Wyatt Wells

Certificates and Computers: The Remaking of Wall Street, 1967 to 1971

Events in the late 1960s reshaped the securities industry. Trading volume increased sharply, with the number of shares changing hands on the New York Exchange growing from five million a day in 1965 to twelve million a day in 1968. This expansion overwhelmed the mechanisms brokers used to transfer securities and keep records, which relied heavily on paper and pen. They responded by purchasing computers, but these machines were expensive and demanded more sophisticated management than most firms could provide. Accordingly, many companies botched the process. Moreover, trading volume declined sharply in 1969 and 1970, cutting deeply into brokerage revenue. These factors combined to create a crisis that had, by the end of 1970, forced nearly a sixth of the nation's brokerage firms out of business. Yet this crisis also opened the way for large, integrated companies, which, by the 1990s, dominated the securities industry and conducted business on a scale unimagined thirty years earlier.

In the late 1960s, prosperity almost destroyed the stock market. An unprecedented surge in trading volume overwhelmed brokerage firms, forcing companies to automate and streamline their operations. Unfortunately, this required substantial capital and management expertise, both of which were in short supply on Wall Street in the late 1960s. Too often, brokerages botched the process, exacerbating rather than reducing confusion in their records. As a result, what began as a

WYATT WELLS is associate professor of history at Auburn University Montgomery.

I would like to thank Eric Broder, Tax Mallott, Swift and Ellen Martin, Fletcher McDowell, Mimi Wallace, Steven Wheeler, the staff of the New York Stock Exchange Archives, the staff of the Securities and Exchange Commission's FOIA/Privacy Office, and the grant-in-aid program of Auburn University Montgomery for their assistance with this article.

Business History Review 74 (Summer 2000): 193–235. © 2000 by The President and Fellows of Harvard College.

paperwork snarl ultimately became a financial crisis that transformed the securities industry.[1]

Wall Street, circa 1968

The stock market boom of the late 1960s represented the culmination of a long bull market. In the early 1950s, the stock market had finally shaken off the lingering effects of the Great Crash of 1929. A combination of high dividends and low interest rates had lured investors into the market, and sustained buying had driven prices up. The prospect of capital gains had, in turn, attracted more investors. Meanwhile, general prosperity had provided more people with the means to invest, even as brokerage firms and the stock exchanges had aggressively advertised the virtues of equities. The bull market gained momentum in the 1960s. The factors that had propelled the market in the 1950s—prosperity, the prospect of capital gains, and advertising—persisted, while a new group of players began to invest on Wall Street. Institutions like insurance companies and pension funds, which had traditionally put their money into bonds or real estate, started buying stock in large quantities. At the same time, mutual funds grew rapidly by offering small investors an easy to way to invest in securities. Between 1960 and 1969, the number of mutual fund accounts doubled from five to ten million.[2]

Of course, not every stock went up, and the market did suffer the occasional reverse, but the gains were nevertheless extraordinary. Starting at around 200 in 1950, the Dow Jones Index of leading industrial stocks peaked at 1,000 in 1966. New York Stock Exchange (NYSE) volume went from two million shares a day in 1950, which was itself a sharp improvement over previous years, to ten million a day in 1967. More and more people enjoyed the profits too. Whereas only about six and a half million Americans owned equities in 1952, over twenty mil-

[1] Although, at the time, these events received considerable attention from journalists and government officials, historians have tended to overlook them. Robert Sobel does discuss the paperwork crisis in *N.Y.S.E.: A History of the New York Stock Exchange, 1935–1975* (New York, 1975), but the focus of his work is elsewhere, on the ups and downs of the market and on government regulation. In his history of the Securities and Exchange Commission, *The Transformation of Wall Street: A History of the Securities and Exchange Commission and Modern Corporate Finance* (Boston, 1982), Joel Seligman provides a good overview of the situation. Because the SEC is the focus of his book, however, he does not examine in any detail how the crisis affected the exchanges or securities firms.

[2] R.L. Petruschell et al., "Reducing Costs of Incomplete Stock Transactions: A Study of Alternative Trade Completion Systems" (Rand Corporation, 1969), mimeo., NYSE Archives, 209–210.

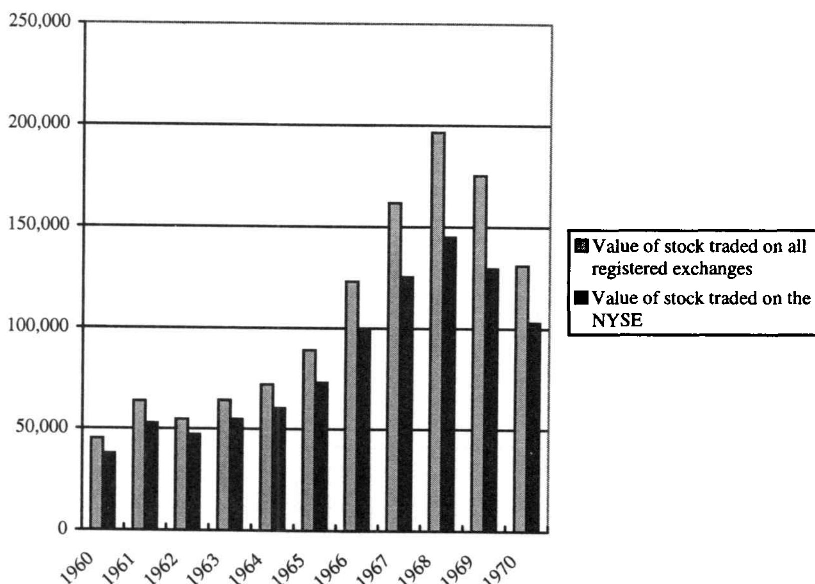

Figure I. Value of stock traded on registered exchanges and on the NYSE (in millions of dollars). Source: U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Bicentennial Edition, Part 2 (Washington, D.C., 1975), 1006.

lion did so in 1965, and that number had climbed to almost thirty-two million by 1970.[3]

In 1968 trading became positively frenzied. The catalyst was President Lyndon B. Johnson's announcement in late March that he would not seek reelection but instead would try to negotiate an end to the war in Vietnam. The prospect of resolving this costly, and apparently unwinnable, conflict heartened investors. The day after Johnson's speech, a record-breaking seventeen million shares changed hands on the New York Stock Exchange, while the Dow Jones Index advanced twenty points, or about 2.3 percent.[4] Yet the advance rested on more than diplomatic maneuvering. Twenty years of market gains, and eight of uninterrupted economic growth, had accustomed people to good times, and they assumed implicitly that prosperity would continue.

More and more people plunged into stocks, concentrating not on the blue chips that made up the Dow Jones Index, which remained

[3] For a general history of the stock market during these years, see Sobel, *N.Y.S.E.*; for figures on stock ownership, see the *New York Times*, 22 March 1971, 49.

[4] Sobel, *N.Y.S.E.*, 315.

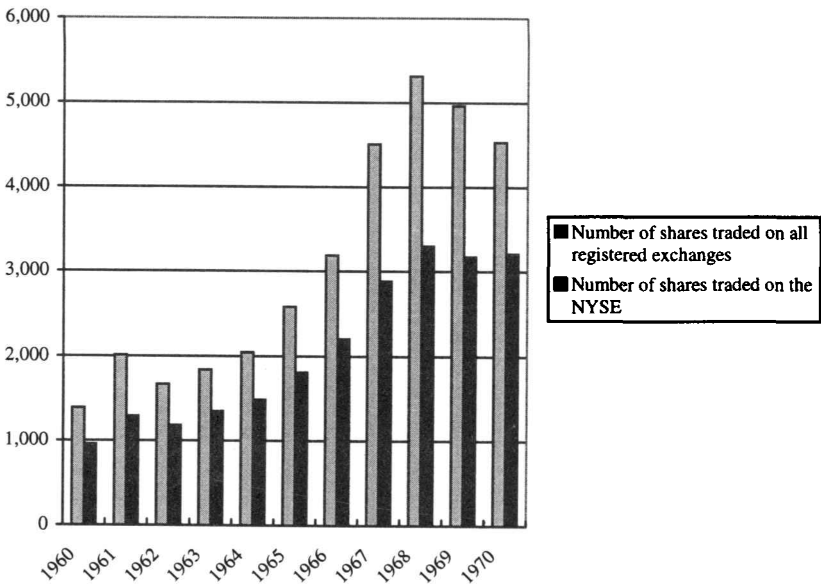

Figure 2. Number of shares traded on all registered exchanges and on the NYSE (in millions of shares). Source: U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Bicentennial Edition, Part 2 (Washington, D.C., 1975), 1006.

slightly below its 1966 high, but on highly speculative issues that traded on the American Stock Exchange (AMEX) or in over-the-counter (OTC) markets. Volume on the AMEX shot up 50 percent between 1967 and 1968, while some calculated that OTC volume jumped by a staggering 150 percent.[5]

The focus of all this attention, the stock market, was in many ways a paradox. For generations, "Wall Street" had connoted big business and high finance, and the securities industry reveled in its image as the nerve center of American capitalism. Yet this picture of monolithic power did not accord with reality. The stock market was actually a complex network of firms and exchanges, closely regulated by the federal government, that retained many quaint, and even archaic, practices.

The New York Stock Exchange, as much as any institution, dominated this network. It handled over half the nation's equities trading and listed the stocks of the largest American corporations. The NYSE was an association of approximately 650 firms that owned "seats" on the exchange, some more than one. Between 350 and 400 member firms

[5] *Wall Street Journal*, 6 June 1968, 3.

dealt directly with the public, taking accounts and making investments for clients, but the balance comprised either traders, who executed orders for other brokers, or specialists, who "made a market" for listed issues by buying and selling to guarantee the smooth transaction of business. The NYSE strictly regulated its members, determining who could join, setting commission rates and the rules for trading, and maintaining a large staff and a salaried president to manage operations. An elected board not only selected officers but also kept a close watch on the NYSE's day-to-day business, and the membership voted on all major questions of policy.

Other markets, some of them quite important, operated alongside the NYSE. The American Stock Exchange, just a couple of blocks from the NYSE, listed the securities of smaller companies, while various regional exchanges, such as those in Boston, Chicago, and San Francisco, handled the equities of local firms. Although each of these organizations had its own personality, in general structure they resembled the NYSE. The OTC market, however, operated differently. It was a system of traders scattered across the country who did business by telephone. In volume the OTC probably rivaled the AMEX, but the decentralized nature of the market did not allow the compilation of hard-and-fast figures. The National Association of Securities Dealers (NASD) regulated this business, licensing brokers and setting the conditions of trading. The largest brokerage firms usually did business in several markets, owning seats on the NYSE, the AMEX, and at least some regional exchanges, while also trading over the counter. The New York Exchange, however, regulated the internal operations of all its members, regardless of the other markets in which they traded. It audited them regularly to ensure that they kept adequate records, had sufficient capital, and generally conducted business in a sound fashion. Accordingly, its role in the industry was even greater than its predominance in equities trading would indicate.

Federal law strictly regulated financial markets, lodging final authority with the Securities and Exchange Commission (SEC). The chief object of federal statutes, which dated largely from the 1930s, was to prevent unscrupulous brokers from manipulating prices or otherwise defrauding investors. The SEC operated through the exchanges and the NASD, using them to enforce and even draft rules, although the commission always retained a veto. Known as "self-regulation," this approach allowed Washington to oversee the industry in detail on a limited budget. Together the NYSE, AMEX, and NASD had three times as many employees and four times as much money as the SEC.

Indeed, the NYSE alone had substantially greater resources than its regulator.[6] Yet self-regulation also gave the securities industry considerable authority in determining the rules under which it lived.

