

# THE DYNAMICS OF STOCK MARKET DEVELOPMENT IN THE UNITED STATES OF AMERICA

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## Abstract

This paper highlights the origin and development of the stock market in the United States of America. The country consists of several stock exchanges, with the three largest being the NYSE Euronext (NYX), National Association of Securities Dealers Automated Quotation (NASDAQ), and the Chicago Stock Exchange. Stock market reforms have been implemented since the stock market crash of 1929; and the exchanges responded positively to some of these reforms, but not so positively to some of the reforms. As a result of the reforms, the U.S. stock market has developed in terms of market capitalisation, the total value of stocks traded, and the turnover ratio. Although the U.S. stock market has developed over the years, its market still faces wide-ranging challenges.

**Keywords:** United States of America, New York Stock Exchange Euronext, NASDAQ, Stock Market, Reforms

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## 1 Introduction

Stock market development is an important component of financial sector development, and it supplements the role of the banking system in economic development. Specifically, stock markets assist in price discovery, liquidity provision, reduction in transactions costs, and risk transfer. They reduce information costs through the generation and dissemination of information on firms – thereby, leading to efficient markets, in which prices incorporate all the available information (Yartey and Adjasi, 2007).

Stock markets have demonstrated their ability to lower the cost of mobilising savings, thereby facilitating investments into the most productive technologies (Greenwood and Smith, 1996). Obstfeld (1994) showed that international risk-sharing through internationally integrated stock markets improves resource allocation and accelerates growth. Bencivenga *et al.* (1996) and Levine (1991) argued that stock market liquidity plays a key role in economic growth. This notion is further supported by Yartey and Adjasi (2007) and Levine and Zevros (1998), who argued that, in general, stock markets provide market liquidity that facilitates the implementation of long-term projects with long-term payoffs, thereby promoting a country's economic growth.

Moreover, they further argued, efficient stock markets not only render resources available to

investors, but they also facilitate the inflow of foreign financial resources into the domestic economy; and they promote risky, entrepreneurial investments through their risk-sharing and monitoring functions. Even the most recent studies have confirmed the vital role that stock markets play in economic development (Bolbol *et al.*, 2005; Odhiambo, 2011). The role of the stock market in the development of an economy can, therefore, not be overemphasised.

The U.S. stock market is one of the most highly developed stock markets in the world. There are several stock exchanges in the U.S., with the NYSE Euronext, National Association of Securities Dealers Automated Quotation (NASDAQ); and the Chicago Stock Exchange being the major ones.

The U.S. stock market plays an important role in the process of economic development in the U.S. through various ways. These include the mobilisation of domestic savings to bring about the reallocation of financial resources from dormant to active agents, and the enhancement of the inflow of international capital. The development of the U.S. economy, as in some other developed countries, is largely driven by the market-based segment, despite the presence of a well-developed and sophisticated banking sector in the country.

Given the importance of the stock market in the economic growth process of the U.S., and the impact such a market has globally, this area needs constant update in terms of research. Although considerable work has been done on selected issues of the stock

market (see Gu and Finnerty, 2002; Lo, 2004; Ito and Sugiyama, 2009; Chung et al., 2012), further work needs to be done to bring out the full picture of the country's stock market. This paper, therefore, aims to put the U.S. stock market in the spotlight, by highlighting the origin and growth of the stock market in the U.S. – since the establishment of the current New York Stock Exchange Euronext in 1817 – through to 2011.

The rest of this paper is organised as follows: Section 2 covers the origin of the U.S. stock market. Section 3 outlines the reforms implemented to revitalise the stock market; while section 4 tracks the growth of the U.S. stock market, in response to these reforms. Section 5 highlights the challenges facing stock-market development in the U.S. This is followed by the concluding section.

## **2 The Origin of the Stock Market in the United States of America**

In the U.S., the history of stock market activities dates back to as early as 1792, when an agreement that established the rules for buying and selling bonds and shares of companies was signed by 24 stockbrokers. Nevertheless, the first U.S. stock exchange was inaugurated in 1817, the current New York Stock Exchange, Euronext (NYSE:NYX/NYSE Euronext). The U.S. had several stock exchanges, some of which gradually acquired one another and/or merged over the years to form three big stock exchanges (NYSE:NYX, 2012; NASDAQ OMX, 2012; Chicago Stock Exchange, 2012). – the biggest one being the NYSE Euronext; followed by the NASDAQ OMX; then followed by the Chicago Stock Exchange (CHX) (World Stock Exchanges, 2011).

Although these three are the most visible stock exchanges in the U.S., there are other exchanges that specialise in other financial instruments, rather than stocks. These include: i) The Chicago Mercantile Exchange (CME); the International Securities Exchange (ISE); the Boston Options Exchange (BOX); and the Chicago Board Options Exchange (CBOE). In the history of the U.S. stock market, there were some stock exchanges that did not make it to today. These included: The U.S. Futures Exchange and the Boston Equities Exchange. Below is a detailed account of the origin and expansion of the three major stock exchanges in the U.S.

