000 share difference from our calculations computed from Amex audit trails.

1/8-1/4 point trades. The stock continued to decline falling into the $11 range at 3:00 p.m., but closed at a price of 12 1/4, down 4 1/2 points (27%) for the day. Total trading volume for the day was 867,500 shares. The specialist was a net seller that day of 23,500 shares. The specialist's participation rate for the day was 12.3%, exceeding his average September participation rate of 7.9%.

On October 20, Wang opened up 3/8 point at a price of 12 5/8 on volume of 51,500 shares; however, the specialist did not participate in the opening trade. The price of the stock generally rose during the next one and a half hours, but began to decline into the $11-$12 range at 11:00 a.m. Wang continued to trade down into the $9 range shortly after noon, but rebounded back into the $10-$11 range, eventually closing at a price of 11 1/4, down 1 point (8%) for the day. Total share volume was 1,270,800 shares. Although the specialist was a net buyer on October 20, his purchases as principal exceeded his sales by a slim margin of 800 shares. His participation rate of 13.3% for the day was well above the 7.9% average participation rate for September.

5. Dillard Department Stores

On October 19, Dillard stock opened at 40 3/4, down 1/4 point. The price of the stock declined to its low for the day of 37 1/4 at 11:03 a.m., and then rose to between 38 and 39 where it remained for the day. Dillard closed at 39 (down 7%) on volume of 178,500 shares. The specialist was a net seller of 2,100 shares, and had a participation rate of 20%. Most of his participation on the buy side occurred during the first hour of trading; most of his participation on the sell side occurred from 12:30 p.m. to 3:30 p.m., when the stock rose 5/8 point. At the close of trading, he had a net long position of only 10,907 shares.

On October 20, Dillard opened at 38 1/4. By 12:22 p.m. the stock price dropped from its opening price to 35 1/2. At that point the specialist had bought 9,800 shares. A trading halt was called at 12:38 p.m., and one hour and thirty-seven minutes later the stock reopened at 35, with the specialist purchasing 3,000 of the 10,400 shares traded at the reopening. The stock closed at 34, down five points (13%). The specialist's participation rate was low, 9%, and he bought only 2,500 shares more than he sold. Moreover, as the data indicate (see, tables on pages 4-33 through 4-35) the price continuity and quotation spreads for Dillard substantially worsened on October 20.

6. DeLaurentiis Entertainment Group ("DEG")

DEG opened at a price of 4 1/8, down 1/2 point, on Monday, October 19, with the specialist purchasing 5,300 of the 5,500 shares that traded at the opening. In the opening hour the stock continued to drop another 1/2 point, to its low of 3 5/8. It fluctuated between 3 5/8 and 4 for the remainder of the day, and closed at 3 7/8 (down 16%). After the opening, the specialist purchased 300 shares and sold 5,800 shares during the day.

On October 20, DEG opened at a price of 3 3/4, down 1/8 point. Trading was halted at 12:41 p.m., shortly after the stock hit its low of 3. Prior to the halt, the specialist was a net seller of 6,500 shares (out of a total volume of 23,200 shares). When the stock reopened fifteen minutes later at 3 3/8, the price stabilized and closed at 3 1/2. For the day, the specialist sold 10,500 shares and purchased 6,000 shares. Volume for the day was 28,100 shares.

7. **Giant Food Inc.**

On October 19, Giant opened 2 1/2 hours late, at 30, down 1 5/8 (5%). On the opening trade, the specialist purchased nearly half (25,100 shares) of the opening volume of 56,600 shares. The price declined slowly throughout the day to close at 25 5/8 (down 19%) on volume of 158,400 shares. For the day the specialist bought 59,700 shares and sold 31,900 shares. Fifty-seven percent of the specialist's buying occurred at the opening. Eighty-two percent of his selling occurred from 1:00 p.m. to 2:00 p.m. when the price of the stock increased by a quarter of a point.

On October 20, Giant opened at a price of 25, down 5/8. The day's volume increased to 171,100 shares and the price fluctuated between 24 1/8 and 29 1/4. The price hit its low for the day within 40 minutes of opening, and climbed slowly to its high of the day shortly before the close. More than 74% of the specialist's buying occurred during the first two hours of trading; 58% of his selling occurred during the last hour and one-half. The specialist bought 47,800 shares and sold 46,700 shares for the day.

8. **New York Times**

The New York Times opened on October 19 at 11:23 a.m. at 31, down 4 7/8 (13.6%). The specialist purchased 118,000 shares of the 211,700 shares at the opening. A half hour later the stock rose to 33, but for most of the day it traded between 31 and 32 5/8. After a 739,400 share volume day, it closed at 29 1/4 (down 19%). Overall, the specialist bought 231,600 shares and sold 206,100 shares. Almost half of his sales occurred from 11:30 a.m to 1:00 p.m., when the stock rose 1/2 point. From 1:00 to 3:00, during which time the stock dropped 1/2 point, the specialist purchased 5,700 shares.

On October 20, the New York Times opened up 2 3/4, at 32. The price remained above 32 for two hours, when it dropped in an hour to 28 3/4. The price slowly rose again to close at 32 3/8. The specialist sold 156,700 shares and bought 125,500 shares. Twenty-one percent of his sales occurred at the opening and 30% of his sales occurred from 9:50 a.m. to 10:42 a.m. during which time the price of the stock rose 1/8 point. During the stock's drop, the specialist was a net purchaser of 31,100 shares.

e. **Analysis**

The Division's analysis of specialist performance on the Amex indicated a general decline in performance on both October 19 and 20. As discussed above, in almost all the stocks examined there were substantial decreases in continuity and the number of quotes with spreads at 1/4 point or less. Our analysis indicates, however, that the specialists' performance as indicated by these measures was mixed.

Specialists' performance in buying and selling participation also was mixed. The majority of specialists examined entered the market long on October 19, but not substantially. Although a number of the specialists increased their long positions on the 19th, three of the specialists examined decreased their long positions. The Division would have expected almost all specialists to be substantial net buyers on October 19 and to end the day substantially long. On October 19, specialists were buyers primarily at the opening and throughout the morning, and were more likely to be sellers in the afternoon as the market decline continued. The Division identified several situations that raise questions as to specialist performance. Some stocks opened on October 19 significantly down from the previous day's close, but not all of these had substantial specialist buying at the opening.

Specialist performance was poorer on October 20 than it had been on October 19. For example, spreads were considerably wider on the 20th. From our analysis, it appears that some Amex specialists came into the 20th unwilling to increase their long positions substantially. In fact, one of the specialists who was a buyer on October 19 became a substantial seller on the 20th, even though his stock fell for the day. Further, the four specialists that were net buyers on the 20th did not substantially increase their long positions, but attempted to remain relatively flat in their overall positions. To some extent this was due to the more moderate price changes these stocks experienced as compared to the overall Amex market.

An examination of individual stocks highlights the differences in performance among specialists. Some specialists' trading activities were designed to support a stock's price, while other specialists were much less active in maintaining as orderly a market.

As noted above, four stocks never opened on October 19 and seven stocks never opened on October 20 due to trading imbalances. In contrast, the NYSE, which trades more than double the number of common stocks as Amex, failed to open trading in only one common stock on the 19th and one other common stock on the 20th due to imbalances. Amex was unable, however, to provide any market for a total of 11 different stocks on the 19th and 20th. As discussed above, this included the Washington Post, one of the most heavily capitalized stocks on the exchange. The Division is concerned about the inability of Amex specialists to provide a liquid open market in these 11 stocks.

In summary, the Division observed mixed specialist performance on October 19 and 20. Although some specialists appeared to perform well under adverse conditions, others did not. For stocks with large price movements, the Amex should evaluate whether individual specialists performed adequately in fulfilling their responsibilities to maintain a fair and orderly market. Further, the Amex should examine delayed openings and the large number of trading halts to determine whether the halts were justified and the stock was opened or reopened in a timely fashion at a fair price. 101/ In addition, the Division is particularly concerned about the number of stocks that could not be opened due to order imbalances. As noted, a major Amex stock did not trade at all during October 19 and 20. The Division will monitor closely Amex's review of specialist performance in these stocks.

101/ Most of the analysis and recommendations in this section are similar to those set forth in the section on NYSE specialists.

3. Regional Exchanges

a. Introduction

There are nine registered national securities exchanges. 102/ Five of them, the Boston, Cincinnati, Midwest, Pacific and Philadelphia Stock Exchanges, account for most of trading in exchange listed securities conducted outside the NYSE or Amex. 103/ Regional stock exchanges provide two types of equity markets: a primary or sole marketplace for smaller, often local, companies and a secondary market for larger companies traded on the NYSE and Amex. The growth of the NASDAQ system during the 1970s, however, enabled it to replace the regional exchanges as the largest marketplace for smaller, growing companies. Consequently, today most of the volume on regional exchanges derives from trading in NYSE and Amex listed securities.

102/ The nine are the Amex, Boston Stock Exchange("BSE"), Cincinnati Stock Exchange ("CSE"), the Chicago Board Options Exchange ("CBOE"), Philadelphia Stock Exchange ("Phlx"), the Midwest Stock Exchange ("MSE"), the NYSE, the Pacific Stock Exchange ("PSE") with floors in both Los Angeles and San Francisco, and the Spokane Stock Exchange ("SSE"). The Intermountain Stock Exchange became inactive on October 31, 1986 and currently trades no securities.