The firms that actually handled trading were, for the most part, partnerships. The NYSE required either that members be partnerships or, if incorporated, that all their stock belong to people actually working for the firm. This rule dated from the nineteenth century when few businesses were incorporated, and it had persisted because members feared that public ownership would allow large, well-financed companies like banks and insurance firms to join the Exchange and seize the most profitable business. The continued reliance on partnerships was atypical for American business. As one brokerage executives noted, "No other major industry, service or otherwise, is still operating largely on a partnership basis, . . . The operating structure of this business is more suited to the turn of the century than today."[7]

Few brokerage firms used the techniques of professional management common in other industries. Partnerships tend to be intensely personal and inherently unstable, as they are tied to the careers of individuals or the histories of families. Such organizations are not usually receptive to the structure and systematic planning characteristic of professional management. Certainly that was the case in the securities industry. As a government study noted, there was a "scarcity of individuals of managerial ability and talent" in the business.[8] Another study of the securities business noted that many firms expanded on an ad hoc basic, without systematically evaluating opportunities, and had no system of cost accounting. Even the largest firms had extraordinary gaps in their management. Goodbody & Co., the NYSE's fourth largest member, never calculated the profitability of its approximately one hundred branch offices, while F.I. Dupont & Co., Wall Street's third largest broker, had no system of internal audits.[9] An industry outsider privy to the affairs of Hayden, Stone, another of the industry's leading

[6] U.S. Congress, Senate Committee on Banking, Housing, and Urban Affairs, *Securities Industry Study: Report*, 92nd Cong., 2nd sess., 1972, 75.

[7] *Forbes*, 15 July 1970, 47–48.

[8] Securities and Exchange Commission (SEC), *Study of Unsafe and Unsound Practices of Brokers and Dealers*, Report to the Committee on Interstate and Foreign Commerce of the U.S. Congress, 92nd Cong., 1st sess., 1971, 18.

[9] *Wall Street Journal*, 28 July 1970, 1, 14; Arthur M. Louis, "Ross Perot Moves," *Fortune*, July 1971, 115; Carol Loomis, "The Unbelievable Last Months of Hayden Stone," *Fortune*, January 1971, 154; weekly summary of duPont operations visits, 4–11 Dec. 1970, SEC records, obtained under Freedom of Information Act (FOIA), in author's possession; Sidney M. Robbins et al., "Paper Crisis in the Securities Industry: Causes and Cures" (Lybrand, Ross Bros. & Montgomery, 1969), 53, mimeo., NYSE Archives.

firms, said, "These people were not for real. They knew nothing about budgeting and controlling costs. I said . . . 'You would *never* underwrite a company run the way yours is.'" Of course, this highly personal approach to management had functioned well enough for generations, and personally managed firms, working together, had made the NYSE the world's largest stock market. Yet the growing volume of business begged the question of whether practices that had sufficed in the past would continue to do so in the future.

Exceptions did exist—most notably Merrill Lynch, the titan of the industry. By the late 1960s, it had well over one million investor accounts and $200 million in capital, several times that of its nearest competitor. In a period when firms generally specialized in either underwriting or brokerage, Merrill was one of the country's leading underwriters as well as its biggest broker. The *Wall Street Journal* attributed the firm's success to "its long-standing adherence to well-worn precepts of professional management that are often lacking in the clubby traditions of Wall Street." Among other things, it was the only firm on Wall Street to identify and train managers systematically.[10] Yet Merrill Lynch was very much the exception.

Besides weak management, many brokerage firms did not have enough capital. As partnerships or closely held corporations, they drew capital from the personal wealth of executives and their families and from retained earnings. As the *Wall Street Journal* noted, "Traditionally, the capitalization of Wall Street firms has been a casual, intensely personal affair, with well-heeled backers and partners putting their money into one firm."[11] For generations these sources had been adequate. As late as 1963, a government report had praised the generous capitalization of NYSE members as well as the Exchange's regulation of the matter.[12] Since then, however, business had exploded, creating what one broker described as an "insatiable" demand for capital that traditional sources could not meet.[13] Whereas NYSE volume totaled $150 billion in 1968, those members doing business with the public had only $4 billion in capital.[14] To finance their day-to-day operations, members of the NYSE needed about $20 billion, most of which came from short-term borrowing.[15] As long as

[10] *Wall Street Journal*, 28 July 1970, 1, 14.
[11] Ibid., 11 Dec. 1970, 1, 12.
[12] U.S. Congress, Senate Subcommittee on Banking of the Committee on Banking, Housing, and Urban Affairs, *Securities Industry Study*, part 4, 92nd Cong., Ist sess., 1971, 220.
[13] *New York Times*, 15 Oct. 1967, sec. 3, 1, 18.
[14] SEC, *Unsafe and Unsound Practices*, 69.
[15] *Forbes*, 15 July 1970, 47–48.

prosperity reigned the industry did fine, but its cushion against hard times was thin.

The structure of capital posed as great a risk as its quantity. Donald Regan, who as the head of Merrill Lynch was comfortably ensconced atop $200 million in cash and short-term government securities, complained, "Many Wall Street firms have what they call a capital structure, but which more closely resembles a scaffold."[16] Brokerage houses commonly invested their capital in securities, speculating on their own account. If the market went up all was well, but if it declined the results could be disastrous. Most brokerages also allowed partners to pull their money out of the firm with as little as ninety days' notice, creating the possibility that if the firm lost money partners would withdraw their investment rather than allow charges against it. Finally, not all the capital of Wall Street firms was actually capital. About one-third of it was "subordinate debt," pledged by lenders who agreed, in case of the firm's bankruptcy, to give all other claims precedence over their own.[17] Usually, subordinate lenders could withdraw their money on ninety days' notice. Moreover, subordinate debt often consisted of securities instead of cash because lenders could enjoy dividends and appreciation on the stock as well as interest from borrowers. Of course these securities were subject to changes in the market that could erode their value.[18] Such problems affected even the largest firms. In March 1970, Goodbody & Co., Wall Street's fourth largest broker, had $73 million in capital, of which $43 million was subordinate borrowing.[19] On the whole, it was not hard to imagine that in a crisis Wall Street's none-too-generous cushion of capital might evaporate quickly.

The Back Office

In 1968, record volume put heavy pressure on what was probably the industry's weakest link—the back office, where brokerage houses processed transactions and kept records. Three years earlier, the NYSE had commissioned a study of future volume, and the report had projected that turnover, five million shares a day in 1965, would hit ten million shares a day by 1975. As a leading journalist wrote in the spring of 1968, "The report was well conceived and looks good today except in the most crucial respect: it completely misjudged future trading vol-

[16] *New York Times*, 31 Dec. 1970, 29, 31.
[17] SEC, *Unsafe and Unsound Practices*, 99.
[18] Ibid.
[19] Report on Goodbody & Co., June 1971, SEC, FOIA, in author's possession.

ume."[20] Trading on the NYSE averaged ten million shares a day in 1967 and over twelve million in 1968, while transactions on the AMEX and OTC grew even faster.[21] This unprecedented growth reflected the government's inflationary fiscal and monetary policies (a side-effect of spending on the Vietnam War and President Johnson's Great Society programs) as well as changing fashion among the managers of mutual funds, who, in the late 1960s, had become convinced that aggressive trading was the best way to secure large returns.[22]

Unfortunately, this volume fell upon an antiquated system for transferring ownership. The process revolved around the stock certificate: a seller had to transmit to the buyer the appropriate certificate, signed and notarized. The buyer then had to send this document to the issuer's transfer agent, usually a large bank, which formally recorded the change in ownership for the payment of dividends and the like and issued a new certificate in the purchaser's name. Certificates for more than 100 shares were rare. An investor who purchased 500 shares of a stock would usually receive five 100-share certificates. As a result, the quantity of paper changing hands on Wall Street was immense. One study estimated that in 1968 firms listed on the New York Exchange had to issue 100 million new certificates.[23]

Brokers not only had to process all this paper but also to keep track of it. Firms maintained two sets of books: one for cash and another for securities. The first were fairly conventional, listing debits and credits, which were supposed to balance. The second were far more complex. They listed the securities held by, owed by, and owed to the firm, and they had to balance for each individual issue. For instance, a credit of 100 shares of General Motors could not balance a debit of 100 shares of Ford. Moreover, at the end of the day, these two sets of books, cash and securities, had to agree because firms were constantly trading stocks for money.

These factors made processing transactions incredibly complex. The purchase or sale of a security might require as many as sixty-eight steps, and an error anywhere along the way could foul up the transaction.[24] Although some firms had installed computers to help manage their business, most relied on a legion of not particularly well-paid

[20] Carol J. Loomis, "Big Board, Big Volume, Big Trouble," *Fortune*, May 1968, 150.

[21] *Wall Street Journal*, 2 Jan. 1968, 28.

[22] Ibid., 11 Aug. 1967, 1, 12.

[23] Robbins et al., "Paper Crisis in the Securities Industry," 98.

[24] The incredibly complex nature of stock transfers is well demonstrated by a flow chart reproduced in the *New York Times*, 17 Jan. 1971, sec. 3, 1; see also *New York Times*, 30 Dec. 1969, 50.

clerks. Computers were expensive, with mainframes costing as much as $1 million each, and historically the brokerage business had been boom or bust. Between the 1880s and the 1960s, NYSE volume had *never* increased three years in a row.[25] If business declined, a firm could always lay off clerks. That was not an option with computers, which companies either bought outright or leased on long-term contracts. Considering that they were often short of capital in the first place, firms were reluctant to sink money into a machine that might end up sitting idle. Moreover, even the most sophisticated computers could not process stock certificates—only people could do this. The best-managed and most generously capitalized firms still relied heavily on clerks.

The practices of using "street names" (the name of the firm) and clearing corporations eased the burden of paperwork. Although many investors held certificates in their own names, keeping them at home or in safe-deposit boxes, others were content to leave stock on deposit with their brokers. This was particularly true for investors who traded aggressively because transmitting certificates to a broker was time consuming. Moreover, those who bought stock on margin, borrowing part of the purchase price, had to leave the certificates with their broker as collateral. Brokers held customers' securities in the name of the firm, crediting the customer's account with the stock.

The extensive use of street names allowed the clearing companies attached to the NYSE, AMEX, and regional exchanges to function effectively. At the end of each trading day, exchange members submitted records of their transactions to the relevant clearing house, which matched all buy and sell orders to make sure they agreed. The clearing company then "netted out" trades, figuring out who, on balance, owed what. For instance, a firm that during the day had sold 10,000 shares of Ford but had also bought 9,000 shares of Ford would only have to deliver 1,000 shares, the net. The clearing company would then match this firm with another owed 1,000 shares of Ford, to whom it would deliver the stock (certificates) in question.

Although clearing companies reduced the flow of paper through Wall Street, they did not eliminate it. Brokers still had to make substantial deliveries of stock every business day to clear up their net debts. Moreover, no system existed for clearing OTC transactions. Clearing companies had to assemble complete records of each day's trading rapidly. This was possible for exchanges that brought buyers and sellers together in the same place, but the OTC market was a net-

[25] Loomis, "Big Board, Big Volume, Big Trouble," 150.

work of traders scattered across the country. The technical difficulties of gathering together the records of all their trades in a timely fashion were simply too daunting. Every single OTC trade, therefore, required the transmission of a certificate, usually by mail.