### **2.1 New York Stock Exchange Euronext (NYSE:NYX)**

There are three major stock exchanges in the U.S. The biggest of them all, and the world's largest equities platform is the New York Stock Exchange, Euronext, Inc. (NYSE:NYX). The aggregate market capital of its listed issuers is greater than that of issuers listed on the next four largest exchanges combined (New York Stock Exchange Euronext “NYSE:NYX, 2012).

NYSE: NYX is a Euro-American multinational financial services corporation, (with headquarters in New York, USA and Paris, France). It operates multiple security exchanges, most notably the New York Stock Exchange, the world's largest cash equities market; NYSE Euronext; the Eurozone's largest cash equities market; NYSE Arca (formerly known as ArcaEx); a fully electronic exchange for growth-oriented enterprises; and NYSE, Alternext, a pan-European market designed specifically for emerging companies.

With more than 8,000 listed issues (which include 90% of the Dow Jones Industrial Average and 80% of the S&P 500), trading on NYSE: NYX's equity markets represent more than one-third of the world's cash equities volume. The company also manages the leading European derivatives exchange by value of trading (NYSE:NYX, 2012).

NYSE:NYX has its origin from the Buttonwood Agreement that was signed on 17 May 1792 by a group of 24 stockbrokers that gathered outside 68 Wall Street under a buttonwood tree. That agreement established the rules for buying and selling the bonds and shares of companies. The signers of the Buttonwood Agreement drafted their first constitution on 8 March 1817, and named their nascent organisation the New York Stock & Exchange Board (NYSE:NYX, 2012).

In 1863, this name was shortened to its modern form, the New York Stock Exchange, which became known as the NYSE, one of the best-known financial industry brands in the world (NYSE:NYX, 2012). Membership on the NYSE has been held as a valuable property since 1868. Until the NYSE went both electronic and public in April 2006, the exchange was a membership-only organisation.

Merging with the already publicly-traded Archipelago electronic stock exchange on 7 May 2006, the new company was called the NYSE Group, Inc., and the seats of the NYSE translated into the shares of stock, which are now traded under the ticker symbol NYSE: NYX. On April 4, 2007, NYSE Group, Inc. merged with Euronext N.V. to form the first global equities exchange, called the New York Stock Exchange Euronext, with its headquarters in Lower Manhattan, New York City.

The historic combination of NYSE Group and Euronext in 2007 marked a milestone for global financial markets. It brought together major marketplaces across Europe and the United States, whose histories stretch back more than four centuries. The combination was by far the largest of its kind, and the first to create a truly global marketplace group (NYSE:NYX, 2012). In 2008, NYSE Euronext welcomed the historic American Stock Exchange (AMEX) into the world's largest and most liquid exchange group.

Other NYSE Euronext New York Exchanges are: NYSE Arca, NYSE Amex and ArcaEdge. NYSE Arca is a fully electronic stock exchange, trading more than

8,000 exchange-listed (Nasdaq included) equity securities. NYSE Amex, with more than 550 listed companies, as at the end of 2010, is positioned to be the premier market for the listing and trading of small- and micro-cap companies. ArcaEdge is a fast, efficient and fair platform to trade over-the-counter (OTC) stocks; and it offers best-price executions, based on liquidity, transparency, speed and anonymity. (NYSE:NYX, 2012).

Through the NYSE Technologies, the commercial technology division of NYSE Euronext, NYSE Euronext has always kept pace with members' and investors' need for trading space and the latest developments in technology.

## **2.2 The NASDAQ OMX Group, Inc. (NASDAQ: NDAQ)**

The NASDAQ OMX Group, Inc. (NASDAQ: NDAQ) is an American multinational financial services corporation that owns and operates the NASDAQ stock market in the U.S. It is headquartered in New York City. In Europe, NASDAQ OMX Group, Inc. owns and operates exchanges in Stockholm (Sweden), Copenhagen (Denmark), Helsinki (Finland), and Iceland as NASDAQ OMX Nordic, and exchanges in Tallinn (Estonia), Riga (Latvia) and Vilnius (Lithuania) as NASDAQ OMX Baltic.

In addition, it operates NASDAQ OMX Europe, a marketplace for pan-European blue-chip trading based in the United Kingdom, and NASDAQ OMX Commodities, an offering for trading and clearing commodities based in Norway. In some of the countries where NASDAQ OMX Group, Inc. operates exchanges, it also provides clearing, settlement and depository services (NASDAQ OMX, 2012).

The National Association of Securities Dealers Automated Quotation (NASDAQ) was founded in 1971 as a wholly-owned subsidiary of the Financial Industry Regulatory Authority (FINRA) (then known as the National Association of Securities Dealers, Inc. - NASD). Beginning in 2000, FINRA restructured and broadened ownership in NASDAQ by selling shares to FINRA members, investment companies and issuers listed on the NASDAQ Stock Market. In connection with this restructuring, NASDAQ applied to the U.S. Securities Exchange Commission (SEC) to register the NASDAQ Stock Market as a national securities exchange.

FINRA fully divested its ownership of NASDAQ in 2006, and the NASDAQ Stock Market became fully operational as an independent registered national securities exchange in 2007. In 2006, NASDAQ also re-organised its operations into a holding company structure. As a result, the NASDAQ exchange licenses and exchange and broker-dealer operations are held by the NASDAQ subsidiaries (NASDAQ OMX, 2012).