103/ The CBOE currently trades only options. The Commission, however, is reviewing a proposed rule change from the CBOE (SR-CBOE-85-50) that would permit it to trade equity securities. The SSE differs from the other regional exchanges in that trading on the SSE is generally limited to smaller, local companies for which it is the sole market. In addition, due to its small size, the limited volume of shares traded, and the local nature of the stocks traded, the SSE is exempt from the requirement under Rule 11Aa3-1, 17 CFR 240.11Aa3-1 (1987), to submit transaction reports and last sale reports on SSE listed stocks to the consolidated transaction reporting system. For these reasons, the SSE is not included in our analysis of the performance of regional stock exchanges during the October market break.

Listed below are stock market statistics on the volume of equity sales on U.S. securities exchanges (except for the SSE) for the month of September and October 19 and 20, 1987. The NYSE and Amex rank first and second, respectively, in terms of shares traded. The NYSE and Amex differ from the regionals exchanges in that they are a primary market for the stocks they list.

Registered Exchanges	September (data in thousands) %	October 19th (data in thousands) %	October 20th (data in thousands) %
New York	4,066,581 (83.13%)	599,819 (87.26%)	597,711 (86.00%)
American	266,647 (5.45%)	35,410 (5.15%)	43,430 (6.25%)
Midwest	260,395 (5.32%)	22,711 (3.30%)	25,574 (3.68%)
Pacific	156,789 (3.21%)	15,899 (2.31%)	14,746 (2.12%)
Boston	66,547 (1.36%)	5,189 (.75%)	5,952 (.86%)
Philadelphia	62,454 (1.28%)	6,749 (.98%)	6,501 (.93%)
Cincinnati	12,336 (.25%)	1,588 (.23%)	1,447 (.21%)

To function as secondary markets, regional exchanges routinely apply for and obtain unlisted trading privileges in NYSE/Amex listings, pursuant to Section 12(f)(1)(B) of the Exchange Act and Rule 12f-1. 104/ The exchanges' role as secondary markets is also facilitated by the Intermarket Trading System ("ITS"). 105/ ITS links the primary and secondary markets by computer in 1,523 stocks. 106/ Authorized in 1978, ITS constituted a step toward the creation of the national market system, because the linkage permits orders entered in one market to be executed on another, if a superior price and comparable size are available. ITS also has provided regional specialists with an efficient, low cost method of reducing stock positions in order to limit their exposure. 107/

Each of the regional stock exchanges (except the CSE) uses a specialist system like that on the NYSE. The listings are allocated to specialists on each exchange. These specialists must maintain continuous, two-sided quotations in their stocks, and theoretically compete against specialists on other regional exchanges and the primary market specialist. The quotations of each marketplace are displayed for each stock through the consolidated quotation system. In addition, to compete for order flow, the regional exchanges have implemented small order routing and execution systems, or have, at a minimum, implemented rules that guarantee the execution of transactions in securities traded via ITS at the best ITS displayed price for a specific number of shares.

To examine the performance of the regional specialists or market makers during the October market break, the staff selected 22 stocks that trade on most, if not all, of the regional exchanges. The issues represent a cross section of the 67 issues reviewed for NYSE specialist performance. Seven are active, highly capitalized stocks ("blue chips"); three are takeover targets; and the remaining 12 issues are less active, smaller capitalized issues ("small cap"). 108/ The data available to evaluate regional specialist

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104/ 17 C.F.R. Section 240.12f-1. Securities may be multiply listed. Many large corporations maintain listings for their common stocks on a primary exchange (i.e., the NYSE or the Amex) and on one or more regional exchanges.

105/ See Chapter Seven, infra.

106/ As of November 30, 1987.

107/ Due to the relatively limited capital resources of most regional specialists, it is necessary for them to be able to reduce or "lay off" stock positions assumed in the course of their market making activities, and thereby reduce their exposure. Accordingly, regional specialists frequently utilize ITS as a vehicle to lay off their positions on primary markets, such as the NYSE or Amex.

108/ The 22 stocks (and their corresponding symbols) are listed below by category. The seven blue chip stocks are: Coca-Cola Company ("KO"); Eastman Kodak ("EK"); General Motors ("GM"); International Business Machines ("IBM"); Merck & Company, Inc. ("MRK"); USX Corporation ("X"); and Zenith Laboratories, Inc. ("ZEN").

The 12 small cap stocks are: Bell and Howell Company ("BHW"); Cineplex Odeon Corporation ("CPX"); GEICO Corporation ("GEC"); Genrad Incorporated ("GEN");

performance are limited because it is difficult to devise useful market making measurements for non-primary specialists. Thus, the staff concentrated on the following areas of specialist performance. First, were the specialists net buyers or sellers on the relevant days? Second, what size positions did the specialists take? Did they increase or decrease their positions? Third, how did specialists lay off their positions and set their quotations? Finally, did specialists attempt to better the primary market quotation?

In reviewing the performance of the regional exchanges, the Division examined specialist proprietary trading data for October 16, 19, 20, and 26, and regional exchange audit trails. The data analysis was supplemented by interviews with specialists, floor brokers, and officials of the five regional exchanges.

b. Regional Performance Generally

The five regional exchanges experienced dramatic increases in the number of executions and the volume of stocks traded during the October market break. 109/ On

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Harley Davidson ("HDI"); Holly Farms ("HFF"); Household International, Inc. ("HI"); Malaysia Fund ("MF"); Ryland Group, Inc. ("RYL"); Shoe-Town, Inc. ("SHU"); Towle Manufacturing Company ("TOW"); and Universal Matchbox Group, Ltd. ("UMG").

The three takeover stocks are: Dayton-Hudson Corporation ("DH"); Lone Star Industries, Inc. ("LCE"); and Newmont Mining Corporation ("NEM").

109/ Trades and Share Volume on the Five Regional Exchanges

	September 1987 Average	October 19th (and as a % of September)	October 20th (and as a % of September)
BSE			
trades	3,107	10,023 (323%)	11,076 (356%)
volume	3,030,406	5,189,105 (171%)	5,952,065 (196%)
CSE			
trades	492	903 (183%)	1,087 (220%)
volume	939,400	1,588,000 (169%)	1,447,900 (154%)
MSE			
trades	13,969	37,424 (267%)	46,722 (334%)
volume	12,326,418	22,711,906 (184%)	25,574,422 (207%)
Phlx			
trades	5,482	17,085 (311%)	15,246 (278%)
volume	3,136,090	6,749,700 (215%)	6,501,100 (207%)
PSE			
trades	11,527	37,175 (323%)	35,877 (311%)

October 19 and 20 the number of transactions on the BSE, MSE, Phlx, and PSE was approximately three times the average daily number of transactions for September 1987, and the share volume on those exchanges was approximately double the average daily volume for September. The number of transactions and the share volume on the CSE for October 19 and 20 was approximately double the daily average for September 1987. 110/

From the available data and interviews, the staff reached four conclusions about regional specialist performance. First, regional specialists throughout the four day period were more often net sellers than net buyers. Even on October 19, selling specialists outnumbered buyers. The selling trend was especially pronounced in the blue chip and takeover stocks. For example, three of the five regional exchanges (BSE, CSE, MSE) were net sellers of Eastman Kodak on the 16th. On the 19th, again, three of the five regional exchanges (CSE, Phlx, PSE) were net sellers resulting in a combined net change in position for the specialists and market makers in Eastman Kodak on all the regional exchanges for the 19th of -53,327 shares. Only on Monday, October 26, were more regional exchanges net buyers (BSE, MSE, Phlx, and PSE) than net sellers (CSE). The total for the combined net change in position for all regional markets from October 16, 19, 20, and 26, on Eastman Kodak was -80,509 shares.

Similarly, specialists on all five regionals were net sellers for General Motors on the 19th, producing a combined net position change for all regionals of -89,278 shares. Of the seven blue chip issues in our sample, specialists at the regional exchanges were net buyers for the four day period only in USX, with a combined net change of +20,292. All the other blue chip issues sampled ended the four day period as net selling issues with combined net changes for all regional exchanges of -4,019 for IBM, -3,293 shares for Coca-Cola, -2,763 shares for Merck, and -159,393 shares for Zenith.

Specialist activity was mixed for small cap issues in our sample. Except for October 16, when sell activities predominated on the regional exchanges, specialists tended to be buyers more than sellers. On October 19, specialists were net buyers in six of 10 secondary issues. 111/ On October 20 and 26 no buying or selling trend emerged.

Interestingly, the increased trading activity by the regional specialists was due primarily to increased small order flow. The percentage of block volume on the regional exchanges as compared to the September 1987 average did not increase nearly as much as the percentage increase for small orders. 112/

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volume	7,379,676	15,899,200 (215%)	14,746,000 (200%)

110/ This section only examines the performance of regional specialists during the market break. An analysis of the individual performance of the five regional exchanges is set forth in Appendix F.

111/ Although the Division's sample group of stocks contained 12 secondary issues, only 10 of these were traded on the regional exchanges during the period of the market break.

112/ See the chart in Appendix F at F-9.

Second, regional specialists and market makers throughout the four day period, and especially on October 19 and 20, generally did not assume large closing positions, except on the CSE. 113/ Among the four regional exchanges utilizing the specialist system (the BSE, MSE, Phlx and PSE), specialists tended to take either relatively small long closing positions or relatively larger short closing positions. For example, long closing positions for the 19th in Eastman Kodak ranged from long 978 shares on the BSE to long 3,800 shares on the MSE. The only short closing position in that stock was by the PSE specialist on the San Francisco ("SF") trading floor, short 6,192 shares. On the 20th, the only long closing position in Eastman Kodak was on the Phlx, long 1,053 shares, with the other regional exchanges closing with short positions ranging from short 3,840 shares on the BSE to short 16,362 shares by the PSE's Los Angeles ("LA") specialist.

