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# **Stock Markets: An Overview and A Literature Review**

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# **Stock Markets:**

## **An Overview and A Literature Review**

### **Abstract**

Stock markets are without any doubt, an integral and indispensable part of a country's economy. But the impact of stock markets on the country's economy can be different from how the other countries' stock markets affect their economies. This is because the impact of stock markets on the economy depends on various factors like the organization of stock exchanges, its relationship with other components of the financial system, the system of governance in the country etc. All of these factors are distinct for each country; therefore, the impact of stock markets on a country's economy is also distinct. Over the years, the Indian capital market system has undergone major fundamental institutional changes which resulted in reduction in transaction costs, significant improvements in efficiency, transparency and safety. All these changes have brought about the economic development of the economy through stock markets. In the same way, economic expansion fuelled by technological changes, products and services innovation is expected to create a high demand for stock market development. The present paper is divided into two parts: in the first section, the evolution of international stock markets and the developments in Indian stock markets are briefly reviewed to help us understand how stock markets have emerged as the driving economic forces that they are today; and the second part presents a number of studies that review the impact of financial development, stock market development and its functions and its possible impact on economic growth.

## **Part 1:**

### **An Overview**

#### **1. Introduction**

Stock markets have been identified as locations for engaging in economic transactions of buying and selling stocks or shares which are the ownership claims on businesses. This represents an aggregation of buyers and sellers of stock and need not be a physical location or a discrete entity. Stock markets are also known by different names as share markets and equity markets. A stock exchange, also called a securities exchange or bourse is the name given to the facility for engaging in buying and selling of shares of stock or bonds or other financial instruments. For a security to be traded on a stock exchange, it must be listed on a major stock exchange. In short, different stock exchanges and the inter relationships among them constitute the system of stock markets.

Stock markets are without any doubt, an integral and indispensable part of a country's economy. But the impact of stock markets on the country's economy can be different from how the other countries' stock markets affect their economies. This is because the impact of stock markets on the economy depends on various factors like the organization of stock exchanges, its relationship with other components of the financial system, the system of governance in the country etc. All of these factors are distinct for each country; therefore, the impact of stock markets on a country's economy is also distinct.

Stock markets have also grown to be a global phenomenon. Developed countries and developing countries around the world have developed their stock markets with some of the most active stock markets existing in countries like the US, the UK, Japan, India, China, Canada, Germany, France, South Korea and the Netherlands. In this section the evolution of international stock markets and the developments in Indian stock markets are briefly reviewed to help us understand how stock markets have emerged as the driving economic forces that they are today.

## **2. International stock markets**

### **2.1 Early exchange markets**

Stock markets of the form we know today did not appear until the 1500s. Instead, there were markets exchanging government securities, debt instruments and commodities which were mainly confined to the Western Europe from a time as far back as the 11<sup>th</sup> century. The earliest reference to these markets comes from France in the 1100s where there was a system of managing and trading agricultural debts by *courretiers de change* on behalf of banks; making them the first ever brokers. This system has been called the Paris Bourse. The term 'bourse' originates from the Latin word '*bursa*' with reference to the practice in the Belgian town of Bruges to hang a purse outside the houses where merchants used to meet. Another version of the story of the word's origin is connected with a man named Van der Beurze, whose inn '*Huis ter Beurze*' in Bruges housed the assemblies of commodity traders. In 1309, the meetings of these traders were institutionalized and in 1409 it came to be called 'Bruges Bourse', making it technically the first exchange system. In fact, the Van der Beurze family organized these meetings in a building they owned in Antwerp. Very soon, Antwerp became the commercial center of Bruges (now, Belgium) where the trading activities flourished. Subsequently this practice spread to the neighbouring states of Flanders, Ghent and Rotterdam where similar bourses opened up. Thus the 'Beurze' from the Dutch speaking low countries of Bruges and Antwerp became the 'bourses' as we know it today when it spread to the neighbouring European states.

Around this time, that is, by the middle of the 13<sup>th</sup> century, Venetian merchants and bankers had begun specializing in trading government securities. Subsequently, trading in government securities began in Pisa, Verona, Genoa and Florence in the 14<sup>th</sup> century. We can see here that these exchange markets did not exchange stocks but involved in the trading of instruments connected with government affairs, businesses and individual debt. Nevertheless, these markets helped in setting up the adequate infrastructure and institutions that would suit the functioning of stock markets. These markets laid the

foundation for the stock markets to come. These markets can therefore be rightly called 'the stock markets without stocks'.

## **2.2 The beginning of stock trading**

Even though the Italian cities developed the first ever trade in government securities, they failed to contribute any more leaving the financial system largely undeveloped. At the same time, the Dutch continuously engaged in pioneering financial innovations. They realized that for the financial system to be developed and fully fledged, a serious lack in the capital market has to be corrected. Finally the remedy came when the Dutch East India Company in the early 1600s issued bonds and stocks to the public. This decision came as a response to mitigate the risks involved in undertaking major explorations and voyages. This marked the beginning of stock trading.

Primitive stock exchanges took place under the shades of trees and in coffee houses. These are the birthplaces of major stock exchanges of today. A prominent stock exchange which started off outside a coffee house in Amsterdam in 1602 is the Amsterdam stock exchange. It was also the first stock exchange to officially engage in the trading of shares and stocks. The Dutch East India company (VOC) founded in the year 1602 was the first company to be listed and the first to release its shares for trading in the Amsterdam Stock Exchange. Therefore the Amsterdam Stock Exchange (a.k.a. Beurs van Hendrick de Keyser in Dutch) became the first stock exchange to trade in stocks when it floated the VOC's freely transferable securities for trading. The process of buying and selling stocks adopted by the Amsterdam Stock Exchange to trade VOC's shares became the basis for stock trading. When this proved to be a success, businesses across England, France, Belgium and the Netherlands began floating their securities.

