The Babson Staff Letter

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The New York Stock Exchange – Part II

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Introduction

On the occasion of the New York Stock Exchange's decision to merge with Archipelago, an electronic-trading market rival, we decided to look at the NYSE itself to see how its changes reflect the evolution of the U.S. capital markets. In part 1 of this Staff Letter (June 10), we looked at the NYSE's early roots and development up through the Crash and Great Depression. Here we continue the tale up to the present day.

In the midst of the Great Depression and in the wake of the worst decline in the history of the U.S. equity market, Americans searched for new hope, which they found in Franklin Delano Roosevelt's pledge of a "New Deal" for the American people. Crippled by unemployment, stalled industrial production, and a shattered faith in capitalism, many worried that the U.S. would be lost to socialism or communism. Roosevelt was convinced that the country was suffering more from a lack of confidence than anything else, offering the now famous assertion in his inaugural address "that the only thing we have to fear is fear itself—nameless, unreasoning, unjustified terror which paralyzes needed efforts to convert retreat into advance."

Roosevelt also made it clear what his intentions were for the U.S. capital markets: "In our progress toward a resumption of work we require two safeguards against a return of the evils of the old order: there must be a strict supervision of all banking and credits and investments; there must be an end to speculation with other people's money, and there must be provision for an adequate but sound currency." The years that followed saw some of the most dramatic and important legislative and regulatory changes to the U.S. capital markets.

Two days after taking office on March 4, **1933**, Roosevelt declared a "bank holiday" in an immediate attempt to secure the banking system; in observance of the holiday the NYSE also closed. Shortly thereafter he got Congress to pass the Emergency Banking Act, which stabilized the banking system, and later that year, the 1933 Banking Act, which formed the Federal Deposit Insurance Corporation. Additionally, the U.S. economy moved off the gold standard. Confidence in U.S. capital markets improved and the Dow Jones Industrial Average advanced over 106% by July 1933.

The Securities Act of 1933, which also followed, is the foundation of our modern capital markets system. This act had two main components: first it required that investors receive financial and other significant information concerning securities being offered for public sale; and second, it prohibited deceit, misrepresentations, and other fraud in the sale of securities. (This is commonly referred to as the "truth in securities" law.) The NYSE also pushed for greater reporting standards of its listed companies by requiring the independent audit of financial statements. A year later, the Securities Exchange Act of **1934** was passed, and this established the Securities and Exchange Commission (SEC) which was empowered with far-reaching authority over the entire U.S. securities markets, including the NYSE. In October of that year, the NYSE became registered with the SEC as a national securities exchange.

Throughout the late 1930s, the NYSE continued to foster improved investor perception of capital markets by increasing transparency to the investing public and responsibility and accountability of its members. The Exchange amended its constitution to require all non-member general partners in member firms to become allied members of the Exchange, and therefore directly subject to its control and discipline. It also announced a 15-point program designed to provide additional protection to the public in its dealings with member firms and to enlarge the usefulness and serviceability of the Exchange.

The **1940s** saw some significant changes at the NYSE. In December 1941, following the bombing of Pearl Harbor and the U.S.'s subsequent entry into World War II, the NYSE suspended dealings in all enemy securities. In 1943, the "men-only" standard was broken and women began working on the trading floor of the Exchange. During this period, the DJIA drifted down, hitting a wartime low of $92.92 in April 1942, but then rallied nearly 130% to a high of $212.28 by 1946.

U.S. capital markets experienced unmatched robust growth starting in 1949, which resulted in the longest bull market then on record. Fueled by improved public sentiment and investment, U.S. equity values appreciated without a significant pullback for the next eight years.

Post-War Boom—A Golden Era

Continued public investment in the stock market throughout the **1950s** helped propel the bull market. A census conducted by the NYSE found that nearly 6.5 million Americans owned common stock and in an ongoing effort to meet demand the NYSE extended trading hours to 3:30pm. On October 10, 1953 the NYSE saw its last trading day with volume less than one million shares. The Exchange also launched the Monthly Investment Plan (MIP), which allowed individuals to invest as little as $40 per month in the stock market through accounts at member firms. In a further attempt to educate and increase participation by the investing public the NYSE also launched the "Own Your Share of American Business" educational and marketing program. The DJIA finally surpassed its 1929 peak of $381.17 in November 1954.

In 1957, with the ever-increasing demand on NYSE infrastructure, the Exchange commissioned a study regarding the possibility of automating the trading floor. The Ebasco Service Report included suggestions for automating transaction reporting and improved stock clearing and quotation services.