As a further example of the relatively small closing positions assumed by regional specialists among the four exchanges, on October 16, when the DJIA declined 108 points, no specialist assumed a long closing position of 10,000 shares or more for the seven blue chip issues in our sample. On October 19, again, no specialist on the four regional exchanges closed with a long position of 10,000 shares or more in any of the blue chip issues. 114/ On October 20, PSE specialists closed with short positions of 10,000 shares or more in four issues: Eastman Kodak (short 32,114 shares); General Motors (short 14,665 shares); IBM (short 21,579 shares); and Zenith (short 12,244 shares). The MSE specialist for IBM closed with a short position of 11,169 shares. No other specialist in any of the other blue chip issues on the four regional exchanges closed with positions, long or short, of 10,000 shares or more on the 20th. On the 26th, again, no specialist in the seven blue chip issues on the four regional exchanges closed with a position, long or short, of 10,000 shares or more. 115/

Similarly, of the 12 small cap issues in our sample, most specialists on the regional exchanges during the four day period closed with a position, long or short, of not more than 2,000 shares. 116/ For the three takeover issues in our sample for the four day period, there was only one instance in which the specialist closed the issue with a position of 10,000 shares or more (Newmont Mining closed short on the MSE on October 20, 12,465 shares).

In contrast to the other exchanges, CSE market makers frequently assumed relatively large, usually long, positions for the four day period in the seven blue chip issues in our sample, although the data does not specify the degree to which that

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113/ *See infra* for CSE discussion.

114/ Specialists on the PSE's LA and SF trading floors both closed short on the 19th in Zenith with a combined short position of 10,119 shares.

115/ Indeed, our data indicate that throughout the four day period for the seven blue chip stocks, specialists on the four regional exchanges assumed closing positions, long or short, of greater than 4,000 shares only 29 times. Accordingly, the vast majority of closing positions were substantially under 10,000 shares.

116/ One specialist on the BSE closed short more than 2,000 shares on two occasions.

trading activity was due to trades executed on the CSE or in the third market. 117/ These positions were typically much larger than the positions of specialists on the other regional exchanges. For example, for IBM on the 19th and 20th, CSE market makers had combined closing positions long 142,117 shares and 111,263 shares, respectively. The largest closing positions for IBM on those days among the other regional exchanges was MSE on the 19th, short 2,549 shares, and PSE on the 20th with a combined closing position short 21,579 shares. Nevertheless, activity on CSE's floor in IBM was relatively low on October 19 and 20. On October 19, for example, our data indicates CSE market makers bought a total of 3,261 shares and sold 3,190 shares on the CSE floor or through ITS. On October 20, CSE market makers in IBM bought a total of 55 shares on the floor and sold a total of 10,952 shares. Accordingly, it appears that the substantial long positions of CSE designated dealers may have been primarily the result of their upstairs market making activity. 118/

Third, as discussed elsewhere, although regional specialist usage increased dramatically during the market break, in the view of the regional specialists, ITS did not provide a sufficient means to lay off positions acquired on the 19th and 20th. Accordingly, many specialists used the services of NYSE member firms that had direct access to the NYSE floor, so called "correspondent brokers," to lay off their positions on the primary market. 119/

117/ The data provided by the CSE on designated dealers' open/close positions include not only trading done on the floor of CSE and through ITS, but also over-the-counter trades. Accordingly, although many of the open and close positions indicate very large long positions, most of the buying and selling activity occurring on the CSE floor or through ITS in the stocks examined was very small. In addition, as noted below, CSE market makers entered October 19 very long and proceeded to reduce their positions by selling throughout the day. Despite this, their positions at the close were substantially higher than those of the other regional specialists.

118/ We also note that the CSE uses competing market makers rather than a single specialist for a security.

119/ In addition to the delays encountered with ITS, regional specialists and floor brokers we spoke with stated that they had difficulty obtaining accurate and current quotations from other markets (see Chapter Seven infra for a discussion of quote reporting).

There appear to be two reasons why the regional specialists perceived that the market information they received was not accurate or current. First, under the extremely fast market conditions of October 19 and 20, it may have been impossible to avoid a gap between execution prices and the prices being displayed to the regional specialist on the high speed tape. Second, because regional specialists generally were required to forego ITS and obtain executions on the primary market through a correspondent broker, delays in those executions combined with the extraordinary price volatility frequently resulted in orders being executed at prices that were different from the quoted price at the time the order was sent.

Fourth, as a response to the tremendous volume and price volatility encountered generally on the 19th and 20th, regional specialists generally acknowledge that they widened their quotation spreads and avoided bettering the NYSE or Amex quote.

C. Analysis

In reviewing overall regional exchange specialist performance during the market break period, the role of the regional markets must be considered. Under normal trading conditions, the regionals compete for order flow on ITS issues. Regional specialists generally do not take particularly aggressive positions in buying and selling as do the primary market specialists. Instead, the regional specialists generally buy and sell as the trading day dictates and lay off any particularly large position on the primary market. As discussed above, the inability of specialists to be assured that positions could be laid off on the primary market had an effect on the positions the regional specialists were willing to take. The overall data substantiate this conclusion; the majority of specialists we examined sold more than they bought on October 19 and did not take on large positions despite the explosive growth in volume. 120/ Moreover, it appears many of the specialists had difficulty pricing orders because of the first moving market and, accordingly, did not attempt to better primary market quotations.

Despite these problems, the regionals provided an alternative market for many small customer orders. Comments from member firms and from floor brokers indicate that some firms on October 19 began to reroute orders to the regionals when queuing problems on the NYSE developed. As explained in more detail in Chapter Seven on order routing systems, these orders soon overloaded the regional systems. Thus, during the week of October 19, the regionals generally did not provide better or quicker markets than the NYSE. Moreover, with the exception of the CSE, regional specialists essentially took no meaningful long positions in the face of selling during the market break. It is debatable whether in view of their smaller capitalized specialists, and the sudden influx of volume, regional specialists could reasonably have been expected to assume such positions. Nevertheless, the Division believes that the regional exchanges should reevaluate the capacity of their specialists to handle increased order flow. Basically, the regionals function as supplements to the NYSE through their small order execution systems and supplemental specialist market making. In addition, they provide a forum for executing block transactions. The October market break showed that the regionals need to improve in these areas.

B. Equity Specialist Capital

1. Regulatory Capital Requirements

a. Organization of Specialists

Most of the national securities exchanges have rules that allow and provide for the formation of "specialist units". The composition of each specialist unit varies not

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120/ As noted in the section discussing the CSE (see Appendix F, infra), its experience was slightly different, with the designated market makers willing to take on or maintain substantial long positions on the 19th. This, however, appears to be the result of upstairs market making activity rather than active buy and sell activity on CSE or through ITS executed orders.

only from exchange to exchange but also within the exchanges themselves. The components of a specialist unit may include one or more individuals, partnerships, corporations, joint accounts, or combined books. Partnership and corporations take the conventional legal forms. A joint account is basically a joint venture by two or more individuals, partnerships, or corporations. In a joint account, the participants keep separate books for brokerage orders, but maintain a single trading account. The combined book is the converse of the joint account. In a combined book, the participants, who again may be individuals, partnerships, or corporations, maintain separate trading accounts but are partners for the purposes of the brokerage aspects of the business.

The NYSE currently has 440 members registered as specialists. On October 19, 1987, there were fifty-five specialist units at the NYSE. Forty-eight of these units are comprised of individuals registered as specialists who are all representatives of the same broker-dealer firm (i.e., there is only one broker-dealer firm represented in each of those specialist units). The remaining seven units are comprised of combinations of broker-dealer firms.

The Amex has 212 members registered as specialists. These 212 specialists are associated into twenty-one specialist units; each unit is comprised of three to fifteen specialists. "Upstairs" member firms 121/ are involved in fourteen of the twenty-one specialist units usually in the form of a joint account between the upstairs firm and one or more individuals or firms. Specialists on the floor of the Amex trade both equity securities and option securities. 122/ Most Amex specialist units are comprised of both equity specialists and option specialists, but a few units are comprised only of equity or option specialists. Each specialist within a unit is allocated anywhere from one to forty equity and/or option securities.

The MSE has eighty-seven members registered as equity specialists who are associated into forty specialist units. The BSE has twenty-one specialist firms comprised of thirty-eight equity specialists. The Phlx has twenty-three equity specialist units. The PSE has seventy-two registered equity specialists, thirty-six each at its Los Angeles floor and its San Francisco floor. The specialists at the PSE operate individually. The specialists at the MSE, the BSE, and the PSE make markets in only equity securities. Two of the Phlx's specialist units are also option specialist units.

b. Self Clearing v. Introducing Specialists

Specialist units can be characterized as either "self-clearing" or "introducing." Both self-clearing and introducing specialist units conduct their own trading transactions both as brokers and as dealers on the floor of the exchange. If a specialist unit is self-clearing, it processes the paperwork, makes the comparison and any necessary

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121/ An "upstairs" member firm for purposes of this portion of the study is a firm that has public customers.