In 2006, NASDAQ completed its separation from the NASD and began to operate as a national securities exchange. In 2007, NASDAQ combined

with the Scandinavian exchange group, OMX, and officially became the NASDAQ OMX Group, further demonstrating commitment to technology and innovation across global markets. In the same year, NASDAQ OMX acquired the Boston Stock Exchange (NASDAQ OMX, 2012). In 2008, NASDAQ OMX acquired: i) The Philadelphia Stock Exchange; ii) the Philadelphia Board of Trade, known today as NASDAQ OMX Futures Exchange; and iii) the Chicago-based Bloom Partners, a leading market intelligence firm.

In the same year, it also created NASDAQ Last Sale, the first U.S. stock exchange to facilitate free, universal access to real-time stock data (NASDAQ OMX, 2012).

In 2010, NASDAQ OMX acquired SMARTS Group, the world-leading technology provider of market surveillance solutions to exchanges, regulators and brokers. It also acquired FTEN, a leading provider of Real-Time Risk Management solutions for the financial securities market – thereby enabling broker-dealers and their clients to manage risk and to improve the investment process (NASDAQ OMX, 2012).

Today, the NASDAQ OMX Group owns and operates 24 markets, three clearing houses, and five central security depositories, spanning six continents. Eighteen of the 24 markets trade equities. The other six trade options, derivatives, fixed income, and commodities. NASDAQ OMX is a public company listed on the NASDAQ Global Select Market (NDAQ) and part of the S&P 500 since 2008 (NASDAQ OMX, 2012).

## **2.3 The Chicago Stock Exchange (CHX)**

The Chicago Stock Exchange (CHX) is a stock exchange in Chicago, Illinois, U.S. The exchange is a national securities exchange and a self-regulated organisation, which operates under the oversight of the U.S. Securities and Exchange Commission. The Chicago Stock Exchange is the third most active stock exchange in the United States by volume, and the largest outside New York City (Chicago Stock Exchange, 2012).

The Chicago Stock Exchange was founded in a formal meeting on March 21, 1882. In April that year, a lease was taken out at 115 Dearborn Street for the location of the exchange; and during that month, 749 memberships were sold. In July 1914, the Exchange closed, as a result of World War I, and remained closed until 11 December 1914. On 26 April 1920, the Chicago Stock Exchange Stock Clearing Corporation was established. On October 29, 1929, the stock market crashed, resulting in a very difficult period for the Chicago Stock Exchange and the stock market in general (Chicago Stock Exchange, 2012).

In 1949, the CHX merged with the exchanges of St. Louis, Cleveland and Minneapolis/St. Paul to form the Midwest Stock Exchange. Ten years later (1959), the New Orleans Stock Exchange became part of the

Midwest Stock Exchange; and in the early 1960s, the Midwest Stock Exchange Service Corporation was established to provide centralised accounting for member firms (Chicago Stock Exchange, 2012).

On 11 May 1973, the Midwest Securities Trust Company (MSTC) was established to provide a central depository for securities certificates and to electronically record the transfers of stock ownership. Having made several technological advancements to improve trading in the 1980s, the Chicago Stock Exchange launched the MAX system, which allowed it to be one of the first stock exchanges to provide fully automated order execution.

In 1987, the CHX implemented programmes to trade NASDAQ securities (Chicago Stock Exchange, 2012). In the 1990s, the Exchange had a rebirth; and in 1993, it changed its name back to the Chicago Stock Exchange (after being the Midwest Stock Exchange).

All the stock exchanges in the U.S. are regulated by the U.S. Securities and Exchange Commission, the SEC. The SEC has its origins in the Securities Act of 1933, passed after the Great Crash of 1929, which provided full disclosure to investors to prohibit fraud in connection with the sale of securities. A year later, the Securities Exchange Act of 1934 was enacted, which regulated securities trading, and established the SEC with a mission to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation (U.S. SEC, 2012).

It is the responsibility of the SEC: To interpret federal securities laws; to issue new rules and amend existing rules; to oversee the inspection of securities firms, brokers, investment advisers, and ratings agencies; to oversee private regulatory organisations in the securities, accounting, and auditing fields; and to coordinate U.S. securities regulation with federal, state, and foreign authorities (U.S. SEC, 2012).

Although it is the primary overseer and regulator of the U.S. securities markets, the SEC works closely with many other institutions, including: i) The Congress; ii) other federal departments and agencies; iii) the self-regulatory organisations, such as the stock exchanges; iv) state securities regulators; and v) various private sector organisations (U.S. SEC, 2012).

### **3 Stock Market Reforms in the United States of America**

In the aftermath of the stock market crash of 1929 and during the ensuing Great Depression, the U.S. saw the need for reforming its stock market. As part of the stock market reform process, the Securities Act of 1933 was passed. The Act, often referred to as the "truth in securities" law, had two basic objectives: i) To require that investors receive financial and other significant information concerning securities being offered for public sale; and ii) to prohibit deceit, misrepresentations, and other fraud in the sale of securities.

The Act was the first major federal legislation to regulate the offer and sale of securities.