The **1960s** proved to be a trying time not only for the United States, but also for its capital markets. The Bay of Pigs, the Cuban Missile Crisis, the assassinations of JFK and Dr. Martin Luther King, the Vietnam War, the Civil Rights Act of 1964, and the lunar landing are just a few of the dramatic events of the decade. The DJIA experienced a number of significant sell-offs during the period, but managed to close the decade up nearly 18%. More technological advancements for the NYSE followed the innovation of the 1950s. In 1964, a new 900-character-per-minute ticker was put into use, followed by a fully-automated quotation service in 1965. Further improvement followed with the automation of the transmission of trade and quote data from the floor in 1966. Radio paging was introduced and fully replaced the annunciator boards within a few years.

In 1968, driven by ever-increasing volume, the Exchange's financial systems became overburdened by a "paperwork crisis" as member firms became bogged down trying to process transactions on time. On June 13,1968, volume hit a single-day record of nearly 21.4 million shares traded. In just 15 years, daily volume on the NYSE had increased 20-fold. Driven by growth and necessity, the Central Certificate Service (CCS) was created to address the need for automation. This service provided for the electronic transfer of securities which eliminated their physical handling for settlement [five years later it became today's Depository Trust Company (DTC)].

On April 9, **1970**, public ownership of NYSE member firms was approved and Donaldson, Lufkin & Jenrette became the first member firm to go public. Less than a year later, the NYSE incorporated as a "not-for-profit" organization. To further automation efforts, the NYSE, in a joint venture with the American Stock Exchange, formed the Securities Industry Automation Corporation (SIAC) in **1972**. SIAC provides automation and data processing services and is still in use today.

The "Go-Go" Years Go; Stagflation, Automation, and Technology Come

In 1972, at the end of what was known as the "go-go" years, the market closed above 1,000 for the first time. Throughout a period that glorified "performance investing" and gave us the "nifty fifty" stocks (securities commonly referred to as "one decision" stocks, that the theory went should be bought and never sold: Coca-Cola and IBM, for example), the DJIA had flirted with but not been able to break the psychologically important 1,000 level.

The NYSE, meanwhile, remained concerned with enhancing corporate governance, around this time issuing a white paper on corporate disclosure that recommended a minimum of three outside directors and an audit committee composed solely of public directors be established for all listed firms. Additionally, in a dramatic structural change the NYSE replaced its 33-member Board of Governors with a 21-member Board of Directors (10 of whom were public members) and hired its first full-time salaried chairman.

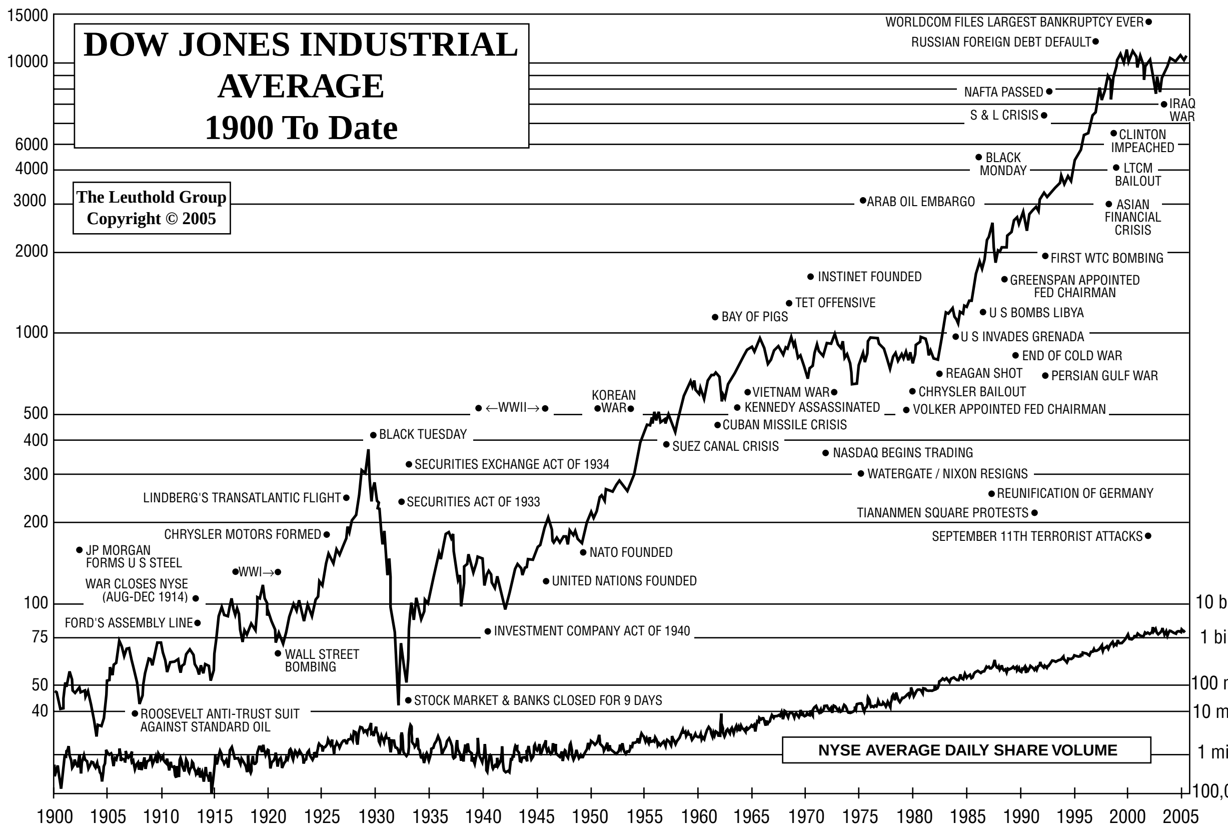
April 30, **1975** saw one of the most significant developments of the decade, and perhaps the 20th century in terms of Wall Street's shape and structure, when the SEC abolished fixed minimum trading commission rates. This opened the door for competitive pricing in the U.S. securities markets and changed Wall Street forever.