Wall Street simply could not handle the volume of transactions of the late 1960s. Although the exchange floors coped fairly well with the flood of business, the same was not true for brokers, who could not locate, process, and move certificates fast enough. The industry as a whole had long neglected the back office. As one study claimed, "Firms had tended to stress selling and to assume that the supportive operations would somehow develop to meet the challenge of expanded business."[26] The senior partner of a leading firm explained the reasons for this neglect: "We [the industry's leaders] had been brought up in the depression years, when sales were the important thing. You survived if you had sales. You didn't survive if you didn't have these, regardless of how efficient or good was your back office."[27] Even some of the largest firms had no partner devoting full time to the back office, and responsibility often fell on senior clerks, who could generally keep the machine running but lacked the time, training, authority, and inclination to change anything. Shockingly few firms knew exactly how much it cost to execute a transaction.[28] One computer expert insisted, "The operating procedures of most brokerage houses on Wall Street are in the green eye-shade era where Bob Cratchit would have no trouble fitting in immediately."[29]

Brokerages found themselves running days, or even weeks, behind current transactions. "Fails" were the most visible aspect of the problem. Brokers were supposed to deliver certificates, properly signed and notarized, to buyers within five days of executing a trade to "settle" it. A fail occurred when the certificates did not materialize by this deadline. In April 1968, the time of the first systematic survey of the problem, the NYSE calculated that its members had $2.67 billion in fails in all markets, of which almost $500 million had been outstanding for a month or longer. Total fails increased over the year, peaking at $4.12 billion in December. The problem was particularly acute with OTC stocks, which accounted for as much as 75 percent of fails outstanding for more than 30 days.[30]

[26] Robbins et al., "Paper Crisis in the Securities Industry," 8.

[27] Account by Charles Moran of Decline and Fall of F.I. Dupont & Co., SEC, FOIA, in author's possession.

[28] R.L. Petruschell et al., "Reducing Costs of Incomplete Stock," v.

[29] *New York Times*, 30 March 1969, sec. 3, 14; Robbins et al. "Paper Crisis in the Securities Industry," 25.

[30] *Wall Street Journal*, 23 July 1968, 3.

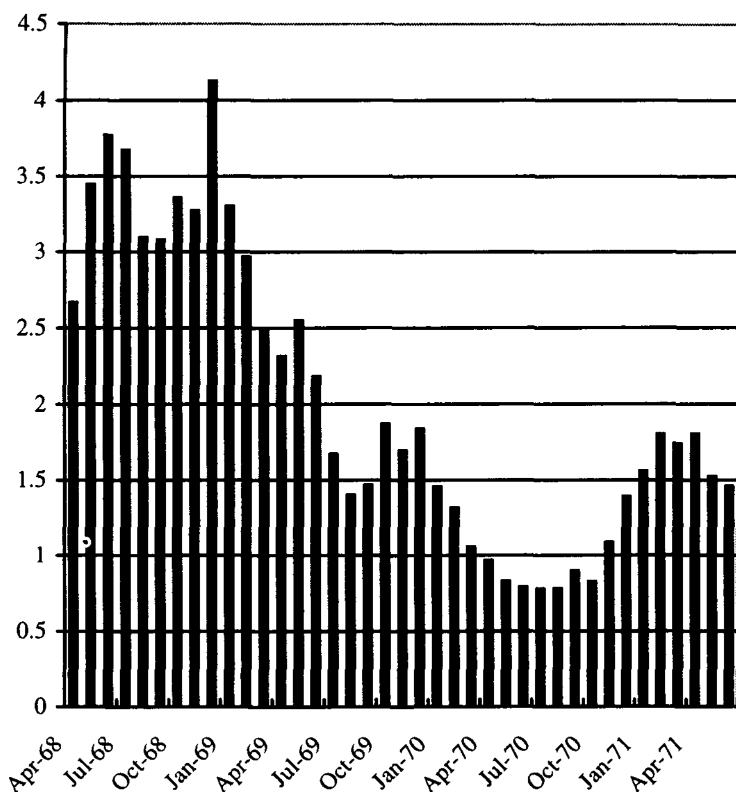

Figure 3. Total fails (in billions of dollars). Source: New York Stock Exchange, *1973 Fact Book* (New York, 1973), 19.

Fails represented more than an inconvenience. Undelivered securities were, in effect, liabilities that brokers would have to meet sooner or later, and, in some cases, these debts were greater than a firm's capital.[31] Unreceived securities represented credits that firms would presumably realize at some point, but they posed problems as well. Many customers refused to pay for stock until they received the certificate, which left the broker, who had in most cases already paid for the undelivered securities, financing the transaction. At best, a firm would have to pay interest on this money until the certificates materialized.

The crush of business also created other problems that were, in the long run, perhaps even more serious than fails. The clerical personnel

[31] *Business Week*, 24 Aug. 1968, 92–96.

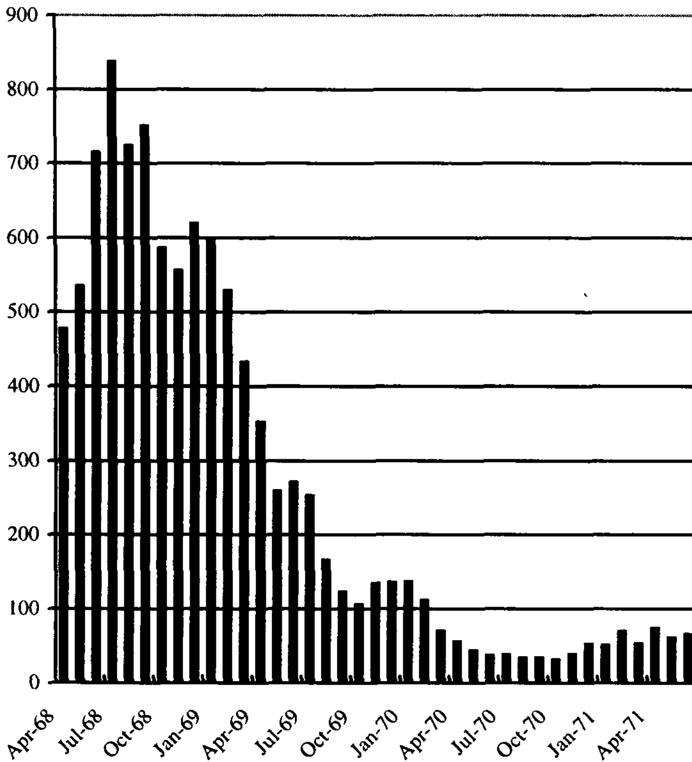

Figure 4. Aged fails (30+ days; in millions of dollars). Source: New York Stock Exchange, *1973 Fact Book* (New York, 1973), 19.

of brokerage firms were under great pressure. Many found themselves working ten- and twelve-hour days, six and seven days a week. For the first time ever, Wall Street firms began to operate regular night shifts, with firms like Bache & Co., the industry's second largest, and the NYSE's clearing company keeping hundreds of employees at work through the night.[32] Brokers scrambled to find new staff, but the supply was never sufficient. In May 1968, the NYSE estimated that its members employed 28,000 clerical workers, up from 22,000 eighteen months earlier but still 9,000 fewer than the industry needed.[33] Every week the *New York Times* contained 100 columns of "help wanted" advertisements placed by securities firms for clerks.[34] As the work force

[32] *Newsweek*, 15 July 1968, 65–68; *New York Times*, 27 March 1969, 49.
[33] *Wall Street Journal*, 15 May 1968, 4.
[34] *New York Times*, 13 June 1969, 71, 74.

expanded its quality declined. One executive complained that new employees did not know "simple arithmetic, spelling, and how to take a telephone call."[35] Workers had complaints too. They were putting in very long hours performing repetitive tasks. Offices were crowded because firms could not get enough space to accommodate their enlarged staffs. At McDonnell & Co., a venerable, medium-sized firm, some clerks had to work standing up.[36] Not surprisingly, workers found conditions numbing. One said, "I worked in a dress factory snipping loose threads, but we knew what we were doing; we could see the dress. Down here, I just check numbers, numbers, numbers. I don't know what it's all about, but it never ends."[37] Morale among clerks was low and turnover was high, reaching 50 percent a year by 1968.[38]

Under these conditions, clerks made lots of mistakes. Back offices mislaid certificates, failed to enter transactions in the books, or entered them incorrectly. Of course, such mistakes increased the workload further because when discrepancies came to light clerks had to sort them out, a time-consuming process. Although the industry kept no systematic figures on bookkeeping discrepancies, known as "differences," by 1968 they had reached gigantic proportions. A government report exaggerated only slightly when it declared, "The back office of many a broker-dealer resembled a trackless forest."[39] In one famous case, the venerable firm of Lehman Brothers discovered in May 1968 that it had $473 million in securities whose owners it could not locate, and that it owed clients $219 million in securities that it could not find. Fortunately Lehman managed to resolve all but $7 million of these differences by year's end.[40] Not every firm would be so fortunate.

Even brokerages that kept their books in order suffered from the chaos. Securities firms traded constantly with each other on exchange floors and over the counter, and if one broker could not deliver securities, the buyer would find himself saddled with a fail. Even worse, if one firm made errors recording a trade, the result would be a "DK" (short for "Don't Know about the transaction"). Sorting out DKs was time consuming at best, and there was never any guarantee of resolu-

[35] Ibid.

[36] *Wall Street Journal*, 6 Nov. 1969, 1, 24.

[37] *New York Times*, 13 June 1968, 71, 74.

[38] Robbins et al., "Paper Crisis in the Securities Industry," 62–63; Nortman and Rashes, "Report on Goodbody & Co.," June 1971, SEC, FOIA, contains many examples of bad working conditions, low morale, and high turnover among that firm's back-office personnel.

[39] SEC, *Unsafe and Unsound Practices*, 13.

[40] Ibid., 157; *New York Times*, 7 Feb. 1969, 1, 56.

tion. As one study put it, "The operations sins of one company were visited upon others."[41]

Automation and Reform

The securities industry addressed these problems slowly. Widespread confusion first became evident in the back offices in 1967, when a partner in a Chicago brokerage firm described the paperwork situation as "a terrifying and unending nightmare."[42] Yet most executives apparently believed that they would soon awake. As a congressional report put it, "Until 1969 both the [Securities and Exchange] Commission and the industry viewed such problems . . . as confined to individual firms and not posing a threat to the viability of the industry as a whole."[43] Brokers knew that, historically, volume did not advance year after year but tended to fall off after a boom, and they assumed that, sooner or later, lower trading would provide a respite. A March 1968 press release from the New York Exchange indicates a relatively relaxed attitude toward the crisis, suggesting that members "urge customers to deliver certificates promptly when securities are sold" and maintain a "close check-up on records."[44] For the most part, the industry reacted to the problem with expedients. Firms hired new clerks, about 6,000 over 1967 and early 1968, or a 27 percent increase. In the summer of 1967, the exchanges and the NASD halted all trading ninety minutes early for nine days to allow back offices to catch up on paperwork, and they repeated the experiment for six weeks in early 1968. They also lengthened the settlement time, the deadline by which the seller of a stock had to deliver the certificate, from four to five days.[45]

The unprecedented surge in trading in April 1968, which easily broke all previous records for volume, imposed new strains on the industry and demanded a stronger response. That month the NYSE began, for the first time, systematically to collect information on back-office problems.[46] At the same time, the leading exchanges and the largest New York banks convened an ad hoc committee to coordinate their response to the crisis.[47] In June this group closed all equity mar-

[41] Robbins et al., "Paper Crisis in the Securities Industry," 36–37.

[42] *Wall Street Journal*, 8 Aug. 1967, 3.

[43] *Securities Industry Study: Report*, 10.

[44] "Improving Office Operations," 8 March 1969, NYSE Archives, press releases, box 23, 5 March–31 May 1968.

[45] *Wall Street Journal*, 25 August 1967, 13.

[46] Robbins et al., "Paper Crisis in the Securities Industry," 46–47.