In 1934, the Securities Exchange Act of 1934 was enacted. With this Act, Congress created the SEC. The Act empowers the SEC with broad authority over all aspects of the securities industry. This includes the power to register, regulate, and oversee brokerage firms, transfer agents, and clearing agencies, as well as the nation's securities self-regulatory organisations (SROs). The various securities exchanges, such as the New York Stock Exchange and the NASDAQ Stock Market are SROs.

The Act also identifies and prohibits certain types of conduct in the markets; and it provides the SEC with disciplinary powers over regulated entities and persons associated with them. The Act also empowers the SEC to require periodic reporting of information by companies with publicly traded securities.

In 1940, the Investment Company Act was passed. This Act regulates the organisation of companies, including mutual funds, that engage primarily in investing, reinvesting, and trading in securities, and whose own securities are offered to the investing public. The focus of this Act was on disclosure, to the investing public, of information about the fund and its investment objectives, as well as on investment company structure and operations. However, the Act does not permit the SEC to directly supervise the investment decisions or activities of these companies, or to judge the merits of their investments.

In 1977, the Foreign Corrupt Practices Act (FCPA) was enacted, generally prohibiting the payment of bribes to foreign officials to assist in obtaining or retaining business. FCPA enforcement continues to be a high priority area for the SEC's enforcement programme. From 2009 to 2012, the SEC has recorded a total of 51 enforcement actions against FCPA violators (U.S. SEC, 2012).

In the same year, in order to facilitate the establishment of a national system for the clearance and settlement of transactions in equities and securities under section 17A of the Securities and Exchange Act of 1934, the SEC adopted rules applicable to transfer agents. The rules were intended: i) To assure that registered transfer agents perform functions in a prompt and secure manner; ii) to provide early warning of inadequate transfer agent performance; iii) to apply limitations on the expansion of transfer agent activities when transfer agents are unable to meet the performance time standards; iv) to assure prompt response to enquiries concerning the status of items presented for transfer; and v) to require the maintenance and preservation of certain records necessary to monitor compliance with the proposed rules (U.S. SEC, 2012).

In 1983, in order to further the national system for the clearance and settlement of securities transactions under Section 17A of the Securities

Exchange Act of 1934, and to ensure the prompt and accurate clearance and settlement of those transactions, the SEC adopted a number of rules. Among such rules were the rules that: i) Require registered transfer agents to maintain certain information concerning security holder records; ii) require registered transfer agents to maintain current and accurate security holder records; and iii) require registered transfer agents to buy-in certain record inaccuracies that result in the physical over-issuance of securities (U.S. SEC, 2012).

In 1993, the SEC adopted additional revisions to its rules and forms to facilitate financing by small business issuers under the Securities Act of 1933 and their compliance with the reporting requirements under the Securities Exchange Act of 1934.

In 1994, the SEC announced the implementation of Financial Data Schedules required to be furnished in connection with certain electronic filings processed by the Divisions of Corporation, Finance or Investment Management that are submitted on the Electronic Data Gathering, Analysis, and Retrieval ("EDGAR") system. Financial Data Schedules were required, commencing on 1 September 1994. This was meant to improve the quality and to synchronise the reporting of all the entities, so that the data would be comparable, and anomalies could be easily recognised (U.S. SEC, 2012).

In the third quarter of the same year, the SEC passed quite a number of rules – in a bid to improve the U.S financial markets in general, some of which were specific to the stock market. These included rules related to i) Recordkeeping and Reporting Requirements For Trading Systems Operated by Broker-Dealers; ii) Self-Regulatory Organisations; Annual Filing of Amendments to Registration Statements of National Securities Exchanges, Securities Associations, and Reports of the Municipal Securities Rulemaking Board; iii) Adoption of Updated EDGAR Filer Manual; and iv) Reconciliation of the Accounting by Foreign Private Issuers for Business Combinations (U.S. SEC, 2012).

In 1995, SEC passed rules that allowed the self-regulatory organisations to establish a formal, two-part continuing education programme for securities industry professionals. This programme included a Regulatory Element requiring uniform, periodic training in regulatory matters, and a Firm Element requiring members to maintain ongoing programmes to keep their registered persons up-to-date on job- and product-related subjects.

In the same year, the SEC adopted a rule under the Investment Company Act of 1940 to permit open-end management-investment companies (mutual funds) to issue multiple classes of voting-stock-representing interests in the same portfolio. The new rule eliminated the need for funds seeking to issue multiple classes of their shares to apply for exemptions (U.S. SEC, 2012).

In 1998, the SEC adopted new rules and rule amendments to allow alternative trading systems to choose whether to register as national securities exchanges, or to register as broker-dealers and comply with additional requirements – depending on their activities and trading volume.

On 30 July 2002, the Sarbanes-Oxley Act of 2002 was passed. This Act mandated a number of reforms to enhance corporate responsibility, to enhance financial disclosures, and to combat corporate and accounting fraud; and it created the Public Company Accounting Oversight Board (PCAOB), to oversee the activities of the auditing profession (U.S. SEC, 2012).