Shortly after this, in the 17<sup>th</sup> and 18<sup>th</sup> centuries, new stock exchanges appeared in Belgium, Spain, Portugal and Sweden. Also in France, England and the US in the later part of the 17<sup>th</sup> century. In the year 1693 the first government bonds were traded in England to finance war expenditures under the reign of King William III. Very soon, stock trading began as the joint stock companies began going public. These stock brokers

engaged in their business in the coffee houses along Exchange Alley as they were prohibited from carrying out their activities in the old commercial center, the Royal Exchange. A broker by the name of John Castaing who operated outside the Jonathan's Coffee House began the practice of posting lists of stock and commodity prices. These lists would go a long way in setting up the London Stock Exchange. After the first critical financial bubble of the 1790s, shares were still being traded strongly in the US. On May 17, 1792 a group of 24 stockbrokers met under a *Platanus occidentalis* ( buttonwood tree) and signed an all-inclusive document enabling them to engage in trading five securities among themselves, which later came to be called the Buttonwood Agreement. This event is considered to be the actual founding of the New York Stock Exchange (NYSE).

### **2.3 Modern stock markets**

During the 19<sup>th</sup> century, the United States and Europe continued to hold the center stage as principal centers of stock trading with the London Stock Exchange being the main stock market for Europe and the New York Stock Exchange for America. A majority of the stock exchanges that were set up during this period disappeared almost immediately while only a few thrived. Some of these exchanges were set up during the California gold rush of 1849 to buy the shares of mining companies and immediately disappeared with the gold rush.

The second half of the 19<sup>th</sup> century saw the New York Stock Exchange single-handedly dominating the financial system of the United States. New York Stock Exchange at one point traded mostly the shares of large corporations and the smaller companies which couldn't afford to be listed in the NYSE were still being traded by brokers on the streets. In 1908 the brokers selling the stocks of such small companies together formed an organization called the New York Club Agency, which was later renamed as the American Stock Exchange or ASE in 1953.

The stock trading practices of the 19<sup>th</sup> and 20<sup>th</sup> centuries were far less efficient than it is today. They were characterized by only short periods of trading activities or receiving information that could possibly affect trading activities like developments in other countries or wars. The early 1990s saw a surge in stock market trading with a majority of

the general public investing in stocks by borrowing money. This slowly resulted in a bubble with the market demands outpacing the value of the business. At one point, this imbalance became too massive to be ignored that many people pulled out their investments rapidly. This was the beginning of the 1929 crash in the United States. Following the crash, the stock prices fell drastically in the NYSE and other exchanges rendering investment in stock futile and endangering all those who had their life savings invested in stocks. With the crash of 1929, millions of families became debt ridden and incapable of fulfilling their financial responsibilities. The crash had the disastrous effect of making the investors untrustworthy of investing in stock market and leaving businesses deprived of new capital. This sowed the seeds for the Great Depression of the 1930s. The years of Great Depression saw a worsening of the conditions of stock markets and companies. The stock markets in the US began to revive only after the World War II. Along with the revival there was government intervention in the form of setting up regulatory agencies to ensure the protection of smaller investors from stock price manipulation by larger investors and brokers. This was followed by an improvement in the conditions of stock markets and investments in stock markets became profitable along with technological improvements. All these factors recovered the stock markets from its stagnancy and once again made them the popular destination for investments.

The years from 1950 to 1970 saw a consistent improvement in stock trading activities and expansion of stock exchanges. Subsequently these stock exchanges came under the direct control of an elite group of power brokers who allowed only members capable of paying high commissions to have direct access on the floor. This elicited the intervention of the United States government to promote fair play in stock exchanges. One such mechanism introduced by the government was the Consolidated Tape System which set in place a system by which the investors could avail themselves of information from all exchanges. This opened up stock trading to include the general public as well. The National Market System adapted itself to provide for the simultaneous availability of prices of trading instruments at each exchange to all investors.

There is now virtually no country in the world without its own stock markets. Major stock exchanges around the world emerged immediately after the London Stock

Exchange and the New York Stock Exchange in the 19<sup>th</sup> and 20<sup>th</sup> centuries. Today countries from Switzerland to Japan, all of them including the world's major economic powers have highly developed and proactive stock markets. For example the TSX developed in 1861 is the largest stock market in Canada which carries out in businesses in Canada and the rest of the world. It is also credited to be the third largest stock market in North America in terms of market capitalization. One reason for this high market cap being that it is the stock exchange which hosts more oil and gas companies than any other stock exchange in the world. TSX is the perfect example to show the dynamics of the stock markets of today. Also there are stock markets in countries like the war-torn Iraq, whose stock exchange is called the Iraq Stock Exchange. Although there are only a few public traded companies enlisted under this exchange, it is large enough to be accessible to foreign investors. It was also one of the few stock markets which were left unaffected by the 2008 economic crisis.

These stock markets show us that there is no way we can simply ignore the global importance of stock markets. Trillions of dollars are being traded on the stock markets every day around the world, driving the capitalist world. In the 1970s, after three centuries of unchallenged dominance, the New York Stock Exchange got its very challenger. The NASDAQ stock exchange developed with the amalgamation of the National Association of Securities Dealers and Financial Industry Regulatory Authority in 1971, proving to be a fierce rival of NYSE. NASDAQ operated in ways that were in sharp contrast to how the traditional stock exchanges worked. While the traditional stock market operations took place in a physical location, NASDAQ used a network of computers to perform all stock trading operations electronically. This was a major step forward in the way stock market operations were conducted then. This also gave NASDAQ an added advantage over the other stock markets of the time. In addition to this, NASDAQ also reduced the bid-ask spread. All these led to fierce competition between NYSE and NASDAQ for dominance with the two bringing forth new developments and innovations in the field of stock trading. This encouraged both the exchanges to expand and strengthen over the years. Ultimately, in 2007, the NYSE merged with Euronext to form the NYSE Euronext, which is the first transatlantic stock exchange in the world.

Advancements in stock exchanges have been linked in time to advances in technology. As we had seen in the case of NASDAQ we have come a long way from trading over telephone and telegraphs to the present day computers to distribute and analyse information. Modern communication and the use of present day computers has made it possible to see the stock trading activity in any corner of the world and respond to it in a matter of seconds. Technology has also made it possible for the general public to engage in stock trading from the comfort of their house or office. It has also linked the exchanges and traders around the world with each other in an intricate network. Today, most stock trading activities are purely electronic activities with high efficacy, speed, flexibility and minimal human interference. In short, technology has played an indispensable role in making the stock exchanges what they are today by removing the obstacles that had plagued the stock markets in its early stages. The open, global stock market of today owes its origin to the development of electronic exchanges and the globalization of the world economy.