[47] *New York Times*, 3 April 1968, 65, 71.

kets, including the OTC market, on Wednesdays to give back offices time to catch up. These closing continued for the rest of 1968. Meanwhile the NYSE increased pressure on firms to clean up their back offices.[48] It imposed sanctions on the brokers with the most serious problems, penalties that ranged from limits on advertising to caps on the amount of business they could accept to, in extreme cases, orders that they actually reduce their business by selling or closing branch offices. By June forty-seven firms, over a tenth of NYSE members dealing with the public, labored under such restrictions. This group included industry leaders like F.I. Dupont and Hayden, Stone, which faced limits on the volume of their business.[49] In August the Exchange inaugurated a policy of mandatory "buy-ins" for fails in NYSE-listed securities, requiring firms that had not made deliveries due fifty days earlier to buy the stock in the open market in order to make good the debt. At the end of the year, the NYSE strengthened the rule, applying it to fails more than thirty days old.[50] The Exchange also started to require that firms deduct a proportion of the value of undelivered stock from their net capital—from 10 to 30 percent, depending on how long the fail had been outstanding. This sanction carried weight because firms had to maintain capital equal to a certain percentage of their total assets. Charges against capital might well force brokers to reduce their business.[51]

Pressure from the Securities and Exchange Commission accounted, in part, for the more aggressive stance. Like the exchanges, the SEC seems to have allowed the back-office crisis to creep up on it, with only the crush of business in April convincing it that the situation was out of control. However, by the spring of 1968 the SEC had concluded that the NYSE was not pushing members hard enough to sort out backlogs, and it resolved to do what it could to intensify pressure by demanding regular updates on the paperwork situation from the exchanges and the NASD.[52] The SEC took a crucial step in July 1968 by

[48] The AMEX had exclusive jurisdiction over very few brokerage firms because almost all its members also belonged to the NYSE. As a result, when it came to dealing with the operational crisis, the AMEX operated in tandem with its larger rival.

[49] SEC, *Unsafe and Unsound Practices*, 225; "An Exchange Report: Self-Regulation at a Time of Crisis," [October 1970], NYSE Archives, press releases, box 25, 20 July–26 Oct. 1970; Charles Moran, Account of the Decline and Fall of F.I. Dupont & Co. [1971]; Hayden, Stone Inc. to Mahlon Frankhauser, 21 Nov. 1968; Alfred Coyle to Mahlon Frankhauser, 21 Nov. 1968, all SEC, FOIA, in author's possession.

[50] U.S. Congress, House Subcommittee on Commerce and Finance of the Committee on Interstate and Foreign Commerce, *Securities Market Agencies*, 91st Cong., 1st sess., 1969, 143.

[51] Ibid.

[52] *Securities Industry Study: Report*, 9–10, 75.

announcing, "It is a violation of the anti-fraud provisions of the Federal Securities laws . . . for a broker to buy a security . . . for a customer if the broker-dealer has reason to believe that he will not be able to deliver the security."[53] Few people at the SEC actually considered a fail the moral or legal equivalent of fraud, but, by making the analogy, the agency eased the way for intervention because its legal authority was strongest in cases of fraud.[54] Nevertheless, the SEC continued to operate through the exchanges because, even had it so desired, the agency lacked the bureaucratic wherewithal to take matters into its own hands. Its chief contribution was to press the exchanges for action.

The risks inherent in the situation became apparent in February 1968. The New York Exchange had to send its own staff into Pickard & Co., a small member firm with 3,500 customer accounts, to sort out the brokerage's chaotic records. At first, both the NYSE and Pickard insisted that the firm would meet its obligations. One of Pickard's officers stated that his company was solvent, "As far as I know."[55] That, of course, was the problem—given the state of Pickard's records, no one *knew* anything. By May the Exchange had reversed itself and was using its own money to shut Pickard down. In addition to the firm's other problems, it seems that partners had, without legal authorization, withdrawn much of the firm's capital. The NYSE had to put up $500,000 to pay Pickard's obligations, although it eventually recovered about 70 percent of the sum.[56]

Short of taking over firms, which the NYSE and the SEC most certainly did not want to do, regulators could only push them to sort out their affairs. In the end, brokerages had to resolve their own problems. By late 1968, most Wall Street firms had concluded that automation was the way to impose order on their back offices and were purchasing computers. The high level of business had finally convinced them that they would have enough revenue to pay for systems and perhaps more important, no other solution to the back-office problem presented itself. In October 1968, Ralph Saul, the president of the AMEX, stated, "I am pleased to report that many member firms are concentrating on this operational need [computers]. They are committing themselves to large overhead expenditures and are exploring new applications of

[53] *Securities Market Agencies*, 49.

[54] "Staff Study of the Interpretation and Enforcement of the Net Capital Rule of the New York Stock Exchange," reproduced in *Securities Industry Study*, part 4, 228.

[55] *New York Times*, 20 Feb. 1968, 63, 74.

[56] *Wall Street Journal*, 23 May 1968, 8; 8 Aug. 1968, 4; "Liquidation of Pickard & Company Incorporated," 21 March 1969, NYSE Archives, press releases, box 24, 25 Feb. –1 May 1969.

computer techniques."[57] NYSE members spent $100 million on computer systems in both 1969 and 1970, up from $61.8 million in 1968 and just $28.5 million in 1966.[58]

Unfortunately computers did not offer the magic solution that many securities firms seemed to expect. Most industry executives did not really understand what these machines could and could not do. Computers could vastly simplify the operation of back offices, automatically making entries to and balancing the books, tasks which, if done manually, entailed several time-consuming steps by clerks, with the possibility for errors present all along the way. These machines, however, could not restore order to records in chaos. Feeding erroneous information into a computer would only guarantee further errors: "garbage in, garbage out," as programmers put it. Moreover, brokerage houses kept very complex accounts. Their computers often required entirely new software, and crippling glitches were common in the process of developing and installing it.[59] In some cases, firms installed a new computer system before it had been properly tested.[60] Compounding difficulties, brokers often ceased keeping records manually when computers went on line, in a few cases even dismissing their senior (most expensive) clerks.[61] Therefore, if the new system did not immediately work out as expected—and it almost never did—a huge gap appeared in the books.[62] Lehman Brothers' problems owed much to the botched installation of a new computer system. McDonnell & Co., a firm serving over 50,000 customers, suffered even more. A state-of-the-art system that was supposed to be on line in the summer of 1968 simply did not work, leaving the firm with what one executive described as "the front end of a Rolls Royce and the back end of a Model T." McDonnell had spent $3 million on the system, and by late 1968 it had 4,500 errors in its customer accounts, uncollected dividends of $872,000, and $9 million of securities whose owners it could not locate. It was also leasing computer time from other firms. By 1969 the firm was cutting costs in a desperate, and ultimately futile, attempt to survive.[63] In 1969 Hamer

[57] *New York Times*, 26 Oct. 1968, 55.

[58] Carol J. Loomis, "Wall Street on the Ropes," *Fortune*, Dec. 1970, 136; *New York Times*, 6 July 1969, sec. 3, 13.

[59] Robbins et al., "Paper Crisis in the Securities Industry," 55.

[60] Nortman and Rashes, "Report on Goodbody & Co.," gives a particularly harrowing account of what could happen when a firm installs an untested computer system.

[61] Robbins et al., "Paper Crisis in the Securities Industry," 38.

[62] SEC, *Unsafe and Unsound Practices*, 2–3.

[63] *Wall Street Journal*, 6 Nov. 1968, 1, 24.

Budge, the chairman of the Securities and Exchange Commission, summed up the overall situation: "When firms finally began to automate, they experienced substantial problems in the conversion process, and in the short run they found some efforts to be counterproductive."[64] Computers would eventually solve many of the industry's record-keeping problems, but the process took longer and cost more than expected.

Computerization only solved part of the problem, however. By the end of 1968, most informed observers had concluded that the securities industry as a whole had to do something about the system of transferring ownership. After all, the best computer system could not process and move stock certificates. The NYSE, AMEX, and NASD all hired outside consultants, including the Rand Corporation and Northrop, to examine the matter. The conclusions of their studies demonstrated statistically what many veterans of the business had grasped intuitively, that the industry needed to establish a clearing house for OTC stocks and to develop ways of transferring stock ownership without moving certificates.[65]

In fact, the New York Stock Exchange had been working on eliminating the movement of certificates for several years. In 1964 it had organized the Central Certificate Service (CCS), which would hold securities on account for brokerage firms. The CCS would execute transfers of ownership between firms simply by entering them in its books, not by moving paper. It would register all the securities it held under its own name and direct dividends, voting proxies, and the like to brokerage houses, which could then send them on to customers.

Although simple enough in conception, the CCS had to overcome big technical and legal obstacles. It would start out holding several hundred million shares of the more than 1,200 issues traded on the NYSE, and plans called for the CCS to move into AMEX and widely traded OTC issues as soon as possible. It would require several top-of-the-line computers with what one CCS manager described as the "newest and perhaps most untested" software available.[66] Getting the system to work properly was not easy. The CCS finally opened for business in February 1969, but glitches developed almost immediately. In March it stopped accepting deposits of new shares (although it contin-

[64] *Securities Market Agencies*, 8–11.

[65] NASD press release, 23 July 1968, reproduced in *Securities Markets Agencies*, 427–428; *New York Times*, 16 Feb. 1969, sec. 3, 1, 12; Loomis, "Wall Street on the Ropes," 130.

[66] *American Banker*, 21 March 1969, clipping in "Automation Case Study Source Book," NYSE Archives.

ued to transfer those already in hand), and it did not fully resume taking deposits again until August.[67]

At the same time, the CCS had to overcome substantial legal obstacles. As the AMEX's Ralph Saul explained, "The laws of most of the states require that there be a stock certificate as the evidence of ownership in a corporation, and most of those state laws would have to be changed" for the CCS to work.[68] Moreover, in the case of margin loans secured by stocks, borrowers had to lodge certificates with lenders as collateral. Likewise, state law demanded that banks acting as trustees for institutional investors (mutual funds, insurance companies, pension funds, and the like) hold certificates for the stocks of their clients in their vaults. In none of these cases would entries in the books of the CCS meet legal requirements. If the CCS were to have maximum impact, the laws of all fifty states would have to change. Only by 1968 had CCS entries become a legal way to deliver stocks in every state, and the NYSE was not able to resolve all the complications related to margin loans until 1970. Sorting out the issues involving securities held by trustees took several years more.[69]

Nevertheless, the CCS expanded fast after 1969. In 1970 it started accepting the deposit of AMEX issues, and in late 1971 it began to include some widely traded OTC stocks. During 1970 the largest New York banks, which acted both as transfer agents for many companies and trustees for a substantial number of institutions, joined the CCS. The CCS executed transactions involving 1.6 billion shares in 1970 and 3 billion in 1971, and in each of those years it distributed over $500 million in dividends. In 1971 the managers of the CCS estimated that their organization, as it then stood, cut the number of certificates brokers had to handle by 75 percent.[70]

The creation of a clearing system for over-the-counter stocks took even longer than the CCS. The technical problems were immense. The OTC market involved several thousand traders, far more than any of the traditional exchanges, and they were scattered all over the country rather than being concentrated in one place. A clearing company would have to gather together, compare, and "net out" the transactions between all of these people on a daily basis. Moreover, whereas plans

[67] U.S. Congress, Senate Subcommittee on Securities of the Committee on Banking, Housing, and Urban Affairs, *Clearance and Settlement of Securities Transactions*, 91st Cong., 2nd sess., 1972, 225–235; *New York Times*, 7 March 1969, 51; *Wall Street Journal*, 23 May 1969, 3; 3 June 1969, 14; and 5 Aug. 1969, 12.

[68] *Securities Market Agencies*, 265.

[69] *Clearance and Settlement*, 225–235.