122/ Options are traded at the NYSE, but only three of the fifty-five specialist units referred to above are specialists for both equity and option securities. For purposes of this study, any reference to NYSE specialists refers only to equity specialists or the equity market making of the three specialists units which are also option specialists.

settlement of discrepancies between the buyer's and seller's record of the size and price of the trade, and, most importantly, arranges financing for its own positions. If a specialist unit does not clear its own account (i.e., it "introduces" its securities transactions to another broker-dealer), it relies on someone else to process, compare and settle, and finance its securities transactions. Approximately thirty of the NYSE's fifty-five specialist units and ten of the Amex's twenty-one specialist units introduce their security transactions to clearing broker-dealers. Fourteen of the MSE's forty units and eleven of the Phlx's twenty-three specialist units introduce their accounts. Nineteen of the twenty-one specialist units at the BSE clear their accounts through the Boston Stock Exchange Clearing Corporation. All seventy-two specialists at the PSE are self-clearing.

c. Financial Responsibility Rules for Specialists

The Securities Act Amendments of 1975 ("1975 Amendments") amended Section 23(a)(1) of the Exchange Act to authorize the Commission to classify persons for purposes of implementing the provisions of the Exchange Act and to prescribe different requirements for the different classes with respect to minimum financial responsibility requirements for brokers and dealers. The Uniform Net Capital Rule ("net capital rule"), Exchange Act Rule 15c3-1 (17 C.F.R. Sec. 240.15c3-1), is the Commission's rule which sets forth the financial standards for brokers and dealers. The Rule classifies specialists as a separate class of brokers and dealers and exempts certain specialists from its requirements. The separate classification and exemption is granted to specialists who among other things (i) limit their activities to trading with only brokers, dealers, or other members of the exchange on which they act as specialists, and (ii) are subject to the capital requirements of that exchange. 123/ Thirty of the NYSE's fifty-five specialist units and a majority of the Amex's specialists are currently exempt from the net capital rule.

Both exempt and non-exempt specialists are subject to their exchange's financial responsibility rules. Each exchange has rules prescribing specific financial requirements for its specialists. NYSE members registered as specialists must be able to assume positions of fifty trading units (5,000 shares) in each common stock for which they act as specialists. 124/ NYSE specialists also must be able to establish that they can meet

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123/ Rule 15c3-1(b)(1) provides: The provisions of this section shall not apply to any specialist who does not transact a business in securities with other than members, brokers or dealers and who is in good standing and subject to the capital requirements of the Amex (if he is not also a clearing member of the Options Clearing Corporation), the BSE, the MSE, the NYSE, the PSE, the Phlx (if he is not also a clearing member of the Options Clearing Corporation) or the Chicago Board Options Exchange ("CBOE") (if he is not also a clearing member of the Options Clearing Corporation) provided that this exclusion as to a particular specialist of any exchange or as to the exchange itself, may be suspended or withdrawn by the Commission at any time, upon ten (10) days written notice to such exchange or specialist, if it appears to the Commission that such action is necessary or appropriate in the public interest or for the protection of investors.

124/ NYSE Rule 104.20(1). Furthermore, Rule 104.20(2) requires that a specialist be able to assume a position of 10 trading units in each convertible preferred stock, of 400 shares in each of the 100 share trading unit non-convertible preferred with their own net liquid assets 125/ as minimum capital the greater of $100,000 or 25% of their position requirements. 126/ Amex members registered as specialists must maintain the greater of a cash or liquid asset position in the amount of $100,000 or in an amount sufficient to assume a position of twenty trading units (2,000 shares) in each security for which they act as specialists. 127/ The other stock exchanges (collectively referred to as the "regional exchanges") have rules similar to the NYSE which require their respective specialists to maintain a minimum capital requirement in liquid assets and/or to be able to assume a certain size position. 128/

In addition to their financial requirement rules for specialists, the exchanges also have maintenance margin rules. 129/ These rules set forth the equity level which must be maintained in each margin account which is carried or cleared by a member of that exchange. Basically, the NYSE and Amex rules require that a margin of 25% of the market value of long security positions and 30% of the market value of short security positions must be maintained in the margin account of each customer (including a specialist or another broker-dealer). These rules provide an exemption for specialist accounts whereby a specialist's positions may be carried upon a "good faith" margin basis which is satisfactory to the specialist and the member carrying the account. 130/ These rules also provide a similar exemption in the case of a joint account which is carried by a member and in which the member participates. The carrying member is required by these rules to take a charge to its own net capital for any deficiency between the amount actually deposited with it as margin and the amount specified by

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stocks, and of 100 shares in each of the 10 share unit non-convertible preferred stocks.

125/ "Net liquid assets" is defined by NYSE Rule 104.20 as "The excess of cash or readily marketable securities over liabilities for a specialist who neither carries nor services customers' accounts and who does no business with others than members and member organizations" and as to other specialists as the "excess net capital computed in accordance with the provisions of Rule 325 [NYSE capital requirements for members]. . . ."

126/ NYSE Rule 104.20(4).

127/ AMEX Rule 171.

128/ MSE Article XI, Rule 3; Phlx Rule 703; BSE Chapter XXII, Sec. 2; and PSE Rule V, Sec. 2(a).

129/ NYSE Rule 431; AMEX Rule 462; PSE Rule XI; and MSE Article X, Rule 3; and PHLX Rule 722.

Regulation T (12 C.F.R. Sec. 220), issued by the Federal Reserve System's Board of Governors to regulate extensions of credit (including initial margin requirements) by and to brokers and dealers, allows a clearing broker-dealer to finance specialists' market making transactions on a "good faith" margin basis. (12 C.F.R. Sec. 220.12)

130/ To qualify for this exemption only transactions in securities in which the specialist is registered can be carried in the account.

the rule. 131/ NYSE Rule 431 and Amex Rule 462 provide a similar exemption for option specialist accounts whereby a specialist's positions may be carried on a margin basis which is satisfactory to the option specialist and the member carrying the account. The maintenance margin rules of the various regional exchanges are substantially the same as the NYSE's and Amex's.

The stock exchanges, as self regulatory organizations supervise and monitor their members' operational and financial conditions. Each exchange has its own system of oversight which includes examinations, surveillance, and mandatory reports. Each exchange which is the designated examining authority 132/ for one of its members, including a specialist or specialist unit, receives a copy of that member's FOCUS report.133/ Furthermore, exchanges have guidelines whereby a member will be given a higher degree of surveillance because of exchange rule violations or capital deficiencies and during certain market conditions.

The NYSE's system for monitoring its specialists during normal market conditions includes requiring each specialist or specialists operating as a joint account to prepare and submit to the NYSE on a quarterly basis the "Financial Report for Specialist". 134/

131/ See, e.g., NYSE Rule 431(e)(5)(A).

132/ See Chapter Five infra at note 52.

133/ Exchange Act Rule 17a-5 (17 C.F.R. Sec. 240.17a-5) requires each broker or dealer who clears transactions or carries customer accounts to file Part I of Form X-17A-5 (Form X-17A-5 is the Commission's Financial and Operational Combined Uniform Single Report or FOCUS Report) monthly and Part II quarterly. This includes those specialists who are subject to the net capital rule. Rule 17a-5 requires each broker or dealer who does not clear transactions or carry customer accounts to file Part IIA quarterly. This filing requirement is applicable to specialists who are exempt from the Net Capital Rule.

Rule 17a-5 also provides that the above filing requirements shall not apply to a member of a national security exchange if the information required by Form X-17A-5 is maintained by the exchange and is forwarded to the Commission pursuant to a plan that has been approved by the Commission. Pursuant to its plan, the NYSE receives and transmits to the Commission twice a year the FOCUS Reports of its specialists who do no public business. The Amex receives the FOCUS Reports of its specialists only once a year.

134/ The Financial Report for Specialist was developed by the NYSE as a replacement for data once collected in the SEC's Quarterly Survey of Specialists. It contains information such as: (1) assets and liabilities (each broken down into those directly identified with NYSE specialist activities, those directly identified with other activities, and all others); (2) revenues and expenses (each broken down into principal activities in NYSE assigned specialty issues, agency activities in NYSE assigned specialty issues, and other lines of business); (3) supplemental information (such as the monthly average of long and short positions in both specialty and non-specialty securities, volume of transactions both as principal and as agent, and market value of collateral supporting secured demand notes); (4) an NYSE Rule 104.20 capital requirements calculation (see notes 124-126 supra and

Each specialist unit also is required to submit to a financial examination of its books and records conducted by NYSE examiners. This examination is conducted annually for all specialists unless the specialist conducts business other than its floor business as a specialist, and then an examination is conducted twice each year. In the event a specialist unit is in violation of or near the minimum capital level the exchange requires, that unit will be placed on a special surveillance list.

In unusual or volatile market situations, the NYSE has established "early warning" signals that trigger a more intense level of surveillance of its specialists. Specifically, on any day the market, as measured by the Dow Jones Industrial Average, gains or declines a certain percentage, at the end of that day's trading the exchange will conduct spot checks of various specialists' capital levels. In addition, if there is an unusually large volume of trading in a security, the exchange will examine the capital situation of the specialist making the market in that security. During the period between October 19 and October 28, the NYSE made daily checks of the capital of each of its specialist units.