### **3 Indian stock markets**

#### **3.1 Introduction**

The stock markets in India have had a rich history and they are one of the oldest in Asia. The Securities Contracts (Regulation ) Act of 1956 provisions the setting up of stock markets which have been defined as “a body of individuals, whether incorporated or not, constituted before corporatization and demutualization” or “a corporate incorporated under the Companies Act, 1956 whether under a scheme of corporatization and demutualization or otherwise”. The body would engage in assisting, regulating or controlling the business of buying, selling or dealing in securities. The Act by the word “corporatization” had referred to the succession of a recognized stock exchange by another stock exchange also an incorporated company consisting of individuals and society. By “demutualization” the Act set the provisions for a scheme which has been approved by the Securities and Exchange Board of India (SEBI) under which the ownership and management of a recognized stock exchange is set apart from the trading rights of the members of the stock exchange.

### **3.2. Evolution of Indian stock markets**

The first stock trading in India can be traced back to the trading of securities by the East India Company in the 18<sup>th</sup> century. Soon after, in the 1830s corporate shares began to be traded in Bombay starting with the stock of Bank and Cotton presses. Like elsewhere, the stock trades in the beginning were simple and informal. One of the earliest stock exchanges took place when 22 stockbrokers began trading under a banyan tree opposite the Town Hall of Bombay in the 1850s, in a place now known as the Horniman Circle. Soon after, the location for trading stocks moved to the banyan trees at the Meadows Street junction, now known as the Mahatma Gandhi Road. They continued shifting places for years to come and finally came to a stop when they settled in 1874 at the place now known as the Dalal Street. They called themselves the Native Share and Stockbrokers Association but they were still unorganized. Finally in 1875, they organized as the Bombay Stock Exchange (BSE).

The Bombay Stock Exchange was the first stock exchange to be set up in Asia and the first to be recognized under the Securities Contract Regulation Act, 1956. To measure the overall performance of the exchange, the BSE developed its own stock market index called the BSE Sensex (Sensex=sensitivity index). The index covered the top 30 companies enlisted at the exchange and proved to be an effective measure of the overall performance of the Exchange. Soon other stock markets emerged, the one set up after the BSE being the Ahmedabad Stock Exchange in 1894. Ahmedabad Stock Exchange mostly limited itself to trading in shares of textile mills. After this the Calcutta Stock Exchange appeared in 1908 which traded shares of plantations and jute mills. The Madras Stock Exchange began its operations in 1920.

By the early 1980s the economy began showing a strong tendency for adopting free market economy and continued to sabotage state intervention and public sector dominance claiming that it would not achieve sustained economic growth. Also towards the end of the 1980s a strong need for modernization of the financial sector was felt as a result of the new economic forces and currency crisis. Moreover, the BSE during this period operated with the minimum level of transparency and an unreliable clearing and

settlement mechanism. All these factors led the government to establish the Securities and Exchange Board of India (SEBI) in 1988.

In 1991 the stage was set for the liberalization procedure in India as dictated by the World Bank. The years prior to the reform (1947-1991) was characterized by public sector dominance, high tax rates, and restrictions on foreign trade, finance, capacity creation, administered prices and industrial licensing. Administered interest rates, capital controls and direct credit programs persisted in the financial sector as it was under the direct control of the public sector. The public sector managed the financial sector under the provisions of the Industries (Development and Regulation) Act, 1951; Monopolies Restrictive Trade Practices Act 1969 and Foreign Exchange Regulation Act (FERA), 1973. The controls dictated by these legislative mechanisms brought about low productivity in manufacturing, a slow economic growth rate, stagnant employment rate, high inflation, mounting fiscal deficit and growing debt. The financial sector was also severely damaged as it had poorly developed money and capital markets, banking sector, inadequate prudential regulations and lack of financial innovation.

The New Economic Policy of 1991 addressed these concerns by liberalizing and privatizing the economy. It abolished the industrial policy, removed the controls on private sector, brought about fiscal reforms and opened up the economy for foreign trade and investment. A series of financial reforms were also introduced to resolve the stagnancy of the financial sector. The first generation reforms included the policy measures to reduce the statutory liquidity ratio (SLR) and cash reserve ratio (CRR) and to introduce operational flexibility in banks. The Capital Issues (Control) Act 1947 which had imposed restrictions on the resource mobilization capacity of the firms was repealed. The new era brought forth immediate changes in the financial set up by the pricing of financial assets being set free to be managed by the market, establishment of new stock exchanges and private mutual funds being enabled. All these culminated in the setting up of the Securities and Exchange Board of India (SEBI) in April 1992 which would continue to manage the Indian capital market for years to come.

The BSE continued to remain the unchallenged power in the Indian stock market scenario. But the Harshad Mehta scam incited the then Finance Minister Dr. Manmohan

Singh to set up another stock exchange that would be a rival to the BSE. He urged the Industrial Development Bank (IDB) to take up the project for the establishment of the National Stock Exchange (NSE) that would serve as a competitor to the BSE. Thus the National Stock Exchange (NSE) was established in November 1992 as the first electronically traded stock exchange in India. Following this, BSE also automated its operations in 1995 although it could hardly catch up with the NSE spot market turnover. The establishment of the three segments of the NSE trading platform followed each other in quick succession. The Wholesale Debt Market (WDM) was set up in June 1994 and the Capital Market (CM) segment began its operations by the end of 1994. The third Futures and Options segment opened up in 2000. The NSE holds the 14<sup>th</sup> position in the top 40 future exchanges in the world. The stock market index of NSE was launched in 1996 by the name of S&P CNX Nifty (Nifty= national 50) which represents 50 stocks of 25 different economy sectors and is largely a diversified index.

The NSE set the standards for many other exchanges by bringing innovative changes in products, trading, clearing, settlement and regulations. All these made the NSE a market leader which helped set international standards for the Indian stock markets. A majority of the developments in Indian stock markets like the 19 corporatized, demutualized and fully automated Indian stock exchanges owe its origin to NSE. Thus the establishment of the NSE was a landmark in the Indian stock market scenario. Another feather to its cap is that NSE was the first stock exchange in the world to use the satellite communication technology for trading. From 2000, web-based Internet trading was introduced in both NSE and BSE.

The NSE and BSE over the years have introduced several new financial products and many new indices. Index options, index futures, single stock futures and individual stock options were the different derivative instruments launched between 2000 and 2001. Alongside this, SEBI has also ensured the efficiency of stock trading and protection of investors being the regulatory authority. It has undertaken several regulatory and procedural changes by permitting the foreign institutional investment (FII) into Indian markets and approved short selling. SEBI has also made provisions for direct market

access (DMA) to institutional investors. All these collectively resulted in better transparency and efficiency of Indian stock markets.