In December 2008, following the admission of Madoff to perpetrating a massive Ponzi scheme, the SEC began taking decisive and comprehensive steps to reduce the chances that such frauds would occur, or be undetected in the future. Today, the agency is continuing to reform and improve the way it operates. Among other things, the SEC has been: Revitalising the Enforcement Division; revamping the handling of complaints and tips; encouraging greater co-operation by 'insiders'; enhancing safeguards for investors' assets; improving risk-assessment capabilities; conducting risk-based examinations of financial firms; improving fraud-detection procedures for examiners; recruiting staff with specialised experience; expanding and targeting training; improving internal controls; advocating for a whistle-blower programme; seeking more resources; integrating broker-dealer and investment-adviser examinations; and enhancing the licensing, education and oversight regime for 'back-office' personnel (U.S. SEC, 2012).

In 2010, the Dodd–Frank Wall Street Reform and Consumer Protection Act (Pub.L. 111-203, H.R. 4173) (DFWSRCP Act) was passed, as a response to the recession in the late 2000s. It brought the most significant changes to financial regulation in the United States since the regulatory reform that followed the Great Depression. It made changes in the American financial regulatory environment that affect all federal financial regulatory agencies and almost every part of the nation's financial services industry, including the stock market.

This legislation gave regulators important tools to better oversee the world's most dynamic markets; and it helped reduce the chance that a similar crisis would ever occur again (U.S. SEC, 2012).

To prevent regulatory capture within the SEC, and to increase the influence of investors, the DFWSRCP Act created an Office of the Investor Advocate, an Investor Advisory Committee composed of 12–22 members with 4-year terms, and an ombudsman appointed by the Office of the Investor Advocate (U.S. SEC, 2012). The Investor Advisory Committee was actually created in 2009; and it, therefore, predates the passage of the Act; but it is specifically authorised under the Act. The SEC was specifically authorised to issue "point-of-sale

disclosure" rules when retail investors purchase investment products or services.

These disclosures include concise information on costs, risks, and conflicts of interest. This authorisation followed up the SEC's failure to implement proposed point-of-sale disclosure rules in 2004 and 2005, because then, these rules were perceived as burdensome to broker-dealers.

The DFWSRCP Act also gave the SEC further powers of enforcement. This included a "whistle-blower bounty programme", which allows persons who provide information leading to a successful SEC enforcement, to receive 10% to 30% of the monetary sanctions over \$1 million. The SEC is also allowed to prohibit pre-dispute mandatory binding arbitration, while it is exempted from disclosing information obtained pursuant to 17(b) of the Securities Exchange Act of 1934, or information obtained by the Commission for use in furtherance of the purposes of this title, including surveillance, risk assessments, or other regulatory and oversight activities (U.S. SEC, 2012).

In 2012, the Jumpstart Our Business Start-ups Act (the JOBS Act) was enacted with the aim to help businesses raise funds in public capital markets by minimising the regulatory requirements.

As the U.S. stock market developed over the years, open outcry trading was replaced by floor trading, which, in turn, was overtaken by the electronic trading system. NASDAQ is fully electronic; while the NYSE, though electronic, sometimes conducts part of its trade through floor trading.

#### **4 Stock Market Growth in the United States of America**

Before the global economic meltdown of the late 2000s, the US suffered three major stock market crashes: one in 1929; one in 1987; and the other in 2000. Each crash was followed by the introduction of some stock-market rules and/or other activities aimed at improving the regulatory framework and triggering the growth of the market. These reform packages were guided by the causes of the crashes, which ranged from overvalued stocks, programme trading, and the use of derivative securities software and limited liquidity to interest rate hikes, corporate corruption, conflict of interest between research-firm analysts and investment bankers, and the influx of day traders and momentum investors with little or no experience – due to the advent of the internet- enabled online trading, which was a new, quick, and inexpensive way to trade the markets.

After the 1929 crash, the Securities and Exchange Commission was established; and the Glass-Steagall Act was passed, separating commercial and investment-banking activities. Over the past decade though, the Fed and other banking regulators

have softened some of the provisions of the Glass-Steagall Act (U.S. SEC, 2012).

Following the 1987 crash, new margin requirements were introduced to reduce the volatility for stocks, index futures, and stock options. Stock exchanges changed to new computer systems that increase data-management effectiveness, accuracy, efficiency, and productivity. The New York Stock Exchange and the Chicago Mercantile Exchange instituted a circuit-breaker mechanism, which halts trading on both exchanges for one hour should the Dow fall more than 250 points in a day, and for two hours, should it fall more than 400 points.

After the 2000 crash, new rules were introduced. Under the new rules, investors need at least \$25,000 in their account to actively trade the markets. In addition, new restrictions were also placed on the marketing methods that day-trading firms were allowed to use. CEO and CFO accountability was stepped up. Under the new regulations, CEOs and CFOs were required to sign-off on their statements (balance sheets). In addition, fraud prosecution was stepped up, resulting in significantly higher penalties. Accounting reforms were also part of the package. Reforms included better disclosure of corporate balance sheet information.

Items, such as stock options and offshore investments were to be disclosed, so that investors might better judge whether a company was actually profitable. A major reform was also introduced to avoid conflicts of interest in the financial services industry. A clear split between the research and investment-banking arms of brokerage houses was mandated (U.S. SEC, 2012).