The Amex, in its oversight of its specialists, uses different procedures for monitoring the specialist units that introduce their security transactions and the specialist units that clear their own security transactions. In the case of an introducing specialist unit, the Amex receives a daily report of each unit's equity. This report is produced by the firm which clears the account. Some units have more than one clearing account, especially if the unit makes a market in equities and options. In such a situation, each clearing firm which carries an account for the unit will send a daily report to the Amex containing the unit's equity in that account. In the case of a self-clearing unit, the Amex receives a monthly report of the equity of each individual specialist within that unit but does not receive a daily report. If the Amex receives a daily or monthly report which reveals that a specialist or unit is at or below 120% of its minimum financial requirement, as imposed by the Amex, it monitors that specialist or unit until it is above the 120% level.

The Amex also has early warning signals which during volatile market situations trigger a more intense level of surveillance of its specialists. On any day in which there is a three percent gain or decline in the Amex composite index, the Amex staff will conduct a telephone survey of the specialists in order to monitor the specialists' financial conditions.

2. Estimates of Actual Capital Available to Specialists

The tables below, "NYSE Specialists Positions" (Table 4-1) and "Amex Specialists Positions" (Table 4-2), set forth for the fifty-five NYSE specialist units and the twenty-one Amex specialist units, respectively, the aggregate daily totals for September 2 (a normal trading day) and various trading days from October 14 to October 27 for the NYSE and various trading days from October 15 to October 30 for the Amex in each of the following categories: (1) market value of long security positions; (2) market value of short security positions; (3) total market value of long and short security positions; (4)

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accompanying text); and (5) an "Excess Net Capital Modification" calculation. This report is sent by the specialist to the NYSE finance division and is used for statistical purposes only. It is not sent to the NYSE division responsible for surveillance and is not used for regulatory purposes.

net liquid assets/equity; (5) margin required; (6) excess equity; and (7) buying power. Except where noted, they are based on data supplied by the NYSE and the Amex.

TABLE 4-1

NYSE Specialists Positions

	Long Market Value	Short Market Value	Total Market Value	Net liquid Assets/Equity 135/	Margin Requirement 136/	Excess Equity 137/	Buying Power 138/
9.2*	586,370,041	99,099,090	685,469,131	746,308,788	171,367,283	574,941,505	2,299,766,020
10.14	680,888,077	74,026,727	754,914,804	770,911,893	188,728,701	582,183,192	2,328,732,768
10.16	859,393,887	65,334,332	924,728,219	808,144,631	231,182,055	576,962,576	2,307,850,304
10.19	1,306,897,149	42,774,770	1,349,671,919	612,392,434	337,417,980	274,974,454	1,099,897,816
10.20	974,080,527	118,658,984	1,092,739,511	585,303,893	273,184,878	312,119,015	1,248,476,060
10.21	652,518,624	186,520,328	839,038,952	643,734,051	209,759,738	433,974,313	1,735,897,252
10.22	557,835,557	139,028,465	696,864,022	690,447,827	174,216,006	516,231,821	2,064,927,284
10.23	554,804,534	155,988,946	710,793,480	724,243,591	177,698,370	546,545,221	2,186,180,884
10.26	594,825,460	105,965,835	700,791,295	673,191,697	175,197,824	497,993,873	1,991,975,492
10.27	525,298,183	97,668,018	622,966,201	657,275,470	155,741,550	501,533,920	2,006,135,680

* For one specialist unit the figures reported were as of 8-31-87. For another specialist unit the figures were as of 9-8-87.

TABLE 4-2

AMEX Specialists Positions*

	Long Market Value	Short Market Value	Total Market Value	Equity 139/	Margin Requirement 140/	Excess Equity 141/
10.15	575,996,710	238,409,946	814,406,656	132,281,736	100,248,640	36,948,025
10.19	706,546,527	169,522,538	876,069,065	127,429,856	112,520,261	6,540,607
10.20	552,383,106	175,746,176	728,129,282	148,357,334	123,736,993	18,754,638
10.21	522,085,659	192,056,148	714,141,807	147,237,566	118,186,798	33,915,942
10.22	435,062,000	170,335,000	605,397,000	125,459,000	112,424,000	19,583,000
10.23	414,228,000	181,577,000	595,805,000	124,498,000	111,572,000	46,940,000
10.26	395,758,536	183,740,940	579,499,476	108,882,891	118,483,718	(13,459,608)
10.29	336,971,576	209,411,530	546,383,106	117,032,988	105,595,774	16,794,907
10.30	303,092,055	208,361,467	511,453,522	121,316,197	96,184,745	29,215,844

* These figures are for only twenty of the AMEX's twenty-one specialist units. Since figures for all the above dates were not available for one specialist, all figures for that specialist were omitted from the table for consistency.

FOOTNOTES FOR TABLES 1 & 2 135/ 136/ 137/ 138/ 139/ 140/ 141/

135/ The term "net liquid assets" as defined by NYSE Rule 104.20 (see note 125 supra) is used when referring to a self-clearing specialist unit. The term "equity" refers to the equity of an introducing specialist unit in its account at its clearing firm.

Net liquid assets/equity reflects only the amount that is committed to the specialist units. It does not reflect the total financial resources available to some specialist units.

136/ NYSE Rule 431 sets forth the maintenance margin rule for margin accounts carried by NYSE members. See notes 129-31 supra and accompanying text.

Although specialist units that clear their own accounts are not subject to the 25% or 30% margin requirement (i.e., any margin accounts they have are not carried by other exchange members but are financed by some other means such as bank lending), 25% is used to calculate their margin. This is done because, as a general rule, lenders such as banks will lend only up to 75% of the market value of securities pledged as collateral.

The "margin required" figures in Table 4-1 are calculated using a straight 25% requirement for both the long and short security positions of both clearing and introducing specialist units.

137/ "Excess equity" is net liquid assets/equity minus the margin required.

138/ "Buying power" is calculated as follows: buying power = (1/maintenance margin requirement) multiplied by the excess equity. The buying power figure reflects the approximate dollar value of securities a specialist could purchase using his excess equity while retaining equity sufficient either to meet the maintenance margin requirements on the new positions (if he is an introducing specialist) or for the difference between the market value of the securities purchased and pledged as collateral and the actual loan value (if he is a self-clearing specialist).

For purposes of Table 4-1, buying power will always be four times the excess equity since 25% is the margin requirement used for all security positions and types of specialist units.

139/ Equity reflects only the amount that is committed to the specialist units. It does not reflect the financial resources available to some specialists units.

140/ Amex Rule 462, which is substantially the same as NYSE Rule 431, sets forth the maintenance margin rule for margin accounts carried by Amex members. See notes 129-31 and 136 supra and accompanying text.

The "margin required" figures in Table 4-2 are actual margin calculations supplied by the Amex.

141/ "Excess equity" is equity minus the margin required.

From information received from the NYSE staff and from Table 4-1, it appears that NYSE specialists had increased their aggregated positions by October 19 to at least twice normal size. It also appears from information received from the NYSE staff that some individual specialists at the NYSE increased the size of their positions to four times normal size. This increase in the size of positions caused a reduction of the amount of excess equity, which in turn resulted in a loss of approximately one-half the normal buying power of the specialists by the close of trading on the 19th. 142/

At the end of trading on October 16, only one of the NYSE fifty-five specialist units had no buying power because its margin requirement was in excess of its net liquid assets/equity. By the end of trading on October 19, thirteen units had no buying power. At the end of trading on October 20, five of the thirteen units from the previous day had excess equity and buying power, and one additional unit no longer had buying power; thus a total of nine units had no buying power at the close on October 20. At the close on October 21, 22, and 23, three, two, and two units, respectively, had no buying power. Four units on October 26 and two units on October 27 had no buying power.

At the close of trading on October 19, the majority of the total buying power possessed by the NYSE specialist units was held by a small number of units. Of the total $1,229 million of buying power held by the fifty-five NYSE units at the close on October 19, over one-half (54%) was held by only eight units (14.5% of all units); each of these eight units had in excess of $58 million buying power. Twenty-three of the fifty-five units (42%) had less than $5 million buying power at the close of trading on October 19.

As can be observed from Table 4-2, the increases and decreases in the Amex specialists' short and long positions closely reflect those of the NYSE specialists. From information received from the regional exchanges, it appears that their specialists, for the most part, were able to maintain their usual levels of positions. 143/ Even with regular position levels, those specialists with long positions still suffered losses because of the decline in value of the positions held.

The discussion and data above demonstrate that the capital and buying power of many specialist firms can become eroded during a major market break. While specialist capital appears sufficient in normal trading situations, the staff is not confident that it will continue to be sufficient if the markets continue to be substantially more volatile. Moreover, the capital required by NYSE rules is very low relative to even normal demands on specialists. Although additional capital would probably not have retarded to any great degree the market decline of October 16 and 19, the staff believes that additional capital needs to be available to the specialists to ensure that, in any future down market, the specialists avoid reaching the limit of their buying power or becoming in jeopardy of failing.

142/ *See* note 138 *supra*.

143/ *See* discussion *supra* at Section A.3.

The staff has evaluated the likely impact on NYSE specialists if an additional 250 point (14%) drop in the market occurred on October 20. 144/ Our calculations assumed that specialists would have had to be net buyers of additional stock on that day of approximately $224 million (1/2 their net purchases on October 19). Our calculations further assumed specialists' aggregate equity would have been reduced from $612 million to approximately $429 million and aggregate excess equity from $272 million to approximately $92 million. Based on these calculations, specialists would have experienced a reduction of buying power from $1,229 million to approximately $368 million. Moreover, we believe it likely that an additional 15 to 20 specialist units would not have been able to meet the 25% maintenance margin requirement (i.e., their buying power would have been exhausted).