[70] Ibid.

for the CCS had been in motion well before the paperwork crunch hit, such was not the case for national OTC clearing. The National OTC Clearing Corporation did exist, but it relied on the clearing facilities of the AMEX and dealt only with trades between firms' New York offices, which accounted for only about a quarter of total volume.[71] In November 1969, the NASD started to organize a nationwide system of OTC clearing by creating the National Clearing Corporation, capitalized at $2 million.[72]

The NASD's new Automatic Quotation system (NASDAQ) proved to be the device that made OTC clearing possible. NASDAQ was an intricate computer system with terminals in the offices of OTC traders across the country that quoted prices. Although trades still took place over the telephone, the results of each transaction went into the NASDAQ system, which not only let other traders know where the market stood but also provided information for the clearing house. The NASDAQ only went on line in late 1971, however, and the first OTC clearing operations occurred only in 1972.[73]

Recovery and Losses

In retrospect, a turning point in the paperwork crisis came during the winter of 1968–1969. Fails reached an all-time high at the end of December 1968, hitting $4.1 billion, while the CCS had yet to go into operation and OTC clearing was still in the planning stage. Yet at the exchanges a cautious optimism prevailed. One broker stated in November, "I think the end is in sight," although he added that the cleanup would probably cost "millions."[74] The high level of December fails, many believed, reflected the Christmas holiday and a flu epidemic that incapacitated many back-office workers.[75] The underlying situation was improving. Volume had eased slightly and looked to decline more. Indeed, on all exchanges share volume would decline 7 percent between 1968 and 1969.[76] More important, "aged" fails, those thirty days or older, had declined substantially, from a high of $837 million in July to $620 million at the end of December. With these considerations in

[71] *Securities Market Agencies*, 143; *Wall Street Journal*, 31 Jan. 1969, 4; 1 March 1969, 3.

[72] U.S. Congress, Senate Subcommittee on Banking and the Committee on Banking, Housing, and Urban Affairs, *Securities Industry Study*, part 2, 92nd Cong., 1st sess., 1971, 259–265.

[73] *Securities Industry Study: Report*, 16-17.

[74] *New York Times*, 2 Nov. 1968, sec. 3, 1, 7.

[75] NYSE, "Annual Report, 1968," 9, NYSE Archives

[76] *Securities Industry Study: Report*, 7.

mind, the exchanges decided that, after the New Year, trading would resume on Wednesdays. To prevent any dangerous surge in volume, the exchanges would start closing ninety minutes early every day, at 2:00 rather than 3:30.

Wednesday closings had always been controversial. As one executive put it, those firms that kept a modicum of order in their back offices thought "it unfair to penalize the efficient just because others are inefficient."[77] Concerns also existed that the closings were distorting trading, creating rushes on Tuesdays and Thursdays that clogged the floors of the exchanges. A *New York Times* editorial argued in October 1968, "Wednesday closings have done more to interrupt the continuity of the market than to reduce the backlog."[78] Exchange executives also feared that back-office staffs were treating Wednesdays as a holiday rather than using them to catch up with paperwork.[79]

The resumption of trading on Wednesdays did not meet universal applause, however. Whatever doubts they had about the closings, many feared the result of five-day trading. One broker said, "Now, by taking away one free day a week, a remedy is being removed. What will happen now? God only knows."[80] The SEC was among the skeptics, "requesting" that the exchanges not resume trading on Wednesdays. Traditionally such requests were politely worded directives that the commission expected the industry to follow. In a rare show of truculence, however, the exchanges ignored this "suggestion."[81]

Experience proved them right. The level of fails declined over 1969, hitting $1.837 billion by the end of the year, and during July 1970 it bottomed out at $780 million, a level most considered manageable. Progress against aged fails (thirty or more days old) was even more remarkable. They declined to $136 million by the end of 1969 and bottomed out at $31 million in October 1970. During 1969 the exchanges were gradually able to extend trading hours, and by the spring of 1970 markets were again closing at 3:30. The SEC closely monitored this process, requiring the exchanges to get its approval for each extension of trading hours.[82] Apparently the defiance exhibited by the industry in December had surprised it, and the commission did not want to encourage any tendencies in this direction. Nevertheless, the resumption

[77] *New York Times*, 16 Oct. 1968, 60.
[78] Ibid., 12 Nov. 1968, 46.
[79] *Securities Market Agencies*, 155–156.
[80] *New York Times*, 29 Dec. 1968, sec. 3, 1, 11.
[81] *Wall Street Journal*, 31 Dec. 1968, 3; *Newsweek*, 13 Jan. 1969, 66–67.
[82] *New York Times*, 15 April 1969, 72.

of five-day trading in early 1969 indicated that Wall Street had at least begun to bring its paperwork under control.

As the flood of paperwork receded, the full extent of the damage became clear. During the 1967–68 boom, brokerage-house expenses had ballooned. In 1967 alone, NYSE firms had opened 440 new branch offices, increasing the total by 12 percent. In these two years, the number of salesmen went from 38,500 to 52,500. "Meanwhile," as one journalist put it, "both growth in personnel and visions of the future were sending firms in search of new office space. It was available only on highly expensive long-term leases, but the firms signed."[83]

Back-office problems contributed significantly to rising costs. The industry had to hire thousands of new clerks. Clerical and administrative costs for NYSE firms totaled over $1 billion a year in both 1968 and 1969, compared with less than $600 million in 1966.[84] Fails imposed costs of their own. The Rand Corporation's study of the paperwork crisis "estimated that these delays in completing stock transactions [fails] . . . in 1968 cost the . . . members of the New York Stock Exchange around $180 million for interest and clerical expense."[85] Tens of millions went into new computer systems. Other expenses burst upon brokers unannounced. During the crush of business in 1968, many firms had to put everything else aside in a desperate scramble to keep up with current transactions. In 1969 enhanced back-office capabilities and declining volume allowed brokerages to turn their attention to other recordkeeping problems, and the results were often shocking. Companies discovered large debts of cash and securities that they had not anticipated. In some cases, research cleared up the matter, locating the assets in question or proving that the debts reflected some sort of error—but not always. Often firms had failed to pay clients dividends on stock held in a street name, and sometimes they had inadvertently sold securities owned by customers. In such cases, brokers had no choice but to make up the difference out of their own pockets. The sums involved were substantial. For instance, a single computer glitch cost Goodbody & Co. $7.5 million.[86] The SEC estimated that "errors and bad debts" cost all NYSE firms $92 million in 1968, $107 million in 1969, and $81 million in 1970, compared with just $13 million in 1965.[87]

[83] Loomis, "Wall Street on the Ropes," 136.
[84] SEC, *Unsafe and Unsound Practices*, 99.
[85] *Clearance and Settlement*, 156.
[86] Homer Budge to Robert Haack, 16 Oct. 1970, and Haack to Budge, 26 Oct. 1970, SEC, FOIA, in author's possession.
[87] SEC, *Unsafe and Unsound Practices*, 96–117.

While costs mounted, revenues fell. In 1969 the Federal Reserve sharply raised interest rates in an attempt to check inflation. The result slowed the economy and led to a sharp decline in the stock market, which, after the speculative boom of the previous year, was overextended. Falling equity prices and rising interest rates led investors to put their money into savings accounts rather than stocks. The SEC calculated that in 1969 the gross commission income of all NYSE firms doing business with the public fell 21 percent, to $2.562 billion from $3.245 billion the year before.[88]

Squeezed between falling revenue and rising costs, profits disappeared. A survey of the thirty-two NYSE firms with $20 million or more in commission revenue indicated that, in 1969, none of the houses that specialized in dealing with individual investors made money on commissions. Even Merrill Lynch lost $5.7 million in this business, although gains in other areas, such as underwriting, allowed the firm to realize profits of $32.3 million.[89] Other firms had no such cushion. Bache & Co., Merrill's largest competitor, lost $8.7 million in 1969; F.I. Dupont (the number three firm) lost $7.7 million; Goodbody & Co. (a close fourth) lost a little under $1 million; and Hayden, Stone, another leading firm, lost over $11 million.[90]

The situation deteriorated further in 1970. The economy sank into recession for the first time in a decade, creating the worst bear market that Wall Street had seen in a generation. Between January and June, the Dow Jones Index declined 15 percent, touching lows not seen since 1963. The "hot" stocks that had led the 1968 surge collapsed. The securities of Electronic Data Services (EDS), a market star, fell by one-third in a single day, while stock in Four Seasons Nursing Centers and Minnie Pearl's Chicken, in heavy demand just a couple of years earlier, became worthless as those firms lurched into bankruptcy.[91] Badly burned, many small investors quit the market, at least for the time being.[92] Volume declined sharply, especially on the AMEX and OTC markets. In 1970, almost all the large brokerage firms doing business with the public lost money.[93] In the worst month of the year, April, the NYSE calculated that, on balance, its members lost over $30 million.[94]

[88] Ibid., 99.

[89] *Wall Street Journal*, 9 Oct. 1970, 3.

[90] Loomis, "Wall Street on the Ropes," 64, 156; *New York Times*, 22 Feb. 1970, sec. 3, 1, 14.

[91] John Brooks, *The Go-Go Years: The Drama and Crashing Finale of Wall Street's Bullish 1960s* (New York, 1973), 24–25.

[92] *Wall Street Journal*, 14 April 1970, 1, 33.

[93] Ibid., 15 Sept. 1971, 4.

[94] Ibid., 15 June 1970, 2.

With revenue falling, firms naturally cut costs. Strong measures often came late, however, because in 1969 managers were still struggling with paperwork difficulties and were not yet fully alive to the severity of the downturn. Moreover, it was not always easy to reduce expenses. A brokerage house could not lay off a new computer, nor could it break long-term leases on office space without substantial penalties. Firms needed their enlarged clerical staffs to sort out the bookkeeping snarls of the past. Nevertheless, by 1970 retrenchment was in full swing on Wall Street. By late 1970, NYSE members had cut total employment to 149,000 from 165,000 a year earlier, or by not quite 10 percent.[95] Salesmen, who usually derived their incomes solely from commissions, generally avoided dismissal, but their income fell with revenue, often declining as much as 40 percent.[96]

Failures

Despite cost cutting, a major crisis swept over Wall Street in 1970. Many brokerages had suffered crippling losses on operations, on securities held for their own account, and from record-keeping "differences." Exacerbating the problem, these losses persuaded partners in many brokerage firms to withdraw their capital. Overall, the capital available to NYSE members doing business with the public declined from $4 billion at the end of 1968 to $3.4 billion at the end of 1969 to $3.1 billion at the end of 1970.[97] Dozens of firms found themselves without enough money to conduct business or even to cover their liabilities.

The New York Stock Exchange took the lead in managing these problems. Most large brokerage firms belonged to it, and as the country's "senior" exchange it had final responsibility over them. The Exchange had a large staff, twice as large as the SEC's, that regularly audited member firms and so was as familiar as anyone with their affairs. Moreover, the NYSE was in New York, the epicenter of the crisis. Yet, more than anything else, the NYSE owed its leadership role to its "special trust fund." Created in 1964 in the wake of the bankruptcy of a member firm, the fund had $25 million that the Exchange could use to protect customers if a brokerage firm failed.[98] The NYSE was always

[95] Ibid., 28 April 1970, 1, 29; *New York Times*, 8 May 1970, 47, 50; 23 Dec. 1970, 35, 41; NYSE, *Fact Book, 1971*, 57

[96] *Wall Street Journal*, 28 April 1970, 1, 29.

[97] SEC, *Unsafe and Unsound Practices*, 99.

[98] Ira Haupt had collapsed in 1964 because of fraud. The NYSE stepped in, making sure that the firm's customers received the cash and securities they had on deposit with Haupt, al-

careful to note that it had complete discretion over the use of this fund and could refuse to bail out a member firm. But it also liked to boast, "No customer of a member organization of the New York Stock Exchange in more than thirty years has sustained a loss of securities or funds as the result of a failure of an NYSE member firm."[99]

The Exchange and the federal government considered "net capital," a measure unique to the securities industry, the best measure of a firm's financial health. At the simplest level, net capital was merely the difference between a firm's liabilities, chiefly borrowed money and securities held for customers, and its total assets. A special formula governed the calculation of assets, however. The figure included only liquid assets; real estate or stock exchange memberships did not count. Moreover, firms had to write down securities they held in their own account by about 30 percent, a process known as a "haircut," which cushioned against market fluctuations.[100] At the same time, brokers could count subordinate debt as an asset for estimating net capital, although if this debt consisted of securities they too were subject to a "haircut." The NYSE required firms to maintain net capital equal to one-twentieth (5 percent) of their assets, and it would suspend trading by—and liquidate—any broker whose capital dropped below this point. The Exchange considered any firm whose net capital was less than one-fifteenth of its assets troubled and would intervene in its affairs to force improvement.