The stock market reacted positively to some of the reforms introduced, but not so positively to others. However, in general, the U.S. stock market continued to grow. Between 2003 and 2012, the number of new listings on the NYSE increased from 50 in 2003 to 80 in 2005; and to 148 in 2007. In 2008, this number decreased to 131, and increased again to 285 in 2011, before declining to 187 in 2012. Although 2008 registered less IPOs compared with 2007, 2011 and 2012, the NYSE raised more IPO proceeds than any other major exchange, anywhere in the world. In 2008, the NYSE raised \$26 billion in IPO proceeds, representing 21% of IPO capital raised on a global basis, owing to listing some of the largest, most recognised companies (one raised \$17.86 billion/€11.5 billion; while the other raised \$2.42 billion/€1.566 billion). Although both U.S. and global IPO activity fell sharply from the previous year (2011), due to challenging market conditions, the NYSE Euronext raised the most IPO proceeds worldwide for the 5th consecutive year (NYSE, 2012).

In 2008, NYSE Euronext raised approximately \$45 billion, followed by Hong Kong, which raised \$12 billion (NYSE, 2012).

The annual share volume maintained an increasing trend between 2001 and 2005. It increased

from 308 billion shares in 2001 to 363 billion in 2002, to 367 billion in 2004, and to 404 billion in 2005.

NASDAQ had 2852 listed companies in 2009 and 2778 in 2010.

The number of domestic-listed companies in the U.S. shows the growth of the U.S. stock market as well. In 1988, there were 6689 domestic companies

listed. The number increased over the years, reaching a peak of 8851 in 1997, before gradually declining over the years, to 4171 in 2011. Table 1 below shows the number of listed domestic companies in the U.S. during the period 1988 to 2011 (World Bank, 2012).

**Table 1.** Number of Listed Domestic Companies in the U.S. (1988 - 2011)

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Listed Domestic Companies	6680	6727	6599	6742	6699	7246	7692	7671	8479	8851	8450	7651
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Listed Domestic Companies	7524	6355	5685	5295	5231	5143	5133	5130	5603	4401	4279	4171

Source: World Bank Development Indicators (2012)

The growth of the U.S. stock market can also be explained using stock-market capitalisation of listed companies, the total value of stocks traded, and the turnover ratio of stocks traded. The stock market size of the U.S., as measured by stock-market capitalisation expressed as a percentage of GDP, was growing at a slow pace between 1988 and 1994, only to increase growth momentum between 1995 and 1999.

The stock market growth reached its peak in 1999, registering a market capitalisation of 178.9%. However, in the year that followed, the stock market size dwindled sharply, only to improve after 2002, although it failed to reach its 1999 size. In 2007, the U.S. stock market suffered another blow, which saw the market capitalisation tumbling, reaching a low of 80% in 2008. Since then, the market has never fully recovered from the aftermath of the late 2000s financial crisis (World Bank, 2012).

In terms of market liquidity, as measured by total value-traded/GDP and turnover ratio, the U.S. had a

less liquid stock market until 1995 – although it was relatively more liquid than that of many other countries’ stock markets during the same period. The total value of stocks traded improved from almost 70% of GDP in 1995, to 150.4% in 1998, to 321.9% in the year 2000, before decreasing in the subsequent years, registering a low of 140% in 2003. Thereafter, the total value of stocks traded on the U.S. stock market increased, reaching a peak of 420.2% in 2008, then sharply declined soon afterwards to 210.8% in 2010, and further down to 203.7% in 2011.

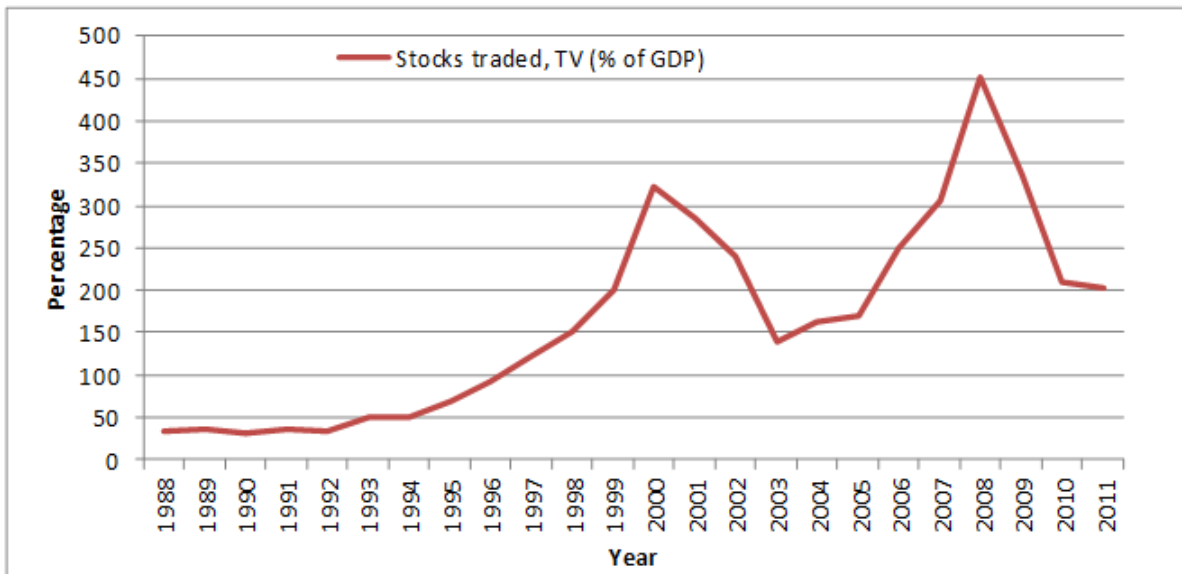
Thus, the overall trend depicted by the total value of stocks traded is that of two peaks, one higher than the other, during the late 1990s and the early 2000s, and the other during the late 2000s; and a deep wide trough between the peaks. The turnover ratio depicted the same trend as that of the total value of stocks traded (World Bank, 2012). Figures 1 – 3 track the performance and growth of the stock market, in the U.S. during the period 1988-2011.