Given the effects on the specialists' capital of October 19 and 20, and the potential need for substantial borrowing, we examined the ability of specialists to obtain additional financing from their clearing firms or banks. The staff's analysis suggests that the major specialist clearing firms had access to substantial capital and were willing or at least likely to increase financing to the specialists units which cleared through them.

The staff contacted the two largest specialist clearing firms, Spear, Leeds & Kellogg ("SLK") and Wagner Stott Clearing Corporation ("WSCC"). SLK clears for ten NYSE specialist units and is involved in clearing twelve Amex specialist units. WSCC clears for seven NYSE specialist units and is involved in clearing eight Amex specialist units. WSCC is also involved in the clearing of several of the regional exchanges' specialists' accounts. SLK personnel informed the staff that, during the week of October 19, it had been ready to extend substantial additional financing to the specialists who clear through it and did in fact increase the level of financing to its introducing specialists by at least three times the normal amount. WSCC stated that it did not have to address the question of how much financing it would have extended to its introducing specialists because none of their specialist accounts fell below the maintenance margin WSCC requires. Although it did not have to extend emergency financing to its introducing specialists, WSCC stated that it had substantial capital available for its introducing units had it been needed. The staff believes that both firms had the financial ability to increase lending to specialists.

Specialists that are self-clearing also finance their positions in securities through their own equity and funds borrowed from banks. Some firms tend to rely most heavily on their own equity and rarely borrow from banks. Few, if any, specialists maintain committed credit lines from banks. 145/ Moreover, because specialists tend to have lower capital needs and utilize fewer bank facilities than integrated broker-dealers, they tend to have few lending relationships. Specialists generally concentrate most of their borrowing with a single bank. Since banks do not commonly establish lending relationships on short notice, an adverse credit decision by a specialist's primary lender could have a substantial impact on the specialist's short-term liquidity. Because of the staff's concern over potential specialist liquidity problems, the staff interviewed several

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144/ For purposes of this analysis, short positions were disregarded because of the small dollar amount they represented in relation to the dollar amount of the long positions.

145/ See Section B.5.a. infra regarding the establishment of lines of credit.

specialists, and the major banks that lend to specialists, regarding financial arrangements during the market break.

Most of the specialists that borrow from banks do so largely from a handful of the major New York banks. Generally, banks will advance specialists from 75-90% of the market value of their collateral. 146/ Because most specialists have less capital than major broker-dealers and are less diversified, they are generally perceived to be greater credit risks by the banks. Thus, with some notable exceptions, specialists generally must borrow on a fully secured basis using securities pledged through the Depository Trust Company.

Specialists' overall inventories grew from the 16th through 20th as they attempted to maintain two sided markets, in contrast to those of many broker-dealers, who appear to have reduced their proprietary positions in order to limit their exposure during the break. Information received from the NYSE reveals, for example, that two self-clearing specialists increased their loan amounts from $14.1 million and $5.6 million on October 19 to $45.5 million and $16 million, respectively, on October 26. Many banks believed that they faced their greatest credit exposure from specialists, arbitrageurs, and other smaller broker-dealers that were less well capitalized. Thus, during the period when the specialist firms were experiencing their greatest need for financing, banks were acting cautiously regarding their credit exposure to specialists. Some banks reported, however, that they were encouraged by the value of the specialist "franchise" and because banks had always been repaid for credit extended to failed specialists. One bank indicated its awareness on the morning of October 19 that at least one specialist firm to which it loaned funds was out of margin and noted the firm's failure to respond to the Monday morning margin call. Apart from a few firms that were known to be experiencing problems, however, there was no general consensus about which other firms might be in trouble.

Because of the volatility of security prices on October 19 and 20, banks were uncertain about the value of the securities pledged by specialists. Some banks reacted to this concern by making intra-day margin calls against all of their customers based on an assumed decline in market value. At other banks, specialists were among a handful of firms singled out for intra-day margin calls that were used as a means of "testing" the capital of the specialists. Other banks (including the bank with the largest number of lending relationships with specialists) rather than using sweeping intra-day margin calls lowered their advance rates to specialists on the 19th and 20th by 5%. In this manner, the banks sought to obtain further security for their loans by requiring the firms to commit more of their own capital to finance positions, and thus, to provide the banks with an additional "cushion" against further market declines. However, in light of the banks' desire to maintain lending relationships with their customers, some banks indicated to the specialists that if their requests for additional collateral presented difficulty, they would be willing to try to reach an accommodation. Nevertheless, as noted earlier, most specialists would have had few short term alternatives to complying with the banks' requests.

146/ As discussed in Chapter Five, Section C, infra, there are specific exemptions in Regulation U that permit banks to lend on a good faith basis to finance the positions of specialists. See 12 CFR Sec. 221.5(c)(10). Since the collateral requirement under Regulation U is not specific, banks individually determine the amount of credit they will advance against collateral.

Discussions with banks suggested that most specialists' borrowing did not exceed the banks' internal guidelines during the break. Specialists after October 19 seemed to have simply sought assurances that credit would be available at the time of actual need. Later in the week, when it appeared that specialists had sufficient capital to continue operation, banks appeared willing to relax advance rates somewhat to accommodate their customers. On October 26, the settlement date for October 19 trades, banks reported that no problems were experienced.

Five self-clearing NYSE specialist units were contacted by the staff to ascertain the attitude of the banks with which they dealt regarding the extension of any emergency credit or additional financing for stock settlements they may have required during the October market break. One specialist informed the staff that the unit's bank contacted it during the week of October 19 to obtain information not only about the unit's financial condition and security positions but also to inquire about the partners' personal assets. This specialist stated that its bank between trade date of October 19 and settlement date of October 26 was somewhat apprehensive about extending the unit the additional credit it required for trades occurring during the week of October 19. On Monday, October 26, the bank did lend the unit money at 80% of the market value of the securities pledged as collateral ("loan value") as opposed to the 75% it usually based its loans on.

Another specialist informed the staff that both the banks with which his unit dealt with acted very favorably toward the unit and had expressed no reluctance to extend the unit further credit. The unit, which usually borrowed at a 70% loan value, asked both banks if it could increase its borrowing to 75% or 80%. One bank agreed to 75%, while the other bank advised against the request. The three other specialist units contacted stated that they had encountered no difficulty in obtaining any loans or financing that they had required.

The staff also was informed by NYSE personnel that in response to concern expressed by some of their specialists and upstairs firms, the NYSE staff during the week of October 19 contacted several of the larger banks that finance many broker-dealers. Upon inquiry to these banks about the possibility of firms obtaining any needed additional capital, the NYSE personnel learned of no unusual restraint being placed on specialist financing.

3. Analysis of Specialist Failures Due to Market Making Losses

On Wednesday, October 14, as the market began its decline, the staff began contacting the exchanges and the NASD at least once a day to determine whether specialists or other broker-dealers were experiencing capital or liquidity problems because of the drastic drop in the value of securities and to identify what remedial actions were being contemplated or implemented by either the exchanges and the NASD or the financially troubled broker-dealers themselves. These contacts continued on a daily basis throughout Friday, October 23.

On Tuesday, October 20, inquiry was made by the staff to the appropriate personnel at the NYSE, the Amex, and the regional exchanges to ascertain the financial conditions of their specialists. The NYSE informed the staff that it had placed twelve of its fifty-five specialist units on "closer than normal" surveillance because of its concern about those units' financial conditions. The NYSE was particularly concerned about the financial difficulties being experienced by two specialist units, one of which was A.B. Tompane & Co. ("Tompane").

At the close of business on Monday, October 19, Tompane held long and short security positions with a total market value of $43 million and had net liquid assets of only $4.3 million or 10% of the value of its total long and short positions. Subsequently, Tompane and Merrill Lynch Specialists, Inc. ("Merrill") (a subsidiary of Merrill Lynch, Pierce, Fenner & Smith Incorporated and a specialist firm at the Phlx and PSE) entered into an agreement whereby, beginning on Monday, October 26, Tompane merged its operations into Merrill, and Merrill assumed Tompane's specialist books. Merrill paid all of Tompane's outstanding bank loans during the week of October 19. Merrill accomplished the acquisition of Tompane without the use of any outside financing.

The other specialist firm about which the NYSE was particularly concerned held long and short security positions with a total market value of $26.5 million and had net liquid assets of only $1.9 million or 7.5% of its long and short security positions at the close of business on Monday, October 19. By the close of business on Thursday, October 22, it was able to reduce its long and short security positions to $9.8 million and to increase its net liquid assets to $5.4 million or 55%.

A third specialist unit that was placed on "closer than normal" surveillance, Beauchamp & Co. ("Beauchamp"), had at the close of business on Monday, October 19, equity of only 4.8% of its security positions. It was able to raise its equity to 14% on Thursday, October 22, but its equity fell to 12% on Friday, October 23. SLK, which clears Beauchamp's account and is currently taking a capital charge for Beauchamp's margin deficiency, is awaiting final approval from the NYSE of its acquisition of the specialist's operation.

According to information received by the NYSE, the other specialist firms which had been placed on special surveillance have since resolved their financial difficulties by either reducing their positions, obtaining additional capital, or through agreements with their clearing broker-dealers. In the last situation, the broker-dealer that carries the introducing specialist's account is taking the appropriate capital charge required by the exchange's net capital rule for any difference between the exchange's maintenance margin requirement and the margin actually deposited by the introducing specialist unit with the clearing broker-dealer. The table below, "NYSE Specialists Placed on Special Surveillance" (Table 4-3), lists the long security positions and equity percentages on October 19, 22, and 23 for the specialist units which were placed on special surveillance.