The markets themselves found the '70s a turbulent decade. The U.S. economy was already showing the strains of financing the Vietnam War and significant new domestic programs when it was dealt a crushing blow from the OPEC oil embargo. The resulting fourfold jump in the price of oil roiled the economy and the U.S. experienced stagflation—inflation coupled with recession. The DJIA slid significantly from late-1973 through 1974, down 45% at its low of $577.60 in December 1974. U.S. capital markets recovered in **1976**, only to pull back again as slow growth, unemployment, and high inflation continued to grip the country.

Although the U.S. economy was reeling, the NYSE continued to push forward with significant improvements on the trading floor. The first consolidated tape was introduced in 1975, using new high-speed data lines to help provide ever more market transparency. This technology made it possible to introduce the Designated Order Turnaround (DOT) System in 1976, which allowed NYSE members to route market orders directly to a specialist, who represents the order—eliminating the need for a floor broker in some instances. The new Intermarket Trading System (ITS) improved on this two years later. The ITS computer network connected the six major listed exchanges (American, Boston, Midwest, New York, Pacific, and Philadelphia), allowing them to contact each other to execute orders.

In **1979**, the NYSE formalized a major upgrade and modernization program of its trading floor to further utilize advances in technology. In addition, the NYSE also continued its work to improve corporate governance by requiring listed companies to establish independent audit committees on their boards. Also, the NYSE established the New York Futures Exchange, which started trading in 1980.

On October 10, 1979, the NYSE saw single day trading volume exceed 81 million shares, which dwarfed records set less than five years earlier. And come February **1980**, the total market value of all shares listed on the NYSE exceeded $1 trillion.



A New Golden Age, Volume Soars

The NYSE and the other exchanges that originally formed ITS looked to increase its usage by setting up additional linkages with the National Association of Securities Dealers (NASD). Volumes continued to increase and in August **1982** the exchange traded over 100 million shares for the first time. As the Federal Reserve began to break the back of inflation, the U.S. economy started to pull itself out of recession and recover. This year marked the dawn of a roughly two-decade-long secular bull market and a golden age for stocks. Less than two years later volumes would reach a staggering 236 million shares.

In **1984**, SuperDot was launched and expanded the order entry capability to NYSE members' and member organizations' institutional customers. This anonymous system was the first direct electronic trading venue made available to institutional investors. Continued demand and volumes prompted the NYSE to expand trading hours further, from 9:30am to 4pm, hours still in effect today. The NYSE also started a pilot program for trading options on two listed and two OTC stocks, while the NYFE began trading futures contracts on the Commodity Research Bureau (CRB) Index.

In **1985** and **1986**, NYSE volume increased on average 20%-30% from the previous year and the DJIA increased 23%-29%. From a low of 776.92 in mid-1982, the DJIA surged a remarkable 250% to a high of 2,722.42 on August 25, **1987**. On September 21, 1987, a NYSE seat traded for $1,150,000, the highest price ever paid and an amount nearly twice the preceding record, which occurred 58 years earlier. Driven by public perception, impressive returns, mergers, and feverish hostile takeovers, the market advanced well beyond expectations.