#### **4. Conclusion**

The NSE review (2012) records that the Indian equity market has a nationwide trading network with over 4827 corporate brokers and about 10,165 traders registered with the SEBI. The stock markets have become an integral component of our economy. These stock markets aren't going to be replaced anytime soon and they are meant to stay for years to come. They will continue to remain the major driving force of the economy in many countries. But there are a few things the analysts anticipate. NYSE still remains the largest and inarguably the most powerful stock exchange in the world and its market capitalization is larger than that of Tokyo, London and NASDAQ. Also in all probability, stock markets may merge with each other in the years to come. Some analysts have even forecasted a single global stock market but this is highly unlikely in the recent future. Irrespective of the changes in stock markets, stock markets will continue to run the global economies for the long foreseeable future.

## **Part 2:**

### **A Literature Review**

#### **1. Introduction**

While a number of studies were undertaken to understand the nature of the relationship between financial development and economic growth, only a few included the role of stock markets in the economic development process. The absence of accurate stock market development indicators was one of the many reasons why a majority of the studies used bank measures of financial development and ignored the role of stock markets in such studies. But, more recently the availability of more appropriate data has increased the scope for research in this field. In spite of this, debate still exists over the nature of the relationship between stock market and economic development, with many studies attributing a healthy stock market to slow economic growth. The following studies review the impact of financial development, stock market development and its functions and its possible impact on economic growth.

#### **2. Literature on financial development**

It has for long fascinated researchers and economists as to whether or not financial markets promote economic growth and it has prompted a number of empirical studies to be carried out. Some of them identified a positive relationship between financial development and economic growth while others did not. Studies on this topic tried to prove the existence of any relationship between financial development and economic growth and also the nature and direction of causality that is, if development of financial sector stimulates economic growth or is it the other way round. The different perspectives provided by economists on the theoretical link between financial development and economic growth have been elaborated here.

There are two schools of thought on the relationship between financial development and economic growth based on two different views. The first view of there being a positive influence of financial development on economic growth was pioneered by Schumpeter (1911). He was the earliest economist to highlight the circumstances in which financial services can help in promoting economic growth. The second view belongs to Joan Robinson (1952) who regarded financial development as a relatively unimportant factor in the growth process. She believed that financial development follows economic growth and not the other way round.

Schumpeter (1911) was the first to propose that financial intermediaries provide services that promote economic development. His argument was that financial development provides sufficient funds to firms to make the best possible use out of it thereby contributing to economic development. Also he found that financial institutions actively encouraged innovation and for financial systems to be efficient there must be a constant flow of innovations. According to Schumpeter, financial institutions actively encouraged innovation in this way and promoted future growth by determining and funding productive investments. Goldsmith (1955) also carried out a systematic analysis and found a sound positive correlation between financial development and the level of real per capita GDP. Gurley and Shaw (1955) also highlighted the importance of finance for growth. McKinnon-Shaw school (1973) examined the impact of government intervention on financial development and consequently on economic growth. Their study showed that government restrictions such as interest rate ceilings and direct credit programs negatively influenced the development of financial sector and therefore economic growth. In the 1990s there was a continuous succession of studies on this problem including those of Greenwood and Jovanovic (1990), Obstfeld (1994) and Saint- Paul (1992). Bencivenga and Smith (1991, 1993) found that by pooling the economy's resources, liquidity risk can be eliminated and investment can be done more effectively. Banks work by this principle, providing individuals with the facility for pooling liquidity risks. Thereby banks promote higher growth by shifting the composition of savings towards more capital accumulation and by reducing unnecessary capital liquidation. Banks also channel funds from risk-averse savers to entrepreneurs who invest in productive capital and hence provide liquidity to the former group by means of bank

deposits rather than through other unproductive liquid assets. These funds are then made available for investment leading to capital accumulation and thus reduce the need for the self-financing of investment. King and Levine (1993a, 1993b) also showed that financial development is strongly associated with real per capita GDP growth through its effects on the rate of physical capital accumulation, enhancing the efficiency with which economies employ physical capital. They also narrated the steps of the process of economic development facilitated by financial development. According to them, financial system fosters productivity improvement by choosing higher quality entrepreneurs and projects, by external financing for these entrepreneurs, by providing superior vehicles for diversifying the risk of innovative activities and by revealing more accurately the potentially large profits associated with the uncertain business of innovation. According to the World Bank Policy Research Working Paper written by Demirguc-Kunt, A. (2006) which analysed the relationship between financial development and economic growth with special reference to the policy choices for developing countries, a well-functioning financial system is considered as one of the key foundations on which sustained economic development can be built. A study on the finance-growth relationship by Zhang et al.(2012) for China also showed a positive relationship between financial development and economic growth.

Studies conducted to analyse the financial development- economic growth relationship broadly fall under these 3 categories: time series, cross section and panel studies. Most of the cross section and panel data studies validated the positive relationship between financial and economic growth. For the first time, Goldsmith (1969) studied the annual data of 35 countries from 1860 to 1963 and found a positive correlation between financial development and GDP per capita. De Gregorio and Guidotti (1995) used cross-country data to find that financial development measured in terms of bank credit to the private sector was positively correlated to growth. King and Levine (1993a,1993b) used a data set of 80 countries for the years 1960-1989 and concluded that financial development is strongly associated with economic growth. A similar result is also accounted by Rajan and Zingales (1996) who also in their study found that finance provides essential services which facilitate economic growth. In the same way, Khan and Senhadji (2000) provided empirical evidence for the relationship between financial development and economic