TABLE 4-3

NYSE Specialists Placed on Special Surveillance

		10-19-87	10-22-87	10-23-87
1. A.B. Tompane & Co.	Net Liquid Assets:	10%	100%	
	Long Positions:	$42 million	$17 million	
	Merrill Lynch Specialists assumed A.B. Tompane's book beginning 10-26-87; Merrill Lynch Specialist has paid down A.B. Tompane's bank loans; Merrill Lynch Specialist is self-clearing			
2. Beauchamp & Co. (introduces to Spear, Leeds & Kellogg)	Equity:	4.8%	14%	12%
	Long Positions:	$14 million	$7.5 million	$7.2 million
3. Introducing specialist unit	Equity:	25%	75%	81%
	Long Positions:	$11 million	$4 million	$4.4 million
4. Self-clearing specialist unit	Net Liquid Assets:	24%	59%	55%
	Long Positions:	$24 million	$8.7 million	$7 million
5. Self-clearing specialist unit	Net Liquid Assets:	17%	88%	84%
	Long Positions:	$26.3 million	$7.4 million	$7.1 million
6. Introducing specialist unit	Equity:	25%	98%	76%
	Long Positions:		$9.9 million	$8.6 million
	Capital infusion of $3.2 million			

		10-19-87	10-22-87	10-23-87
7. Self-clearing specialist unit				
	Net Liquid Assets:	25%	98%	76%
	capital infusion of $7.5 million			
8. Introducing specialist unit	Equity:	17%	25 to 36%	37%
	Long Positions:	$23 million	$14.6 million	$13.3 million
9. Introducing specialist unit				
	Equity:	10%	123%	51%
	Long Positions:	$25 million	$10 million	$12.9 million
	capital infusion of $4.5 million by affiliate			
10. Introducing specialist unit				
	Equity:	16%	50%	28%
	Long Positions:	$39.8 million	$21.3 million	$17.7 million
	capital infusion of $4 million by affiliate			
11. Introducing specialist unit				
	Equity:	12%	18.5%	21%
	Long Positions:	$11.4 million	$9.3 million	$9.3 million
	clearing firm is taking the capital charge for any equity difference below 25%			
12. Self-clearing specialist unit				
	Net Liquid Assets:	7.5%	55.5%	47%
	Long Positions:	$25 million	$7.9 million	$8.4 million

Information recently received from the NYSE reveals that in addition to the 12 specialist units listed on Table 4-3, four additional specialist units were placed on special surveillance. The four units were placed on special surveillance for low percentage of net liquid assets/equity to total market value and/or high percentage of bank borrowings against collateral.

Two additional NYSE specialist units are in the process of selling their specialist operations to, or merging with, an upstairs firm or an affiliate of an upstairs firm. At present, Carl H. Pforzheimer & Co. is awaiting final approval from the NYSE of its proposed merger with an affiliate of Drexel Burnham Lambert, Inc. The other specialist unit, Asiel & Co. ("Asiel"), is selling its specialist operation to Bear, Stearns & Co. Personnel at Asiel informed the staff that the sale was not because of any financial difficulty the specialist operation had encountered but because the specialist operation does not fit into the firm's long term plans and because of impending personnel changes within the firm. The specialist operation is the smallest of five departments that the firm operates.

The Amex informed the staff that two of its twenty-one specialist units, Damm, Frank & Co. ("Damm Frank") and Santangelo & Co. ("Santangelo"), experienced serious financial difficulties. Damm Frank suffered serious losses on Friday, October 16 and Monday, October 19. At the close of business on Monday, October 19, Damm Frank had long and short security positions with a total market value of $7.4 million. The Amex calculated the required margin to be $2.1 million, but Damm Frank had equity of only $.12 million or a margin deficit of approximately $2.0 million. As a result of the losses suffered and its financial condition, Damm Frank did not believe it had enough capital to continue to operate and to fulfill its function as a specialist. Therefore, Damm Frank entered into an agreement with Bear Stearns & Co., which cleared Damm Frank's account, whereby effective as of the opening of business on Monday, October 19, Bear Stearns & Co. took over Damm Frank's specialist operations.

The staff was further informed by the Amex that its other specialist unit which experienced financial difficulties, Santangelo, had been suffering losses throughout the year. At the close of business Monday, October 19, Santangelo had long and short security positions with a total market value of $117.8 million. The Amex calculated the required margin to be $11.6 million, but Santangelo had equity of only $.84 million or a margin deficit of approximately $10.8 million. Santangelo entered into an agreement with SLK (SLK cleared for and had provided subordinated loans to Santangelo) whereby beginning at the opening of business on Wednesday, October 21, SLK took over Santangelo's specialist operations. According to the Amex personnel, neither Damm Frank nor Santangelo was ever in violation of the Amex minimum capital requirements.

The regional exchanges informed the staff that although the majority of their specialists had suffered serious losses, the specialists had remained in compliance with applicable minimum capital requirements or were in violation for only a very short period 147/. There were no specialist units at the regional exchanges that failed or were taken over.

147/ *E.g.*, the staff was informed that one specialist at the PSE required additional capital and that margin calls were made to a few firms at the BSE, but the calls were met expeditiously.

4. Additional Capital for Specialists

In an effort to increase the amount of capital available to its specialists, both the NYSE and the Amex recently amended their rules 148/ to ease restrictions imposed on approved persons 149/ or member organizations affiliated with specialists to facilitate entry into the specialist business by the larger and more capitalized upstairs firms. Prior to the approval of those amendments, few NYSE or Amex upstairs firms were affiliated with specialist units because any activity that an approved person might have in a security for which its affiliated specialist was acting as a specialist would be subject to the restrictions that these two exchanges impose on their specialists. 150/ The rules, as amended, exempt an approved person from the restrictions imposed on specialists 151/ if the approved person is able to establish and the exchange approves an organizational separation, commonly referred to as a "Chinese Wall," between the approved person and the affiliated specialist unit on the floor.

Although both the NYSE and the Amex took a positive step toward procuring stronger capital foundations for the specialists on the floor of their exchanges, it is unclear whether a substantial number of independent specialist units will be acquired by major upstairs firms in the near future. Accordingly, the staff believes that further analysis of the specialist financial responsibility system must be conducted.

5. Analysis

a. Capital Adequacy

The staff is concerned that the present minimum capital requirements imposed by the NYSE, the Amex, and the regional exchanges does not reflect the actual capital needed to ensure the maintenance of fair and orderly markets in different types of

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148/ The Commission approved the proposed amendments to NYSE Rule 98 and Amex Rules 190 and 193 in Release No. 34-23768, 51 Fed. Reg. 41,183 (1986).

149/ In general, the term "approved person" refers to a person who is not a member of the exchange, but who either controls a member organization or is engaged in the securities business and is controlled by or under common control with a member or member organization.

150/ Basically, the NYSE and Amex rules prohibited approved persons affiliated with specialists from trading or promoting specialty securities. The regional exchanges did not place similar restrictions on approved persons affiliated with specialist units.

151/ The NYSE rule amendment approved in Release No. 34-23768 retained the prohibition preventing an approved person from acting as the managing underwriter of an offering of stock, or securities convertible into that stock, of an issuer in whose securities the specialist is registered. The Amex rule amendment contained no such prohibition. In Release No. 34-25055, 52 Fed. Reg. 41520 (1987), the Commission approved another NYSE rule amendment further liberalizing NYSE rules to allow an approved person to act as the managing underwriter of an offering. The NYSE amended this rule, in part, to facilitate the acquisition of Tompane by Merrill Lynch.

securities. For example, $100,000 of capital is insufficient for a specialist making a market in a high priced, active security. Similarly, many illiquid securities may require specialists to take substantial risk positions requiring a more substantial capital base. This was exemplified by the two Amex specialist units, Damm Frank and Santangelo, which although having positions to equity ratios of substantially less than 10%, never violated the Amex's financial responsibility rules. The staff believes that further analysis of more flexible capital requirements based on the securities for which a particular specialist makes a market is appropriate.

In light of the dependence of self-clearing specialist firms on bank financing, the staff also is concerned that many self-clearing specialists presently have no established lines of credit with banks. We recognize, however, that many banks require lines of credit to be established for a minimum of $100 million. Accordingly, the cost of establishing and maintaining such a large line of credit may be very difficult for the smaller specialist units. The staff, however, believes that the feasibility of establishing lines of credit should be explored by the exchanges. Where a specialist firm is unable to establish such a line, the exchanges should consider alternatives such as applying a higher per share capital requirement on that firm or even requiring that it clear its security transactions through a firm with an established line of credit.