Black Monday—The Century's Second Major Crash

On October 19, 1987, the U.S. bull market came to an abrupt halt. After surging 44% from the beginning of the year, the DJIA collapsed and lost 508 points in one day, the largest single-day loss in history: Black Monday. The decline resulted in the loss of over 22%, or $500 billion—over 604 million shares traded hands. The SEC's probe into insider trading, a rapid increase in short-term interest rates by the Fed to quell inflation fears, the usage of derivatives-based portfolio insurance by institutional investors, program trading, and panic selling contributed to the crash. As a result, nearly 15,000 jobs were lost on Wall Street.

Yet for all its carnage, the effects of Black Monday were nothing like those seen in 1929. Within two days, the DJIA rallied 288 points, and just two short years later the market would fully recover and surpass the high set in August 1987. However the crash revealed shortcomings in a now much larger market that had been masked by its very growth.

In October **1988**, the SEC approved a series of initiatives by the NYSE and the Chicago Mercantile Exchange to coordinate procedures between equities and futures markets to control extreme price movements and better monitor market activity. These included circuit breakers, a joint effort against front-running, inter-exchange communications, and shared audit trail and surveillance information. The SEC also moved to increase the protection of shareholders rights by prohibiting the disenfranchisement of existing common shareholders. The Exchange began requiring member firms to submit daily reports of their program trading activity and formed a blue-ribbon panel to study market volatility and investor confidence.

Expansion continued at the NYSE, as another 7,000 square feet was added to the trading floor. In an effort to assist European companies in gaining access to U.S. capital markets and a listing on the Exchange, the NYSE opened a London office. The Exchange Stock Portfolio was introduced in **1989**, the predecessor to the modern day Exchange Traded Fund (ETF), which enabled the trading of a standardized basket of stocks in a single execution.

The **1990s** would prove to be an even more exciting and prosperous decade for the NYSE and U.S. stock markets. When the period began, over 51 million Americans owned stock according to an NYSE census, a number destined to grow. In an effort to meet investors' ever increasing demands, the NYSE established its first off-hours trading sessions. The Exchange also participated in an industry-wide test designed to demonstrate the system's ability to handle volume in excess of 800 million shares per day. In 1992, average daily volume broke the 200 million share mark.

Technology, Technology, Technology

In 1993, the Integrated Technology Plan (ITP) was established to upgrade trading floor networks, hardware, and software in order to enhance the quality, capacity, efficiency, and productivity of virtually every aspect of trading floor operations. System capacity was increased to handle trading in excess of one billion shares daily.

As part of ITP, the NYSE launched an aggressive plan to re-engineer the trading floor to make use of the most sophisticated technology available. Handheld terminals, fiber optics, cellular communications, and the first large-scale application of high-definition flat-screen technology were installed to speed market information and strengthen trading floor professionals' ability to manage orders. Playing to a steadily growing public appetite for stock information, the Exchange began in 1996 to supply real time stock tickers to cable TV outlets CNBC and CNN-FN.

The U.S. market continued to rally throughout the 1990s. From its decade low of 2,365.10 the market soared over 386% to a high of 11,497.12 on December 31, 1999. It took 76 years for the DJIA to break the 1,000 mark, it took 14 years more for it to break the 2,000 mark, it took 4 years each to break the 3,000 and 4,000 mark, but it took only a little over 4 years for the DJIA to break the 11,000 mark.

The NYSE and the U.S. capital markets hit some milestones themselves throughout the 1990s. In June 1997, stocks began trading in sixteenths instead of eighths in an interim step towards quoting stock prices in decimals. The new circuit breaker rule first went into effect to halt trading when the DJIA dropped 554 points on October 27, 1997. The next day the exchange would trade over 1.2 billion shares, the first time volume surpassed 1 billion shares. Come August 1999 a NYSE seat sold for $2.65 million, a new record.

Throughout the 1990s the Exchange invested more than $2 billion in technology, in part to give officials tools to observe any unusual activity or potential problems and address and correct them before they affected the market as well as to deal with "Y2K" issues. As a result, system stability was significantly improved and there were no major glitches when January 1, **2000** arrived.

The new millennium marked the end of nearly nine years of continued expansion and the longest economic boom in U.S. history, but had its own surprises and changes in store for investors.

Corporate governance became the major issue in early 2000, with accounting scandals bringing down a number of high-flying firms, including Enron, Global Crossing, Worldcom, HealthSouth, and Tyco. There was a dramatic decrease in the American public's confidence in corporate America. In an attempt to improve public perception, the NYSE implemented new standards designed to strengthen corporate governance and enhance investor protection.