growth using a cross section of 159 countries from 1960 to 1999. The growth equation was estimated using both pure cross section samples by averaging along the time dimension and 5 year average panels which were obtained by taking a 5 year average of the original data. Their study showed that the effect of financial development on growth is positive and that the size of the effect varies with different indicators of financial development, estimation method, data frequency and the functional form of the relationship. Also another pioneer work by Beck et.al. (2000) showed that there was an economically large and statistically significant relationship between financial intermediary development and both real per capital GDP growth and total factor productivity growth. For this study they used cross country data averaged over the period 1960 to 1995. Possible endogeneity of the regressors were accounted for by using the GMM technique and the result emphasized that better functioning financial intermediaries improve resource allocation and accelerate total factor productivity growth with a positive repercussion for long-run economic growth. Levine et.al. also used the same technique of data analysis to find that financial intermediary development positively affected economic growth. They also found that cross country differences in legal and accounting systems helped account for differences in financial development. A paper by Christopoulos and Tsionas (2004) taking the data from 10 developing countries used panel unit root and panel cointegration techniques. They also found a long run relationship between financial development and economic growth in all the 10 countries. They also observed that there was a unidirectional causal flow from finance to growth. However, they did not consider cross-sectional dependency into account. Also Bojanic (2012), Uddin et al. (2013), Jeddia et al. (2014) and Samargandi et al. (2014) used time series data for analysis and also found a similar positive impact of financial development on economic growth. In spite of the innumerable number of studies which pointed out that financial development and economic growth are strongly correlated, there have also been studies which pointed to a negative relationship between financial development and economic growth. One such study was conducted by De Gregorio and Guidotti (1995) in a panel data for Latin America. However, they argued that financial liberalisation in a poor regulatory environment is the reason for the negative relationship.

There is another pool of studies which show either negative or no relationship between financial development and economic growth. Singh (1997), Narayan and Narayan (2013) in 65 developing countries, Ayadi et al. (2015) in northern and southern Mediterranean countries, Ductor and Grechyna (2015) in 101 developed and developing countries, Grassa and Gazdar (2014) in 5 GCC countries and Mhadhbi (2014) in the case of developed countries have found a weak relationship between financial development and economic growth.

There have also been several studies conducted to analyse the causal relation between financial development and economic growth as to whether it is unidirectional or bidirectional. One prominent study in this area is the work of Patrick (1966). His argument was that in the early stages of development of an economy, the financial system leads to economic growth. As the country advances towards becoming a developed country, economic growth creates the demand for financial sector development. According to him, the causal relationship between financial development and economic growth varies according to the stages of development. On the views of Schumpeter (1911) and Robinson (1952), Patrick (1966) identified two patterns in the causal relationship between financial development and economic growth. First one is the concept of “Demand Following” which is the creation of modern financial institutions and the supply of their financial assets, liabilities and other related financial services in response to the demand for these services by investors and savers in the real economy. The second is the “Supply Leading” concept which is the creation of financial institutions and the supply of their financial assets, liabilities and related financial services in advance of demand for them, especially the demand of entrepreneurs in the modern growth inducing sectors. It has two functions: 1) to transfer resources from traditional (non-growth) sectors to modern sectors 2) to promote and stimulate an entrepreneurial response in the modern sectors. The supply side dominates during the early stages of the development process. As economic development proceeds, the supply leading characteristics of financial development diminish gradually and are eventually dominated by demand following characteristics of financial development. Therefore, the financial and real sectors expand simultaneously contributing to the development of each other, pointing to a bi-directional causality between the two. The two way relationship between

financial development and economic growth has also been shown by Berthelemy and Varoudakis (1997), Greenwood and Bruce (1997) and Luintel and Khan (1999).

Theoretical models in such models like those of Boyd and Prescott (1986) and Stiglitz (1985). These models have triggered empirical research exploring the relationships between banks, stock markets and economic growth. King and Levine (1994) proposed a model in which innovation activities serve as an engine of growth by creating a high growth rate of productivity. There are two forms of financial markets in the model. One wherein the intermediaries act like venture capital firms who evaluate, finance and monitor the risky and costly innovations. Second is like the stock market, the present value of innovation is revealed in the stock market and selling the equity shares on the market can diversify the risk associated with innovation. Also, a developed financial market can improve the possibility of successful innovations. They concluded from the study that financial institutions play an active role in the evaluation, management and funding of entrepreneurial activity that leads to productivity growth. In contrast to these studies, some studies failed to provide any substantial inference about the relationship between banks and economic growth after controlling for the effects of stock markets. The work of Levine and Zervos (1998) is an exception to this. This study took a sample of 47 emerging economies countries and stock market development of different magnitudes and found that stock market liquidity and bank development are both strong predictors of economic growth. A strong statistically significant relationship between initial stock market development and subsequent economic growth for the 47 countries was witnessed. In addition to this, a study by Atje and Jovanovich (1993) also showed a strong positive correlation between the level of financial development and stock market development and economic growth. Rousseau and Watchel (2000) also empirically assessed the relationship between stocks, banks and economic growth by using panel data techniques to annual data over 1980-1995 for 47 countries. They used value of the traded shares divided by GDP and market capitalisation of all shares traded on the main stock exchange of a given country divided by GDP as the two measures of stock market liquidity. The two measures were deflated by the price index of the national stock exchange. Bank development was measured using M3 divided by GDP measure. The relationship between the variables was analysed using the first differenced GMM

estimator. A more recent study by Pradhan, Arvin, Bahmani, Hall and Norman (2017) examined the finance growth relationships in ASEAN region spanning the period from 1991 to 2011. They used four different proxies of financial development namely banking sector development, bond market development, stock market development and insurance sector development. The results showed that there was a cointegrating relationship between banking sector development, stock market development, bond market development, insurance market development and per capita economic growth in the long run. But causality results were found to be dependent on the financial development proxy used. They also observed a unidirectional causality from banking sector development to economic growth and a bi-directional causality between stock market development and economic growth, and insurance sector development and economic growth.

Gerschenkron, A. (1962) was of the opinion that the effect of financial development on economic growth depends on the economic backwardness of the economy under consideration. That is, countries which are economically backward require an active financial system than developed countries. In spite of the necessity of a developed financial system for promoting economic development, economically backward countries and the low income countries remain largely financially underdeveloped. Detragiache, E., Gupta, P., and Tressel, T. (2005) laid down the reasons for poor financial system in these countries to be political instability and corruption. They also stated that even attempts to strengthen the prudential regulation and supervision cannot yield the desired results in these countries as they are characterized to be weak in policy implementation. Also Jung (1986) found the supply leading causality more frequent in low income countries. Ghirmay (2004) studied the causal link between financial development and economic growth in 13 sub-Saharan African countries. They used the Johansen cointegration test and arrived at a result showing a cointegrating relationship between financial development and economic growth. The causality results were found to be sensitive to the country under consideration. Pardy (1992) in his seminal work argued that in less developed countries capital markets are able to mobilise domestic savings and allocate funds more efficiently. Spears (1991) reported that in the early stages of development financial intermediation induced economic growth. However, Menyah et al. (2014) using a data set of 21 African countries did not find strong support for finance-led-growth