**Figure 1.** Trends in Stock Market Capitalisation in the U.S. (1988-2011)



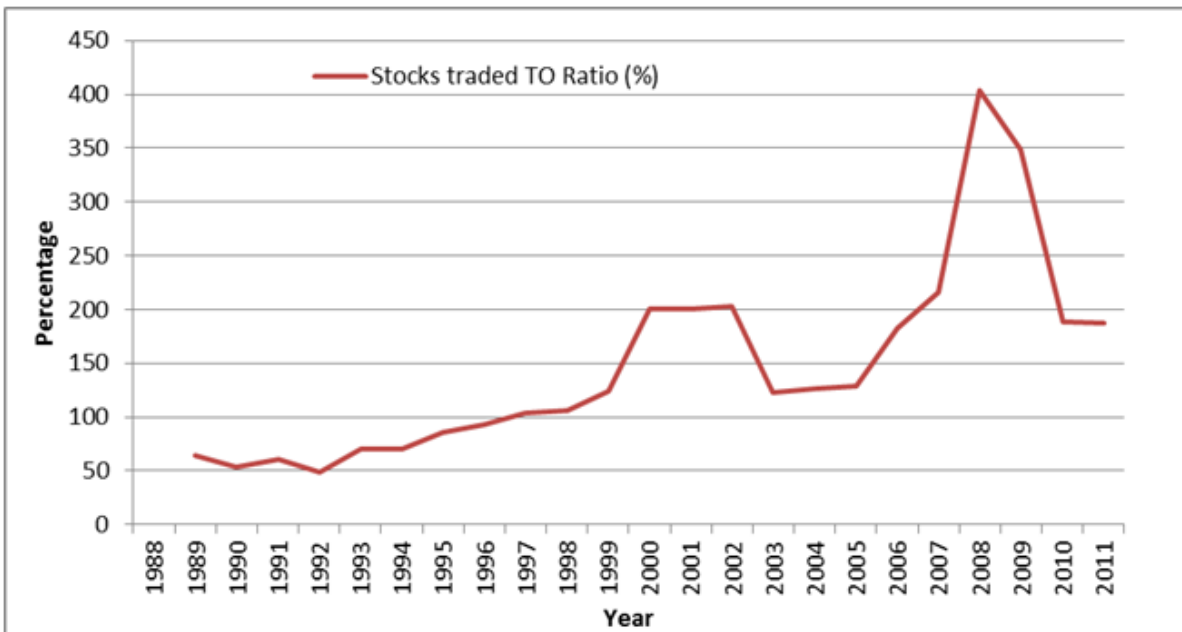
Source: World Bank Development Indicators (2012)

**Figure 2.** Trends in Total Value of Stocks Traded in the U.S. (1988-2011)



Source: World Bank Development Indicators (2012)

**Figure 3.** Trends in Turnover Ratio of Stocks Traded in the U.S. (1988-2011)



Source: World Bank Development Indicators (2012)

## 5 Challenges Facing the Stock Market Development in the United States of America

Although the U.S. stock market enjoys the title of being one of the biggest stock markets in the world, it has its challenges. These include: The Eurozone contagion; the undesirable consequences of recent stimulus spending; regulation challenges exacerbated by the changing stock-market landscape, and the slow pace of economic growth in the U.S.

Continuing deficit problems in the European Union (E.U.) pose challenges to the U.S. stock market.

The economic situation in Europe has been unsettled for the better part of two years, with pressure on sovereign debt markets and local banking systems. High debts, large deficits and slow growth in several European countries have called into question the sustainability of the entire euro area. Although it appears that the E.U. countries are doing a lot to steer the ship in the right direction, there is much more that needs to be done; and there could be additional problems and setbacks (Federal Reserve Bank of New York “New York Fed”, 2012b). The resulting strains in European markets have affected the U.S. economy. Severe stresses in European financial markets disrupt



financial markets in the U.S, leading to the U.S stock market's volatility (Federal Reserve Bank of New York "New York Fed", 2012b).

In the U.S., stimulus spending, although it has contributed to improving the economic stability, had undesirable consequences to the stock market (New York Fed, 2012b). Since the collapse of Lehman Brothers, the U.S. Federal Reserve has lowered interest rates to the zero-bound and undertaken unprecedented monetary accommodation measures. It has leveraged its balance sheet to become an effective lender, insurer, and buyer of last resort for the American financial system.