Looking to shed one of its more anachronistic practices, the NYSE fully migrated to decimal pricing on January 29, **2001**, marking the end of nearly 200 years of trading in fractions. The Exchange also opened a new trading room at 30 Broad Street, expanding the NYSE trading floor by 8,000 square feet. In an ever-increasing effort to meet the demands of its member firms, the NYSE launched Direct+. This fully electronic connection to the point of sale, enables orders requiring speedy execution to be immediately filled against the published NYSE quote for up to 1,099 shares.

Trading volumes continued to grow apace, and the 2 billion share-per-day mark was surpassed on January 4, 2001. Later that year the NYSE would begin trading in three actively traded Exchange Traded Funds (ETFs).

With the Internet Bubble already burst, U.S. capital markets were upended by the September 11, 2001, terrorist attack on New York's World Trade Center. As a result, the NYSE closed for four days, its longest closure since 1933. On September 17th the Exchange reopened and experienced another record volume day with over 2.8 billion shares traded as the DJIA fell over 7% to 8,920.70.

New Governance & Regulation; Plans for a Hybrid Market

In late December **2003**, the NYSE concluded a far-reaching reorganization of its own corporate governance, ensuring greater transparency and independence of NYSE board members. Its new structure features a fully independent Board of Directors, a Board of Executives composed of constituent representatives to advise on the NYSE marketplace issues, an autonomous Chief Regulatory Officer, and separation of CEO and Chairman roles.

The Exchange also unveiled an innovative plan to transform itself from a strict auction market to a new hybrid trading forum. The Hybrid Market would combine the best qualities of the traditional NYSE

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auction marketplace and that of an electronic forum such as the NASDAQ. The move intended to give the Exchange a distinct competitive advantage over its rival exchanges.

The new structure, scheduled for release late this year, will allow investors to choose how their orders are executed. If speed, certainty, and anonymity of execution are desired then the NYSE's automatic execution service would be used. However, if the opportunity for price improvement is more important, the traditional auction process would be utilized.

The SEC is planning sweeping changes, too. On April 6, **2005**, it approved Regulation NMS (Reg NMS), one of the most significant regulations passed since FDR. Reg NMS includes a redesign of the national market system rules previously adopted under the Securities Exchange Act of 1934. It defines substantive new rules designed to modernize and strengthen the regulatory structure of U.S. equity markets.

The "Trade-Through Rule" would eliminate the execution of trades at prices inferior to protected quotations displayed by other trading centers, essentially linking all markets. The "Access Rule" would require fair and non-discriminatory access to quotations, establish a limit on access fees to harmonize the pricing of quotations across different trading centers, and eliminate otherwise discriminatory price quote display practices.

The "Sub-Penny Rule" would prohibit pricing increments smaller than a penny, except for issues priced at less than $1.00 per share. Finally, amendments to the "Market Data Rules" would update the requirements for consolidating, distributing, and displaying market information.

Just two weeks after the passage of Reg NMS, the NYSE made the most dramatic move in its 200-plus year history when officials announced they had agreed to merge with the Archipelago Exchange, a publicly traded, electronic-based exchange. The result will be the creation of the NYSE Group, Inc. and the debut of the Exchange itself as publicly traded company.

The transaction, if approved, would be the largest-ever among securities exchanges. The merger is intended to create a multi-product, diversified, for-profit public company able to compete globally with other major exchanges, specifically the Euronext and the Deutsche Borse. It also provides the new entity with stock to use as currency in future acquisitions.

In 1792, the 24 original founders could have hardly imagined their simple agreement would lead to today's New York Stock Exchange with its daily trading volume of more than one billion shares. From its humble beginnings it has grown into the world's premier financial market, unmatched in size and scope by any of its competitors. Along the way, the Exchange has continued to foster advancement in technology, corporate governance and capital formation.

Wall Street itself is now gripped in the throes of increasing regulatory scrutiny, payback for the excesses of the market bubble, which is only exacerbating competitive pressures. The Exchange has not escaped these pressures and faces its own requirement to stay relevant as a system based on human interaction, especially as technology continues to drive down the cost and increase the efficiency and transparency of electronic mediums of exchange.

Throughout its history as both it and the capital markets it serves have evolved, the Exchange has moved to improve the speed of trading execution, more directly connect exchange participants, and improve market transparency by increasing and broadening the flow of information. If it continues that formula, the NYSE is sure to continue its strong traditions well into the future.

Note: Main sources of historical information include: Bloomberg, Dow Jones & Co., Encyclopedia Britannica Online, the New York Stock Exchange, and Wikipedia.org.

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