The emphasis on net capital had weaknesses. Because securities made up a substantial part of the net capital of many firms, a sharp drop in the market like that in the first half of 1970 could well throw brokerages into violation of the net capital rule. Moreover, subordinate debt was still debt and, if too large a part of a firm's net capital, might well distort a company's real position. Most important, however, calculations of net capital relied on company records, which in more than a few cases were a mess. As Felix Rohatyn, an investment banker who would play a large role in the financial cleanup, put it, "Figures from firms with huge back-office problems are meaningless."[101]

As early as 1969, the NYSE realized that some of its members were in financial trouble, and by early 1970 widespread problems were evident to all. The Exchange had to decide immediately whether or not to

---

though it cost the Exchange several million dollars. The trust fund was supposed to defray such expenses in the future, as well as to reassure investors.

[99] *Securities Industry Study*, part 4, 220.

[100] *Fortune*, July 1970, 141–144.

[101] Louis, "Perot Moves," 91–92.

take a hard line in calculating net capital. Auditors had significant leeway in deciding whether to count receivables as good assets and in classifying securities for "haircuts," and up to a point they controlled whether or not firms found themselves in violation of net capital rules. On one hand, strict standards might well force the liquidation of firms still capable of recovery. On the other, a more generous approach might allow firms that were essentially bankrupt to take on new liabilities and pile up greater losses. The Exchange decided to be lenient. NYSE president Robert Haack, who would play a leadership role in the crisis, later insisted, "If we had been absolutely literal [enforcing net capital rules] we probably would have had half of Wall Street out of business."[102] The NYSE simply could not finance the liquidation of all the firms that were in trouble and so had to assume—or hope—that most would eventually save themselves. Moreover, the books of most of the firms in trouble were confused, and if the NYSE shut them down it would have to sort out the mess itself, a process that would take months and impose heavy burdens on the Exchange's staff. It preferred that, as much as possible, brokers clean up after themselves.[103]

The SEC did not entirely agree with the New York Exchange's lenient policy. In April 1970 it urged "the Board of Governors of the [New York] Exchange to rectify the improper practices which have crept into the application of the Exchange's net capital rule," that is, to tighten up on its members.[104] Nevertheless, the Exchange's opinion prevailed. The federal laws under which the SEC operated dealt chiefly with fraud, and its authority over matters like audits and net capital was not entirely clear. The SEC also relied on the NYSE to enforce the rules, making it nearly impossible to second-guess decisions about specific firms. Finally, the existence of the Special Trust Fund gave the Exchange a certain moral superiority over the government because it presumably would bear the cost of any mistakes.

The NYSE did have a plan beyond simply hoping that the situation would turn around of its own accord. Instead of shutting down troubled firms, the Exchange would force them to sort out their affairs and raise new capital. In some cases, brokers managed to get money from outside the industry, but the sorry shape of the firms in need of capital

[102] U.S. Congress, Senate Subcommittee on Banking of the Committee on Banking, Housing, and Urban Affairs, *Securities Industry Study*, part 3, 92nd Cong., 1st sess., 1971, 232.

[103] "An Exchange Report: Self-Regulation at a Time of Crisis" (October 1970), NYSE Archives, press releases, box 25, 20 July–26 Oct. 1970.

[104] *Securities Industry Study*, part 4, 233.

made attracting new investment difficult. Instead, mergers became the preferred device for rescuing troubled brokers. Even insolvent firms had clients, personnel, and offices that another company might want. The NYSE canvassed its stronger members to find out what sort of assets might interest them and then shopped troubled firms to potential buyers. Venerable firms like Auchincloss, Redpath & Parker and Abbott, Proctor & Paine disappeared into Thompson & McKinnon and Paine, Webber, respectively.[105] Although legally mergers, these transactions were almost always de facto takeovers in which the stronger firm dominated the new entity. Lee Arning, the NYSE official who oversaw this process, earned the nickname "Marryin' Sam" for engineering as many as eighty mergers.[106] In most cases, the Exchange closely monitored the progress of the firms involved, even installing its own representatives in the offices of troubled brokers.[107]

Although most of these arrangements worked well enough, there were exceptions. In the summer of 1970, F.I. Dupont & Co., one of the NYSE's largest and most troubled firms, merged with two other companies, Hirsch & Co. and Glore, Forgan, Staats, Inc. The smaller firms brought capital that was supposed to revive Dupont, but by year's end the combined firm teetered on the edge of bankruptcy.[108] In early 1970, Hayden, Stone, another of Wall Street's largest and most troubled firms, responded to NYSE pressure to increase its narrow capital base by persuading a group of investors from Oklahoma to put $17 million of stock into subordinate accounts with it.[109] Unfortunately, these securities were speculative issues that had climbed sharply in 1968, and the April 1970 crash knocked their value down to $9 million, throwing the firm back into violation of capital rules.[110] People at the NYSE had realized from the start that both the Dupont and Hayden, Stone schemes were risky, but as Robert Haack said, "Beggars can't be choosers."[111]

By early 1970, the NYSE realized that despite its best efforts some brokerage firms were going to fail, perhaps quite a few. To coordinate policy in this critical area, the Exchange organized a special committee

[105] *New York Times*, 14 June 1970, sec. 3, 11.

[106] *Business Week*, 18 July 1970, 84.

[107] Memo from Lee Arning to Owen Melaugh, 20 July 1970, SEC, FOIA, in author's possession.

[108] *Wall Street Journal*, 3 June 1970, 2; and 9 June 1970, 40; memo from Frank Dominach to John Cunningham and Lee Arning, 24 June 1970, SEC, FOIA, in author's possession.

[109] Memo from Robert Biship, Fred Stock, and Richard Greves to Lee Arning and John Cunningham, 5 Feb. 1970, SEC, FOIA, in author's possession.

[110] *Securities Industry Study*, part 4, 233.

[111] Ibid., 232; memo from Dominach to Cunningham and Arning, 24 June 1970.

known unofficially as the Crisis Committee. The dominant members were Robert Haack, president of the NYSE, Bernard Lasker, chairman of the NYSE board of governors, and Felix Rohatyn, a young investment banker. They made a formidable team. Haack thoroughly understood the mechanics of the Exchange, and Rohatyn was among the most innovative financial engineers of his generation. For his part, Lasker had a superior knowledge of the Exchange's membership and its intricate politics as well as extensive contacts in the Nixon administration. Richard Nixon had lived in New York for much of the 1960s, and during this time Lasker had become acquainted with him, eventually serving as an effective fund-raiser during Nixon's 1968 presidential campaign.[112]

The situation taxed the talents of these three to the utmost. By the late spring they knew that at least ten firms were insolvent and that surprises might appear elsewhere as brokers sorted out their books. The NYSE's trust fund was almost certainly insufficient to liquidate these firms without losses to customers. Yet the Exchange had to pretend that it had the situation under control. To do otherwise could precipitate a panic among partners in brokerage houses, causing them to accelerate the withdrawal of capital, as well as among customers, who might start pulling out cash and securities. The result was a series of statements, like the following by Haack in March 1970, that "all of the 25 largest member firms of the Exchange are in compliance with the Exchange's net capital rules."[113] Although strictly true, Haack knew that in some cases compliance reflected optimistic forecasts and creative accounting. Troubled firms like Hayden, Stone and F.I. Dupont imitated Haack's technique, giving optimistic statements about the future that belied their grim condition.[114]

By the summer of 1970, the NYSE had taken over the affairs of ten firms. All had suffered from severe back-office problems. Most were relatively small brokerages with only a few thousand clients, but three, Dempsey-Tegeler, McDonnell & Co., and Blair & Co., had over 50,000 accounts each.[115] Estimates of the total cost of liquidating the ten were about $53 million, but considering the state of their records, such cal-

[112] Loomis, "Last Months of Hayden, Stone," 114–116, 154–159.

[113] *Wall Street Journal*, 26 March 1970, 6.

[114] Loomis, "Last Months of Hayden, Stone," 114–116, 154–159; U.S. Congress, Senate Subcommittee on Securities of the Committee on Banking and Currency, *Federal Broker-Dealer Insurance Corporation*, 91st Cong., 2nd sess., 1970, 39; *Wall Street Journal*, 1 May 1970, 13; and 16 Jan. 1970, 30.

[115] The other firms were Pickard & Co., Amott, Baker & Co., Fusz-Schmeltze & Co., Gregory & Sons, Baerwald & DeBoer, Orvis Brothers & Co., and Meyerson & Co.

culations were little more than educated guesses.[116] To cover the expense, the Exchange transferred $30 million it had been saving to construct a new building into its Special Trust Fund, bringing the total available to finance liquidations to $55 million. This maneuver was unorthodox, but the Crisis Committee argued that the NYSE had no choice, and the membership agreed.

The great crisis of the summer, however, involved Hayden, Stone, which despite sharp cutbacks still had nearly 100,000 client accounts. By June 1970 it was clear that the initial attempt to recapitalize the firm had failed. Continued operating losses and the stock market drop had left it $12 million short of the amount it needed to comply with the NYSE's net capital rules. Hayden, Stone tried to make up the gap by selling assets, but ultimately the NYSE had to invest $5 million of its own money in the company to bring it into compliance. A projected tax refund owed the firm by the federal government secured the Exchange's investment. Clearly, the situation could not continue, but the Exchange considered Hayden, Stone too large to liquidate, at least not without risking financial panic. Besides, the special trust fund was already fully committed. Instead, the NYSE decided to split Hayden, Stone's assets between two smaller but adequately capitalized firms: Cogan, Berlind, Weill & Levitt and Walston & Co. The NYSE itself contributed $6 million to the transaction, buying from Hayden, Stone receivables of mixed quality.[117]

Designing the rescue proved only half the task, however—the NYSE also had to get everyone to agree. The deal not only left Hayden, Stone's partners with nothing but also entailed great losses for the firm's 108 subordinate debtors. None of them wanted to lose money, and many, including the Oklahomans who had lent the firm $17 million worth of stock just a few months earlier, believed that the firm had, in soliciting their investments, misrepresented its position to them. Several subordinate lenders concluded that they had little to lose by filing suits to force the brokerage into bankruptcy. This prospect horrified the NYSE. Bankruptcy would almost certainly lead to liquidation, which the Exchange could not afford. Haack, Lasker, Rohatyn and their lieutenants were soon traveling from Oklahoma City to London to persuade subordinate lenders to agree to the Exchange's plan. Lasker even enlisted the Nixon administration to work on recalcitrant creditors. At one point, he supposedly told a particularly stubborn subject that he could have the president himself on the phone in a few minutes

[116] *Business Week*, 16 Jan. 1971, 80.
[117] Loomis, "Last Months of Hayden, Stone," 114–116, 154–159.

Figure 5. Runners carrying stock certificates to bank after exchange had closed, 1968. (Permission provided by Time Life Syndication.)

to urge compliance. In the end, the subordinate lenders gave in, and the Exchange's reorganization went through.[118] Although billed as a merger, the rescue of Hayden, Stone was in fact a bailout, orchestrated and financed by the New York Stock Exchange.

Securing Government Aid

By June 1970, the leadership of the securities industry had reluctantly concluded that it needed help from the federal government.

[118] Ibid.

Figure 6. A backlog of stock certificates after heavy trading on the New York Stock Exchange, 1968. (Permission provided by Time Life Syndication.)