evidence. Hassan et al. (2011) provided empirical results on the finance growth relationship in low and middle income countries. He found a positive relationship between financial development and economic growth in developing countries. The results showed a two way causality between finance and growth for most of the regions and one way causality from growth to finance for the two poorest regions. Andersen and Tarp (2003) used a data set of least developed countries to analyse the relationship between financial liberalization, financial development and economic growth and concluded that “we agree that a well-functioning financial system can play a vital role in the process of economic growth; we fully recognize that government involvement in the financial sector has had huge negative implications and we believe that deregulation of the financial sector should be approached somewhere down the line.” Papadavid, P., Rewilak, J., and Brighty, N. (2017) quoted that “banks continue to lend little domestically and access to commercial finance, via, bank deposits, remains low in the majority of low income sub-Saharan African countries”. Herwartz and Walle (2014) used annual data for 73 countries spanning the period 1975-2011 and concluded that impact of finance on economic development is generally stronger in high income economies than in low income economies.

Some recent studies have brought forth the issue of threshold or non-linearity of finance-growth nexus. Most of them found that the level of financial development is beneficial for the economy only up to a particular threshold level. Beyond the threshold level, further development of finance leads to declining economic growth. Law and Singh (2014) used the data of 87 developed and developing countries and found that more finance is not necessarily good for economic growth. Also Samargandi, Fidrmuc and Ghosh (2015) analysed the finance-growth nexus in a panel of 52 middle income countries over the period 1980-2008 for the threshold effect and found an inverted U-shaped relationship between finance and growth in the long run. Arcand, Berkes, and Panizza (2015) and Rousseau and Wachtel (2011) also found a similar vanishing effect of financial development on economic growth. Arcand et al. (2015) observed that finance starts to exert a negative effect on output growth when credit to the private sector reaches a threshold. The threshold exists when the credit to the private sector reaches 80-100 % of GDP. Deidda and Fattouh (2002) used threshold regression models and found that

financial development has a more significant effect on economic growth in high income countries in comparison to low income countries. A very recent study by Demetriades and Rousseau (2016) on the non-monotonic relationship between financial development and economic growth found that financial depth is no longer a significant determinant of long-run growth. They added that the finance-growth nexus is influenced by bank regulation and supervision. They were of the opinion that higher level of financial sector development is not always beneficial for economic growth. But one common issue with these studies was that the non-monotonic relationship between financial development and economic growth were analysed on highly heterogeneous panels including higher, lower, middle or low-income countries.

In spite of the arguments on the relationship between financial development and economic growth, majority of the studies have not ignored the importance of financial sector development on the growth of an economy.

### **3. Literature on stock markets**

A number of studies have established a positive relationship between economic growth and stock market development. It has been supported by several empirical studies such as those of Atje and Jovanovich (1993), Levine and Zervos (1993, 1998), Rousseau and Wachtel (2000) and Beck and Levine (2004). Atje and Jovanovich (1993) showed that stock markets have long run impacts on economic growth by manipulating liquidity, risk diversifications, acquisition of information about firms, corporate governance and savings mobilization. These studies suggest a strong positive relationship between stock market development and growth rates of real GDP per capita although they have failed to discuss the importance of stock market development, banking sector development and economic growth in an integrated framework. The works of Levine and Zervos (1995) and Demirguc- Kunt (1994) show that stock markets and banking sector development can give a big boost to economic development. Rousseau and Wachtel (2000), Beck and Levine (2004) were also of the opinion that with a well -functioning financial sector or banking sector, stock markets can give a big boost to economic development.

The ways in which stock market development can bring about economic growth has been studied in a number of studies. A few of them have been elaborated here. Greenwood and Jovanovic (1990) and King and Levine (1993) found that the provision of timely and accurate information about the firms to the investors has increased the investors' risk adjusted returns considerably. This view was also supported by Kyle (1984), Holmstrom and Tirole (1998), Stiglitz and Weiss (1981) as their studies also found that market efficiency improves by delivering timely and accurate information to the investor. In addition to this, the stock markets also allocate funds to the corporate sector which has a real effect on economic growth. (Mirakhor and Lillanueva, 1990). North (1991) found that the stock market also lowers the cost of transferring the ownership encouraging the investors to invest in equity markets and thereby increase economic growth. According to the work of Bencivenga and Smith (1992) stock markets can also bring about economic growth by decreasing liquidity assets holdings and increasing the physical capital growth rate in the long run. Greenwood and Smith (1997) found that the large stock markets lessen the cost of mobilizing savings. Obstfeld (1994a; b) in his study found that international integrated stock markets increase investor risks but this is compensated by the opportunities to investors to diversify investment internationally. Mishkin (2001), Corporale et al., (2004) found that stock markets facilitate economic growth by raising investment opportunities in the country by recognizing and financing productive projects, allocating capital efficiently, mobilizing domestic savings, diversifying risks and facilitating exchange of goods and services. Paudel (2005) found that the liquidity of stock markets facilitate firms to attain the much needed capital quickly thereby facilitating capital accumulation, investment and growth.

According to Levine and Zervos (1996), stock market liquidity was found to be a robust predictor of real per capita GDP growth after controlling for initial income, initial investment in education, political stability, fiscal policy, openness to trade and macroeconomic stability. They also found that the remaining stock market development proxies do not show a robust link with long run growth. That is, market size, international integration, capital accumulation, productivity, improvements, and private savings rates and in particular, volatility were not found to be robustly linked with growth in their framework. Their study showed that liquid equity markets were the solution for the

problem of long term investment blocking their savings for long periods. This is because these markets provide such assets which can be sold easily and inexpensively by the investor. Also the firms can have permanent access to capital raised through equity issues. Also in well-developed stock markets, liquidity risk is low due to which investors do not hesitate to invest in long term promising projects. In this case, the investors can sell their stocks at any time and with minimal effect on actual investments. This enables the retention of capital within firms which will not get prematurely removed to meet short term liquidity needs. Beck and Levine (2004) was an improvement of the study of Levine and Zervos (1998) wherein the moving average panel data of 40 countries over 5 years while controlling for many other growth determinants, used the generalized method of moments technique to estimate the problem. The study by There are also other studies by Bencivenga et al., (1996) and Levine (1991) which emphasized the importance of stock market liquidity and size for economic growth. Arestis, Demetriades and Luintel (2001) examined the relationship between stock market development and economic growth while controlling for the effects of banks and stock market volatility using the time series method on five developed countries. Their findings were consistent with that of Levine and Zervos's finding for three countries only. The other two countries showed that bank based financial systems promoted long term growth more than stock markets. Levine (2003) also gave an insight into the ambiguous predictions of the relationship between stock market liquidity and economic growth. He analysed the cross country evidence on the association between total value of stock transactions divided by GDP and the average economic growth rates over the period 1976-1993. The results showed a strong positive relationship between long run economic growth rate and stock market liquidity. The positive relationship was found to hold good even when there are changes in the information used.