While these extraordinary measures have surely contributed to stabilising the global financial markets, they have also had several undesirable consequences. The Fed's balance sheet has tripled since late-2008, and the world is awash with cheap liquidity. Instead of helping drive investments and boost aggregate demand, this liquidity has flown into the stock markets and amplified market volatility (New York Fed, 2012b).

The U.S. stock market faces regulation challenges exacerbated by the changing stock market landscape. Some of the latest challenges facing the U.S. stock market regulators include today's stock markets that are bigger, more volatile, more complex and more technically advanced, on the one hand, and the limited resources and increasing regulatory demands, on the other hand (U.S. SEC, 2012).

Increased competition for trading volume has also diminished the effectiveness of market regulation. It is difficult to monitor trading in a stock if the stock trades in multiple markets with different SROs, so that each SRO has access to only a part of the audit trail (Kim, 2007). Moreover, it is possible for some market centres to dilute their regulatory structure to enhance their competitive advantage, wreaking havoc in the marketplace as a whole. Recently, some market centres have explicitly started competing for trading volume with a promise to share most of the tape revenues with participants who generate the volume (Kim, 2007).

To prevent regulatory lapses in the future, the SEC has started a discussion on the overhaul of the current regulatory system. Possible solutions include establishing a single regulatory body for all stocks, and inviting multiple parties to compete on price and regulation quality for the business of regulating the markets (Kim, 2007).

The U.S. stock market also faces market-integration problems (Panchapagesan, 2012). When securities trade in multiple markets, there must be a mechanism that links these markets, in order to ensure that investors get the best price, among all market centres, for their orders. The Intermarket Trading System, or ITS, was promoted by the SEC to provide that link for trading in NYSE-listed stocks. It was designed to minimise the possibility that one market could trade through another market's superior price.

Markets that quote an inferior price should either match the superior price or route their orders to the market that quotes the superior price.

For NASDAQ-listed stocks, there never was such an organised link, and the responsibility for ensuring best execution was left, rather vaguely, to the brokers who receive investor orders (Panchapagesan, 2012). Since the ITS was first initiated during 1978, some parties, such as the NASDAQ, believe the technology used in the ITS is now outdated, as the current trend for exchanges is moving away from the trading floors on which the ITS was based, and towards automated trading systems. Without a SEC mandate, dominant markets are less likely to initiate linkages with less dominant markets.

Other issues in market integration persist. Firstly, some markets are based on floor trading, and therefore by design, are slower than electronic markets. Integrating faster markets with slower ones is problematic (Panchapagesan, 2012). Secondly, integration becomes more difficult if the faster market accommodates automatic execution, while the slower market does not. Thirdly, the price grids adopted by electronic markets are finer than those adopted by the traditional markets, such as the NYSE. Inferior-priced orders in these traditional markets may, therefore, trade ahead of superior-priced orders in the electronic markets (Panchapagesan, 2012).

Another challenge is that of access fees charged by some market participants. Some market participants, such as the electronic markets, charge a fee to traders to access liquidity in their system. These access fees are usually charged separately, and are not included in the best price that comes from that market centre. It is possible that in a linked marketplace, some traders may access electronic markets for a best price, even when they are not subscribers, or do not want to pay the access fees (Panchapagesan, 2012).

As with any other stock market around the globe, there is a lack of public awareness; hence, there is limited public participation in the stock market. The public is reluctant to engage in securities purchases or trading – because they do not understand the stock-market operations. Most schools and universities in the economy do not have courses related to stock markets. Accordingly, people who invest their funds in these markets are either professionals or self-educated; thus the capital market is lacking a large number of potential investors.

A slow economic pace in the U.S. has also posed a challenge to the recovery of the economy's stock market. It has dampened the appetite for new listings; while the economic growth impasse and uncertainty abroad (for example, in the E.U.) has heightened anxiety on global markets, the U.S. stock market included (New York Fed, 2012b). Despite these challenges, the U.S stock market remains one of the leaders in the history of stock markets globally.

## 6 Conclusion

This paper has discussed the origin of the U.S. stock market, the reforms undertaken to develop the stock market, the growth of the stock market, as well as the challenges facing stock market development. The U.S. has a number of stock exchanges, although the major ones are three, namely: the NYSE Euronext; the National Association of Securities Dealers Automated Quotation (NASDAQ) and the Chicago Stock Exchange. The U.S. stock market is well developed by any standards; and it is one of the biggest stock markets in the world.

In order to foster stock market development in the country, a number of reforms targeting the stock market have been undertaken over the years. These have included the passing of a number of Acts, including the Securities Exchange Act of 1934. This created a regulatory body (SEC) with broad authority over all aspects of the securities industry. The market responded positively to some of the reforms, but not so positively to others. The net effect of reforms, however, has been positive, leading to the development of the stock market over the years.

Although the U.S. stock market has developed over the years, as evidenced by the increasing number of listed companies, stock-market capitalisation, the total value and turnover ratio of stocks traded, the market was hard hit by the financial crisis of the late 2000s; and to date, it is still recovering. Some of the challenges still facing the U.S. stock market include the Eurozone contagion, the undesirable consequences of recent stimulus spending, regulation challenges exacerbated by the changing stock-market landscape, and the slow pace of economic growth in the U.S.

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