Ever since the back-office problems had emerged in 1968, Congress had demonstrated interest in the subject, holding hearings and commissioning reports.[119] Senator Edmund Muskie had even proposed a bill to create a government insurance scheme for brokerage firms similar to the Federal Deposit Insurance Corporation (FDIC) for banks. Until 1970, however, brokers had resisted this measure because, in addition to insurance, it provided for much tighter government regula-

[119] See U.S. Congress, House Subcommittee on Commerce and Finance of the Committee on Interstate and Foreign Commerce, *Securities Market Agencies* and *Problems in the Securities Industry*, both 91st Cong., 1st sess., 1969.

tion of their industry. An NYSE memo summed up their concerns, arguing that Muskie's insurance agency would impose "rules [that] would cut deep into the day-to-day ways in which firms conduct their business. They would be written and enforced by Federal civil servants, most of whom would have no practical understanding of the business. They would be complex and slow to change to meet evolving conditions."[120] Solidly opposed by the industry, Muskie's bill languished in committee.

During the spring of 1970, however, opinion in the industry began to shift. Liquidating the ten firms already known to be insolvent would probably exhaust the NYSE's special trust fund, and the records of many firms remained confused, promising unpleasant surprises for the future. Most important, however, was the issue of public confidence. Continuing failures could lead to a "run" on brokers by customers withdrawing securities. One study warned, "The public appears to lack confidence in street name registration as a substitute for the customer name certificate."[121] But if customers started demanding certificates for stock on deposit with brokers, they would exacerbate the back-office problems that Wall Street was still sorting out. To work, the Central Certificate Service and over-the-counter clearing both required that customers keep their securities on deposit with brokerage firms. Federal insurance seemed the best way to avoid a run and to provide a firm foundation for the new systems of OTC clearing and for transferring securities through the CCS.

In the spring and early summer of 1970, a committee drawing members from all the exchanges and the NASD devised its own plan for insurance, one that differed substantially from Muskie's. The senator's bill would create an entirely new government agency that, in addition to providing insurance, would regulate brokers. The industry proposed to create an independent, government-owned corporation, the Securities Investor Protection Corporation (SIPC), funded by a levy on securities transactions and backed by a $1 billion line of credit from the federal treasury. The new agency would have no regulatory functions and indeed little regular staff, operating instead through the SEC and the exchanges. This bill quickly became the basis of discussion. After some negotiation the industry won the support of the SEC and the Nixon administration, and their endorsements, along with the general

[120] "Synopsis of Federal Broker-Dealer Insurance Corporation Act," [1970], NYSE Archives, public relations, box 16, Member Firms: Failures—SIPC.

[121] Robbins et al., "Paper Crisis in the Securities Industry," 6.

air of crisis in the industry, carried along most congressmen and senators, who had little interest in the details of securities law. Moreover, most lawmakers apparently concluded that Muskie's bill, by creating an entirely new agency, would impose an unnecessary new layer of bureaucracy on the securities industry. It would be easier to plug any holes in regulation by strengthening the SEC.

Nevertheless, Congress still had to resolve two important issues. First, who would control the SIPC? The industry argued that because levies on its business would finance the organization its members should dominate the company's board. The initial proposal envisaged a twelve-member board, of whom ten would owe appointment to the various exchanges and the NASD, with the President appointing the other two.[122] Neither Congress nor the Nixon administration nor the SEC agreed with this reasoning. Federal sponsorship would provide the SIPC with its credibility, and the organization created a potential liability for taxpayers. The final bill entrusted the SIPC to a seven-member board, one each appointed by the Treasury secretary and the chairman of the Federal Reserve Board, with the President naming the rest, of whom three had to come from the securities industry.[123]

Second, Congress had to decide whether to strengthen federal regulation of brokers, and if so, by how much. Although the SIPC itself would have no regulatory functions, the bill creating it could grant the SEC new powers. Few in the industry wanted change, but the SEC, the administration, and Congress demanded greater accountability. They agreed with Senator Muskie when he told Robert Haack, "What you are proposing is a situation in which the Federal government will have little authority to avoid the catastrophe but would have the privilege of coming in when the catastrophe struck."[124] The final bill gave the SEC authority to set rules "with respect to the financial responsibility and related practices of brokers and dealers," that is, capital rules, over which its powers had heretofore been unclear.[125] The SEC subsequently used this authority to force the exchanges to tighten the rules for calculating net capital and to make audits more thorough.[126] The exchanges probably would have implemented these reforms on their own—the crisis of 1970 convinced almost everyone that the industry had to augment its capital—but Congress quite properly wanted guarantees.

[122] *Broker-Dealer Insurance*, 224–235.

[123] *New York Times*, 19 Dec. 1970, 1, 45.

[124] *Broker-Dealer Insurance*, 193–195.

[125] "Fact Sheet: Securities Investor Protection Act of 1970," [December 1970], NYSE Archives, press releases, box 25, 27 Oct.–23 Dec. 1970; *Wall Street Journal*, 17 June 1970, 2.

[126] *Wall Street Journal*, 24 May 1971, 3; 8 Nov. 1971, 2.

A third issue lurked in the background of the debate over the SIPC. Many feared that, once federal insurance was in place, the NYSE would simply walk away from troubled firms, throwing the expensive cleanup into the government's lap. Lawmakers were leery enough about taking responsibility for the future; they did not want to be saddled with the mistakes of the past. Robert Haack sought to assuage these fears in two open letters, written in July, stating that the NYSE itself would liquidate the ten firms it had judged insolvent.[127]

The collapse of three more small brokerages in August, however, brought this guarantee into doubt. Robinson & Co., First Devonshire, and Plohn & Co. all went under, much to the discomfit of the Exchange, which had not recognized the extent of their troubles until shortly before they had closed their doors. The NYSE refused to use its trust fund to protect the customers of these firms. It cited various excuses: Robinson & Co. had resigned its exchange seat five weeks before collapsing; the SEC, not the NYSE, had forced First Devonshire into bankruptcy; and supposedly Plohn & Co. could pay off its customers without outside help.[128] In fact, the decisive issue was probably the exhaustion of the New York Exchange's special trust fund. Whatever the cause, the announcement came as a shock because heretofore the Exchange had protected all the customers of bankrupt brokers. Eventually, the NYSE had to promise Congress that it would liquidate these three firms itself if the SIPC bill became law.[129]

After six months of wrangling, Congress finally passed the SIPC bill in December, and President Nixon signed it into law just a few days before the New Year. The measure insured the securities held by brokerage firms for clients at market value, up to $50,000, as well as cash deposits up to $20,000.[130] Within two weeks, the NYSE announced that it was adding $20 million to its Special Trust Fund to finance the liquidation of Robinson, Devonshire, and Plohn.[131]

[127] Haack to Hamer Budge, 14 July 1970, and Haack to Theodore H. Focht, 23 July 1970, reproduced in U.S. Congress, House Subcommittee on Commerce and Finance of the Committee on Interstate and Foreign Commerce, *Securities Investor Protection*, 91st Cong., 2nd sess., 1970, 330–331, 396–397.

[128] Brooks, *The Go-Go Years*, 324–325; *Business Week*, 3 Oct. 1970, 20–21.

[129] Press release, 17 Nov. 1970, NYSE Archives, press releases, box 25, 27 Oct.–23 Dec. 1970.

[130] *New York Times*, 19 Dec. 1970, 1, 45. The SIPC did not insure against market fluctuations, only against the failure of brokers. For instance, if a customer whose broker failed had 100 shares of IBM on deposit with that broker, the SIPC would guarantee that he would get back those shares (provided they were worth no more than $50,000). But the government would not compensate an investor for a decline in the value of IBM shares in the interim.

[131] *Wall Street Journal*, 17 Jan. 1971, 2. Most of this money came from a $15 million tax refund from the federal government, the product of losses suffered by the Exchange in liquidating failed firms. In a sense, therefore, the government did end up bailing out these three firms.

The creation of the SIPC completed a process that had been underway in the securities industry since at least the 1930s. Participants in financial markets must trust each other implicitly. Traditionally, social cohesion had provided the necessary confidence—stockbrokers had come from the same families, attended the same schools, and belonged to the same clubs. However, as the stock market grew in size and importance, this social homogeneity inevitably broke down. The regulations of the exchanges and the SEC sought to create an institutional basis of trust, in effect putting a "seal of approval" on brokers and securities. The SIPC took this process a step further, providing government guarantees for certain transactions.

Goodbody and Dupont

Although the SIPC offered guarantees for the future, the financial crisis had one act of its drama left, which would play out in New York, not Washington. In the fall of 1970, two of the country's largest brokerages houses, Goodbody & Co and F.I. Dupont & Co., were spiraling toward bankruptcy. Both suffered from severe back-office problems, operating losses, and the withdrawal of capital by partners.[132] Each had over 225,000 client accounts, and their sudden demise could well be catastrophic. The NYSE lacked the resources, financial and bureaucratic, to liquidate either firm in an orderly fashion, and the SIPC was not yet law, so the federal government would not take responsibility.

Goodbody demanded immediate attention. It had lost more than $20 million in capital over the summer of 1970 from investor withdrawals, operating deficits, and "differences" in its books that appeared as it slowly brought its records up to date. These knocked its total capital down to $40 million, far less than the 5 percent of assets required by the NYSE. Goodbody tried to secure outside investment, but the rising tide of red ink and complex legal questions as to what sort of firms outside the securities business could own companies within it scuttled the effort. The final blow came in October, when Goodbody's accountants announced that they had identified approximately $7.5 million in liabilities previously concealed by a glitch in Goodbody's computers.[133] On October 26, the NYSE ordered Goodbody to produce $15 million in

[132] For examples of the problems of both firms, see the following memos: from Haskins & Sells, 16 Dec. 1969; Charles Moran to Robert Bishop, 28 Feb. 1969; James King to Paul Chenet, 20 June 1970; M.A Speicher to Paul Chenet, 1 Dec. 1970; and information statement, 16 Oct 1970, all SEC, FOIA, in author's possession.

[133] Budge to Haack, 16 Oct. 1970, and Haack to Budge, 26 Oct. 1970.

ten days to put itself back into compliance with capital rules or face suspension, a step that would inevitably lead to liquidation. The Exchange did not want to force the issue but had no choice. Goodbody's losses were too great for creative accounting to offer a respite, and the Exchange could not let a firm that was certainly bankrupt operate indefinitely. Moreover, SEC officials were furious about the sudden discovery of the $7.5 million loss at the firm and were demanding action.[134]

The Crisis Committee immediately went to work, summoning the leaders of the largest member firms of the NYSE to a meeting. Although the committee held out several possible solutions to the crisis—splitting Goodbody up among other members, letting it collapse—only one course seemed realistic, given the need for immediate action: Goodbody had to merge with another firm capable of recapitalizing and reorganizing it. As a practical matter, only one company could do the job: Merrill Lynch.

Merrill drove a hard bargain. Although no doubt happy to get its hands on Goodbody's 225,000 customer accounts, Merrill knew that merging the operations of the smaller firm into its own would be a challenge. Goodbody's books were a mess, and Merrill had good reason to expect more than a few unpleasant surprises as it sorted them out. Moreover, Merrill's leadership no doubt recognized the strength of their negotiating position and intended to get the best deal possible. After talks with the Crisis Committee, the firm agreed to put $15 million into Goodbody immediately and to take it over entirely at year's end. The NYSE agreed to compensate Merrill up to $20 million for losses on Goodbody's books and up to $10 million for expenses arising out of any possible lawsuits. The merger went through as planned, but Merrill proved wise in demanding guarantees. In July 1971 it estimated that hidden losses on Goodbody's books totaled $24.3 million.[135] The NYSE had to make a special assessment on its membership to cover the expense, in a sense forcing them to subsidize the expansion of their strongest competitor.[136] Merrill had little reason to complain, however, having picked up the assets of a major brokerage firm for little more than the cost of capital.