Apart from liquidity, global risk diversification is another major function of stock markets. Saint Paul (1992), Deveraux and Smith (1994) and Obstfeld (1994a; b) found that stock markets provide opportunities for risk reduction through global diversification. It enables the investors to take optimal investment decisions through the process of equilibrium pricing as well as the provision of easily and publicly available information

ultimately leading to the better allocation of funds among corporations. Consequently a higher economic growth can be achieved.

Adajaski and Biekpe (2005) used the data of upper middle income economies to find a considerable positive impact of stock market development on economic growth. These findings were supported by the study conducted by Bahadur and Neupane (2006) which showed that stock market fluctuations help to predict the future growth of an economy. Harris (1997) in his study looked into the different effects of stock market liquidity on economic growth for 49 developed and less developed countries over the period 1980-1991 using two stage least squares. The proxy for stock market activity was the total annual value of shares traded in 1980 as a percentage of GDP. The results were interesting as stock market activities did not seem to have influenced economic growth for the full sample and for the sub-sample of less developed countries. But it found stock market activities significant in the case of the developed sub sample. Shahbaz et al., (2008) used the data from Pakistan for which a long run relationship between stock market development and economic growth was found. The results were found to be robust and dynamic and the Engle-Granger causality test showed the existence of a bi directional relationship in the long run. However in the short run, they could find only a unidirectional causal relationship from stock market development to economic growth. Redel (1997) in his study analysed the capital market integration in developing Asia from 1970 to 1994 using such variables like net capital flows, FDI, portfolio equity and bond flows. He found that the capital market integration in the 1970s was largely a result of the broad based economic reforms especially in the trade and financial sectors. He suggested that strengthening the process of economic liberalization is important for minimizing the risks and maximizing the benefits from increased international capital market integration. Caporale et al. (2005) studied the interactions between investment, stock market development and economic growth in countries like the Chile, Korea, Malaysia and the Philippines and found that stock market development promoted economic growth in the long run. The study by Vazakidis and Adamopoulos (2011) showed that stock market development has a larger effect on economic growth in the United Kingdom. Another recent study by Ikikii and Nzomoi (2013) also found a positive effect of stock market development on economic growth in Kenya. Singh (1997) focused his study on

developing countries in the 1980s and the 1990s. But he found that in the developing countries long run economic growth does not depend on stock markets. Also another study by Harris (1997) conducted on 49 countries from 1980 to 1991 found no significant relationship between stock market and economic growth. Recently there was a study by Boubakari and Jin (2010) who found positive links between stock market and economic growth for those countries for which the stock market is liquid and highly active. But there was no causal relation found for countries in which the stock market is small and less liquid. Okoye and Nwisiennyi (2013) found that although the capital markets in Nigeria has potential for inducing growth; its potential is not fully tapped.

Filer et al. (1999) took up the stock market-growth nexus and found causal relationship from stock market development to economic growth particularly for less developed countries. Tuncer and Alovzat (2001) examined the stock market – growth nexus and found a positive causal correlation between stock market development and economic activities. Chen and Wong (2004) also analysed the nexus between stock market development and output growth and found that in the case of East Asian countries, rate of stock returns is a leading indicator of output growth.

Many studies have also been conducted on the direction of causality between financial development and economic growth whether it is the economic growth that causes the stock market development or vice versa like the study by Arestis et al. 2001, Demetriades and Hussein, 1996, Luintel and Khan, 1999). It was also investigated by Tuncer and Alovzat (2000) who found bi-directional causality between stock market development and economic growth for the s 20 selected countries. The long run bi-directional causality between stock market development and economic growth was also confirmed by Shahbaz et al. (2008) in Pakistan.

The studies of Indian stock markets are enumerated as follows. Gupta (1972) in his book analysed the working of stock exchanges in India and gave number of suggestions to improve its working. He emphasized the need to regulate the volume of speculation to serve the needs of liquidity and price continuity. He suggests the enlistment of corporate securities in more than one stock exchange at the same time to improve liquidity. Panda (1980) conducted a study to understand the role of stock markets before and after

independence. The study showed that listed stocks comprise four-fifths of the joint stock sector companies. This showed that investment in securities were no longer limited to only a small group or a particular class. It seemed to have attracted and gained the confidence of a large proposition of small and middle class individuals. The study also found that a large proportion of savings went into the purchase of securities already issued. Pyare Lal Singh (1993) in his study titled “Indian Capital Market-A Functional Analysis”, showed the primary market as the perennial source of supply of funds by mobilizing the savings from different sectors of the economy like households, public and private corporate sectors. L.C. Gupta (1992) found the existence of wild speculation in Indian stock markets. This was reflected in the extremely high concentration of the market activity in a handful of shares. He believed that short term speculation, if excessive, could lead to “artificial price”. Artificial price is one which is not justified by prospective earnings, dividends, financial strength and assets or which are brought about by speculators through rumours, manipulations etc. he thought that such artificial prices would bring about a stock market crash sooner or later. The Indian stock market efficiency was analysed by Amanulla and Kamaiah (1995) using Ravallion cointegration and error correction market integration approaches. They analysed the data of monthly aggregate share indices of five regional stock exchanges viz. Bombay, Calcutta, Madras, Delhi, Ahmedabad from 1980-1983. The cointegration results showed a long-run equilibrium relation between price indices of five stock exchanges and error correction models showed short run deviation between the five regional stock exchanges. The study also showed that there is no evidence in favour of market efficiencies of Bombay, Madras and Calcutta stock exchanges while contrary evidence was found in the case of Delhi and Ahmedabad. Debjit Chakraborty (1997) conducted a study to understand the relationship between major economic indicators and stock market behavior in addition to understanding the stock market reactions to changes in the economic climate. The trend in stock markets was measured using the BSE National Index of Equity Prices (Natex) representing 100 companies. The other factors that could possibly influence stock market movements were chosen to be inflation, money supply, growth in GDP, fiscal deficit and credit deposit ratio. The results showed that stock market movements were largely influenced by broad money supply, inflation, credit deposit ratio and fiscal deficit apart