Another means of ensuring the availability of any additional capital required by specialists would be the development of a private emergency fund to support the specialists' trading function. Such a fund could operate either to provide financing to specialists in emergency situations or to purchase positions directly from the specialists to reduce the specialists' exposure and financing needs. Such a fund would provide a safety net for the specialist system. There are several questions associated with this proposal, however, that must be resolved. First, who should be required to contribute to the fund? Should all members of an exchange, regardless of the amount of their business on the exchange be required to contribute? Should issuers of securities listed on an exchange be required to contribute? Or, should investors contribute in the form of a fee on each transaction? Second, and closely related, what should be the basis on which contributions should be assessed? If all exchange members are required to contribute, would they contribute some flat fee or a variable fee based on a standard such as that used by the Securities Investor Protection Corporation, i.e., a percentage of the year's gross revenues? If the issuers are to contribute, would they contribute based on the number of shares traded, the number of shares outstanding, or a flat fee? If investors are to contribute, would they contribute a "per transaction" fee or a fee based on the percentage of the value of the securities purchased or sold? Third, who would administer and make the decision to commit the assets of the fund? Would each exchange have a "fund administering" body, or would an independent body be established for each exchange, or would there be one administering body for all specialists at all the exchanges? Fourth, if one or more specialists have to draw on the fund, would the purchases of securities be made on behalf of the fund or on behalf of the specialists with the securities purchased held as collateral for the loan from the fund?

b. Capital Rule Exemption and Specialist Monitoring

As previously stated, 152/ the net capital rule exempts certain specialists from its requirements. In a 1975 release, 153/ the Commission solicited the views of interested persons on whether appropriate net capital requirements should be applied to specialists. In that release the Commission stated while unique capital requirements might be appropriate for specialists who do not deal with the public, it did not believe that the exemption should continue indefinitely. Although comment letters were received and the issue was studied, no net capital requirements were imposed at that time.

The Study has revealed limitations in the exchanges' current monitoring of their specialists. Although the Amex receives daily equity reports of its introducing specialists' equity (but not its self-clearing specialists) and the NYSE conducts checks during heavy trading, 154/ neither of these two exchanges receives a daily equity and positions report from all its specialists. Further, while the NYSE has a system of spot checks based on overall volatility or large trading volume in a particular stock, the staff does not believe that either exchange has a satisfactory system of early warning signals.

As a result of the staff's concerns regarding the availability of capital for specialists, today's more volatile market conditions, and the state of the exchanges' specialist surveillance and monitoring system, the staff is currently examining the ramifications of eliminating the specialist exemption and applying the net capital rule to all specialists. 155/ The Division also believes that the Commission and the exchanges should review methods to improve specialist surveillance systems.

152/ See note 123 supra and accompanying text.

153/ Notice of Solicitation of Comments Relating to the Application of Net Capital Requirements to Municipal Securities Brokers and Municipal Securities Dealers and Specialists, Release No. 34-11561, 40 Fed. Reg. 33,747 (1975); See also Extension of Comment Period Relating to the Application of Net Capital Requirements to Municipal Securities Dealers and Specialists, Release No. 34-11656, 40 Fed. Reg. 43,743 (1975).

154/ See discussion supra pages 4-52 and 4-53.

155/ See discussion infra at Chapter Five, Section D concerning application of the net capital rule to options market markers.

Chart 4-1

QUOTE DEPTH AS A PERCENT OF AVERAGE TRADE SIZE
(50 Sample Stocks)

	1st Decile		3rd Decile		5th Decile		7th Decile		9th Decile	
	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask
August 10-14	250%	348%	309%	327%	223%	245%	195%	201%	277%	317%
August 17-21	256	308	438	280	215	255	187	165	390	383
September 8-11	241	281	428	250	157	97	217	209	320	233
September 14-18	245	313	443	365	131	158	213	240	385	271
October 12-16	228	233	277	178	142	114	219	157	271	206
October 19-23	110%	128%	189%	120%	106%	93%	109%	126%	183%	122%
October 16	184%	147%	272%	160%	131%	91%	236%	166%	153%	151%
19	85	73	177	119	87	73	94	100	94	123
20	70	80	133	120	87	80	99	60	161	95
21	128	207	252	124	136	112	109	85	142	105
22	141	146	211	132	111	81	103	204	194	96
23	187%	211%	205%	118%	105%	108%	165%	248%	224%	181%

Chart 4-2

PRICE VOLATILITY RELATIVE TO AVERAGE TRADE PRICE
(Each Stock and Day Given Equal Weight)

	1st Decile		3rd Decile		5th Decile		7th Decile		9th Decile	
August 10-14	43.7	(0.98)	49.4	(1.09)	41.8	(1.03)	73.1	(1.17)	70.2	(1.12)
August 17-21	44.1	(0.99)	48.1	(1.07)	37.4	(0.92)	76.1	(1.22)	68.2	(1.09)
September 8-11	41.8	(0.94)	48.2	(1.07)	47.3	(1.16)	78.8	(1.26)	57.3	(0.91)
September 14-18	45.0	(1.01)	42.2	(0.93)	44.1	(1.08)	48.8	(0.78)	57.3	(0.91)
October 12-16	89.4	(2.01)	73.8	(1.63)	71.5	(1.75)	54.7	(0.88)	95.6	(1.52)
October 19-23	247.7	(5.56)	254.8	(5.64)	185.2	(4.54)	260.2	(4.17)	266.6	(4.25)
October 16	188.0	(4.22)	120.9	(2.68)	147.3	(3.61)	92.1	(1.47)	165.4	(2.64)
19	422.7	(9.49)	325.2	(7.20)	260.4	(6.39)	421.6	(6.75)	299.1	(4.77)
20	406.3	(9.12)	426.7	(9.45)	265.8	(6.52)	377.6	(6.05)	354.8	(5.65)
21	95.5	(2.14)	176.1	(3.90)	171.7	(4.21)	204.3	(3.27)	305.4	(4.87)
22	207.0	(4.65)	212.6	(4.71)	139.2	(3.42)	189.1	(3.03)	223.2	(3.56)
23	107.0	(2.40)	133.2	(2.95)	88.8	(2.18)	108.7	(1.74)	150.6	(2.40)

Note: Figures in parenthesis represent index values, with "1.00" equal to simple average of values for weeks of August 17-21 and September 14-18.

Chart 4-3

MODIFIED GARMAN-KLASS PRICE VOLATILITY INDEX
(Daily High-Low Price Range Relative to Daily Opening-Closing Price Change)

	1st Decile		3rd Decile		5th Decile		7th Decile		9th Decile	
August 10-14	117.6	(0.95)	145.2	(1.18)	116.6	(0.97)	225.3	(1.32)	193.1	(1.15)
August 17-21	124.9	(1.00)	126.8	(1.03)	108.6	(0.91)	230.0	(1.34)	194.1	(1.16)
September 8-11	138.9	(1.12)	134.3	(1.09)	140.7	(1.17)	225.7	(1.32)	138.6	(0.82)
September 14-18	123.9	(1.00)	119.2	(0.97)	130.9	(1.09)	112.4	(0.66)	141.9	(0.84)
October 12-16	300.8	(2.42)	201.1	(1.63)	213.9	(1.79)	136.7	(0.80)	237.8	(1.42)
October 19-23	836.0	(6.72)	857.0	(6.97)	477.9	(3.99)	783.7	(4.58)	847.0	(5.04)
October 16	534.8	(4.30)	301.1	(2.45)	360.4	(3.01)	189.8	(1.11)	369.0	(2.20)
19	1,340.0	(10.77)	1,011.4	(8.22)	587.6	(4.91)	668.4	(3.90)	844.4	(5.02)
20	1,082.5	(8.70)	1,421.2	(11.55)	638.9	(5.34)	1,339.6	(7.82)	1,140.8	(6.79)
21	324.2	(2.61)	418.6	(3.40)	465.7	(3.89)	608.2	(3.55)	936.9	(5.58)
22	564.2	(4.54)	553.9	(4.50)	323.2	(2.70)	565.8	(3.30)	712.3	(4.24)
23	321.8	(2.59)	384.6	(3.13)	259.4	(2.17)	373.5	(2.18)	433.2	(2.58)

Note: Figures in parenthesis represent index values, with "1.00" equal to simple average of values for weeks of August 17-21 and September 14-18.

Chart 4-4

AVERAGE BID-ASK SPREAD RELATIVE TO SHARE PRICE
(Cents per Dollar of Share Price)

	1st Decile		3rd Decile		5th Decile		7th Decile		9th Decile	
August 10-14	0.237	(0.98)	0.752	(1.05)	1.063	(0.93)	1.385	(0.98)	1.823	(1.09)
August 17-21	0.225	(0.93)	0.666	(0.93)	1.204	(1.06)	1.343	(0.95)	1.809	(1.08)
September 8-11	0.243	(1.01)	0.770	(1.07)	1.266	(1.11)	1.475	(1.05)	1.778	(1.06)
September 14-18	0.258	(1.07)	0.770	(1.07)	1.070	(0.94)	1.473	(1.05)	1.533	(0.92)
October 12-16	0.324	(1.34)	0.821	(1.14)	1.218	(1.07)	1.437	(1.02)	1.975	(1.18)
October 19-23	0.830	(3.48)	1.682	(2.34)	2.235	(1.97)	2.793	(1.98)	3.698	(2.21)
October 16	0.445	(1.84)	0.895	(1.25)	1.531	(1.35)	1.435	(1.02)	2.276	(1.36)
19	0.859	(3.56)	1.596	(2.22)	2.422	(2.13)	1.703	(1.21)	3.450	(2.06)
20	1.090	(4.51)	2.092	(2.91)	2.951	(2.60)	3.338	(2.37)	4.208	(2.52)
21	0.672	(2.78)	1.571	(2.19)	1.881	(1.65)	3.047	(2.16)	3.852	(2.30)
22	0.866	(3.59)	1.560	(2.17)	2.047	(1.80)	2.700	(1.92)	3.597	(2.15)
23	0.676	(2.80)	1.499	(2.09)	1.895	(1.67)	2.500	(1.78)	3.401	(2.04)

Note: Figures in parenthesis represent index values, with "1.00" equal to simple average of values for weeks of August 17-21 and September 14-18.