Events at Dupont unfolded more slowly, but they too possessed drama and irony. Dupont had the same sort of problems as Goodbody—operating losses, chaotic books, and investor withdrawals—and

[134] Ibid.
[135] Nortman and Rashes, "Report on Goodbody & Co."
[136] *Wall Street Journal*, 27 July 1971, 2.

in the summer of 1970 it had merged with two smaller firms, Glore, Forgan, Staats, Inc., and Hirsch & Co. Unfortunately, the marriage had brought down the stronger partners rather than boosted up the weaker one. Nevertheless, in the fall of 1970 Dupont seemed in better shape than Goodbody. It had more capital and was under the control of a branch of the Wilmington, Delaware, Duponts, who dominated the Dupont chemical company and had very deep pockets. Dupont also had another possible source of funds: Ross Perot. The Texas millionaire's company, Electronic Data Services (EDS), had contracted to manage Dupont's data processing for $8 million a year, a lucrative deal that Perot hoped would lead to similar arrangements with other Wall Street firms. Accordingly, he had an interest in keeping Dupont going. In early November 1970, one of Dupont's partners asked Perot to invest $5 million in the firm, which he agreed to do.[137]

Perot quickly became the central figure in the effort to rescue Dupont. The Dupont family had immense resources, but most of its members had no direct interest in the firm, being at most passive investors. Few wanted to put money into what they considered a dubious enterprise, and, indeed, those who had invested wanted their money back. Over the winter of 1970–1971, investors in Dupont filed notice of their intention to pull $28 million out of the firm.[138] By the spring of 1971, calculations of the firm's capital deficit had increased to $40 million. Perot was the only person on hand with such resources, and the Crisis Committee concentrated its efforts on the Texan. Lasker took the lead, using his contacts within the administration. Perot was a vocal supporter of President Nixon, and Lasker got both the attorney general and the Treasury secretary to telephone Perot and urge him to help Dupont, if only to keep the country's financial system stable. It seemed to work. Perot later insisted, "I wanted to do this thing [bail out Dupont] in the national interest."[139]

Perot nevertheless wanted the best deal possible, and he demanded a controlling interest in Dupont. The Dupont family resisted this. They feared losing the money they had already invested and apparently disliked handing a firm that bore their name over to a man whom they considered an upstart. For his part, Perot demonstrated little patience with a group that he judged spoiled bluebloods. As in the case of Hayden, Stone, the Crisis Committee mediated, calling an emer-

[137] Louis, "Perot Moves," 90–93, 113–115.

[138] M.A. Speichder to Paul Chenet, 5 Jan. 1971; Thomas Thompson to Charles Rubin, 17 Feb. 1971, both SEC, FOIA, in author's possession.

[139] Louis, "Perot Moves," 90–93, 113–115.

gency meeting of the firm's investors in March 1971. There Robert Haack bluntly told them that, in light of Dupont's weak financial condition, "It is very unlikely that anybody's money will leave the firm." He concluded, "I would urge all of you to seriously consider the prospect of the deal and to weigh it against the frankly unhappy, unpalatable, but nonetheless inexorable fact that something is better than nothing."[140] The final agreement gave Perot control of the firm, while the Duponts received guarantees that, should Perot turn the brokerage around, they would receive stock in the company that would allow them to recoup their investments with interest. Perot would put $40 million into Dupont, and the NYSE promised to invest up to $15 million, if necessary, to bring Dupont's net asset-to-capital ratio up to a healthy ten to one.[141]

It looked like a great deal: Ross Perot got control of a leading brokerage firm at book price. True, the firm was troubled, to say the least, but Perot was confident that the management techniques that had made EDS a great success would turn Dupont around. He was wrong. Financially, Perot's resources were even greater than Merrill Lynch's—at the time he was worth as much as $500 million despite the sharp decline in EDS's stock—but he lacked Merrill's long experience in the securities industry, and it showed. After a string of disappointments, Perot put Dupont into bankruptcy in 1974, and he never saw his $40 million again. By that time, however, the SIPC was in place to protect the firm's customers.[142]

Conclusions: Wall Street Remade

In early 1971, an uneasy calm settled over Wall Street. For the first time in over a year, no major brokerage house seemed in danger of collapse, and transactions were going through without too much trouble. Was this merely a lull, or had the storm passed?

Wall Street soon answered the question. As the economy bottomed out in the summer of 1970, the stock market surged forward and trad-

[140] Minutes of special meeting, 17 March 1971, SEC, FOIA, in author's possession.

[141] Louis, "Perot Moves," 90–93, 113–115; NYSE memo to members and allied members, 3 May 1971, SEC, FOIA, in author's possession. Perot wanted Dupont on a sound financial footing when he took over and decided that it should have a ten-to-one capital ratio. If his $40 million was not enough, the NYSE agreed to put in up to $15 million to bring it to this point. Should increasing the firm's debt-to-capital ratio require more money, however, Perot would have to find it elsewhere.

[142] Todd Mason, *Perot: An Unauthorized Biography* (Homewood, Ill., 1990), provides a good account of Perot's adventures on Wall Street.

ing increased substantially. This naturally raised fears of a new record-keeping crisis. In September 1970, a *Wall Street Journal* headline proclaimed, "Back-Office Problems at Brokerage Houses Likely to Recur Soon."[143] By early 1971, volume on the New York Exchange was running ahead of 1968, and fails had increased substantially over late 1970, although they remained well below the 1968 level. The real test, however, came in late February when, because of the Lincoln's birthday holiday, securities markets had to settle two days' worth of trades simultaneously. The industry braced for the worst, yet as the *Wall Street Journal* put it, "Everyone expected a crisis yesterday, but it didn't occur."[144] In March, the heaviest trading month thus far in NYSE history, fails actually declined slightly.[145] The situation was still far from perfect, but it was clear that the securities industry had decisively brought its paperwork under control.

The crisis had exacted a terrible toll, however. In 1969 and 1970, over 100 member firms of the New York Stock Exchange, one sixth of the total, disappeared as a result of either mergers or liquidations. An undetermined but substantial number of firms outside the Exchange folded as well. Thousands working in the securities industry lost their jobs, careers, and fortunes in the conflagration. The stock market had seen nothing even remotely comparable since the Great Depression. Robert Haack did not exaggerate when, in early 1971, he wrote to the NYSE membership of "the trauma . . . to which every one of us has been subject during the period of crisis."[146]

The paperwork crisis was the chief culprit. The 1967–1968 boom in business, coupled with the 1969–1970 bust would have created trouble in the best of circumstances. The back-office problems turned the situation into a disaster, however, by depriving many firms of control over their records and costs. Almost every firm that went under suffered greatly from confusion in its back office. Robert Haack estimated that record-keeping problems accounted for 90 percent of the money spent by the NYSE to liquidate the ten firms that had failed by mid-1970, and chaos in their back offices precipitated the collapse of Hayden, Stone, Goodbody, and Dupont.[147]

Some observers extracted a moral from these events, blaming the crisis on Wall Street's ethical decay. Brokers were sloppy with their

[143] *Wall Street Journal*, 11 Sept. 1970, 1.
[144] Ibid., 23 Feb. 1971, 7.
[145] Ibid., 16 April 1971, 2.
[146] NYSE, "Annual Report, 1971," 2, NYSE Archives.
[147] SEC, *Unsafe and Unsound Practices*, 98.

business and careless about the welfare of their clients.[148] The truth was less exciting but perhaps more profound. Wall Street was neither more nor less virtuous in the late 1960s than at any other time over the previous two decades. Most brokers operated in ways that had served them, their customers, and the country well enough for generations. However, the explosion of business after 1965 changed the nature of the securities industry, and many of those in it did not react fast enough.

Growing volume altered the cost structure of the business. Only computers could handle the new level of transactions, but they were expensive. Some firms simply could not afford the machines. As one study noted, "The investment required of small firms to automate is prohibitive."[149] Perhaps just as important, computers created economies of scale. As a senior partner of one major firm noted, "None of these steps [computerization] reduced overhead. However, they did enormously increase ability to process and handle business."[150] In other words, computers cost the same whether busy or idle, so that the more transactions a firm processed, the lower its cost per transaction. This had not been the case with clerks.

Automation encouraged diversification. The brokerage business was quite volatile, and a computer system geared to handle heavy trading would have idle capacity in calmer times. This gave firms a strong incentive to develop new lines of business that could provide a more steady flow of transactions. Cultivating new sources of revenue was not easy, however. An auditor's report on Goodbody & Co., which during its last few months tried to diversify into underwriting and managing money for institutions, commended the effort but noted, "The successful development of any or all of these services requires considerable lead time and dollar investment."[151]

Automation and diversification demanded sophisticated management. A conscientious businessman could run a small brokerage effectively without cost accounting or management charts, but a firm with dozens of branches and active in several lines of business required more. Unfortunately, few brokerages had leadership equal to the chal-

[148] See Christopher Elias, *Fleecing the Lambs* (Chicago, 1971) and Hurd Baruch, *Wall Street: Security Risk* (Washington, 1971). Even Brooks's *The Go-Go Years*, a generally good history of Wall Street during the 1960s, offers a strange moral judgement on the back-office crisis, coupling discussion of the subject with an examination of increasing drug use by the staff of brokerage firms (chap. 8).

[149] Petruschell et al., "Reducing Costs of Incomplete Stock Transactions," 40.

[150] Account by Charles Moran of the Decline and Fall of F.I. Dupont.

[151] Ernst & Ernst to Goodbody & Co., 31 March 1970, SEC, FOIA, in author's possession.

lenge. Few on Wall Street devoted themselves to administration, and fewer still developed the sort of procedures necessary to guide really large organizations. As a result, even firms like Hayden, Stone, Goodbody, and Dupont, which had the resources to prosper in the new era, collapsed because their management failed to adapt. Without able leadership, size merely provided the opportunity for large mistakes.

The events of the late 1960s put the securities industry on a treadmill. To cope with rising volume, brokerage firms needed computers and professional management, which required substantial capital. Although brokerages needed a steady stream of transactions to pay for this investment, stock-market volume remained volatile. Fortunately, sophisticated computer and administrative systems allowed brokers to handle not only more business but also more *types* of business, permitting diversification. Firms that had specialized in brokerage moved into underwriting, while those that had concentrated on underwriting expanded into brokerage. Companies that had confined themselves to stocks and bonds started trading commodities, currencies, and options. Brokers that had emphasized selling to institutions started managing money for individuals, while those that had dealt chiefly with individual investors sought out institutional customers. Firms often developed entirely new lines of business, creating money-market funds and managing Individual Retirement Accounts (IRAs) and 401(k) retirement plans. Yet each expansion required further, heavy investment in automation and management as well as large infusions of capital, which in turn sent firms in search of even more business. To meet these demands, brokers merged and sold stock in themselves to the public. By the end of the century, publicly owned behemoths like Merrill Lynch, Goldman Sachs, and Morgan Stanley Dean Whitter dominated the securities industry, operating on a scale that dwarfed even the largest firms of the late 1960s. Meanwhile, the proliferation of financial services fueled the explosion of volume in securities markets, which, by the late 1990s, totaled fifty or one hundred times that of thirty years earlier.

Of course, in 1971 no one knew what the future held. Nevertheless, it was already clear that the paperwork crisis had changed the securities industry. It had hastened concentration among stockbrokers. Between 1968 and 1970, the number of NYSE members doing $20 million or more in commission business dropped from thirty-eight to twenty-four, largely because of mergers and liquidations.[152] The industry had also taken its first tentative steps toward allowing

[152] *Wall Street Journal*, 31 July 1969, 4; 15 Sept. 1971, 4.

public ownership of brokerage firms.[153] Finally, there was a new emphasis on management. As Robert Haack wrote in 1971, "The day of the casually managed brokerage firm is over. A tolerant and uninformed attitude toward inefficiency has no place in a securities business that has survived the recent flood and drought that followed in its wake."[154]

[153] By 1971, the NYSE allowed members to sell a minority stake to the public.
[154] NYSE, "Annual Report, 1971," 2.