from political stability. He also revealed that the causality ran from growth rate of real GDP to stock market capitalization. An empirical study was conducted by Kamaiah and Biswal (2000) to assess the empirical relationship between stock market indicators and economic growth in India. They found a positive association between stock market size and economic growth but did not find any substantial evidence to connect stock market liquidity and economic growth in India. Biswal and Veerashekharappa (2002) also found that stock market development is a significant factor for economic growth in India. Agarwala and Tuteja (2007) also found a stable long run equilibrium relationship between stock market development and economic growth. Padhan (2007) and Paramati and Gupta (2011) also exposed the bidirectional relationship between stock market indicators and economic activity. In the same way, Deb and Mukherjee (2008) and Acharya et al. (2009) observed a strong causality relationship which ran from stock market development to economic growth. A recent study of Sahoo (2013) showed that market based indicators of financial depth have a positive impact on economic development in India but found no causality between market capitalization and economic development.

#### **4. Conclusion**

It can be easily seen empirical evidence in the context of Indian capital markets is still inconclusive and remains ambiguous. The pace of economic reforms and rapid integration with the world economy has significantly improved the importance of capital markets in India. Over the years, the Indian capital market system has undergone major fundamental institutional changes which resulted in reduction in transaction costs, significant improvements in efficiency, transparency and safety. All these changes have brought about the economic development of the economy through stock markets. In the same way, economic expansion fuelled by technological changes, products and services innovation is expected to create a high demand for stock market development.

## References

1. Abdalla, I.S.A. and V. Murinde (1997), "Exchange Rate and Stock Price Interactions: Evidence on India, Korea, Pakistan and Philippines", *Applied Financial Economics*, vol. 7, pp 25-35.
2. Aggarwal, R. (1981), "Exchange rates and stock prices: a study of the United States capital markets under floating exchange rates", *Akron Business and Economic Review*, vol. 21, pp. 7-12.
3. Agmon, T (1972), "The relationship among equity markets: a study of share price comovement in the United States, United Kingdom, Germany and Japan", *Journal of Finance*, Vol 27, pp 839-55.
4. Ahmed, Shahid (2008), "Aggregate Economic Variables and Stock Markets in India" *International Research Journal of Finance and Economics*, Issue 14.
5. Ajayi, R.A., and M. Mougoue (1996), "On the Dynamic Relation Between Stock Prices and Exchange Rates", *Journal of Financial Research*, vol. 19, pp. 193-207.
6. Akdogan, H. (1995), "The Integration of International Capital Markets: Theory and Empirical Evidence", Edward Elgar, Aldershot.
7. Allen, D., E., Macdonald, G. (1995), "The long-run gains from international equity diversification: Australian evidence from cointegration tests", *Applied Financial Economics*, vol. 5, pp. 33-42.
8. Allen, Franklin, Chakrabarti, Rajesh, and De, Sankar (2007) "*India's Financial System*" Nomura Occasional Series on Contemporary Capital Markets.
9. Aloui, R. Aissa, M. S. B. and Nguyen, D. K (2011), "Global Financial Crisis, Extreme Interdependences, and Contagion effects: the role of Economic Structure? *Journal of Banking and Finance*, 35: 130 - 141.

10. Aran, hemendra and Patel, Alpesh B (2006), *"Global Financial Markets Revolution" Palgrave Macmillan, New York.*
11. Arouri, Mohamed E H, Bellalah M and Nguyen D K (2007), "The co movements in International Stock Markets: New Evidence from Latin American Emerging Countires" Depocen, *Working paper Series No 2007/05.*
12. Atje, R.and B, and Jovanovic (1993), "Stock markets and development", *European Economic Review*, Vol. 37, pp: 632-640.
13. Ayling, D.E (1986), *"The Internationalization of Stock Markets"* Gower Publishing Company Limited, England.
14. Ayuso, J and R.Blanco (1999), "Has financial market integration has increased during the nineties?" *Ban code Espana service de estudios, document de trabajon* 9923.
15. Azman-Saini, M. Azali, M. S. Habibullah and K. G. Matthews, (2002), "Financial integration and the ASEAN-5 equity markets", *Applied Economics*, vol. 34, pp. 2283-2289.
16. Bagehot, Walter, (1873), *"Lombard Street"* Homewood, IL: Richard D. Irwin, 1962 edition.
17. Barua S K and Raghunathan V (1982), "Inflation Hedge in India - Stocks or Bullion", Working Paper No. 429, (July- Sept), Indian Institute of Management, Ahmedabad.
18. Baumol, W. (1965), *"Stock Market and Economic Efficiency"*, Fordham University Press, New York.
19. Beck, Thorsten, Demirgiic-Kunt, Ash and Levine, Ross (2001), "Law, Politics, and Finance" *World Bank Policy Research Working Paper* No. 2585.

20. Bekaert, G., and C.R. Harvey (1998), "Fundamental Determinants of National Equity Market Returns: A Perspective on Conditional Asset Pricing." *Journal of Banking and Finance* vol. 21, pp. 1625-65.
21. Bencivenga, V.R. and B.D. Smith (1991), "Financial Intermediation and Endogenous Growth", *Review of Economic Studies*, 58,195-209.
22. Bernanke, Ben S. and Kenneth N. Kuttner (2005), "What Explains the Stock Market's Reaction to Federal Reserve Policy?" *Journal of Finance*, vol. 60 , no. 3, pp. 1221-1257.
23. Bhole L M (1980), "Retained Earnings, Dividends and Share Prices of Indian Joint Stock Companies", *Economic & Political Weekly*, Vol. 15, No. 35.
24. Bird, G., and R.S. Rajan (2000), "Restraining International Capital Movements, What does it Mean?" *Centre for International Economic Studies (CIES); University of Adelaide Policy Discussion Paper* No. 0014.
25. Blankenburg, Stephanie and Palma, Jose Gabriel (2009), "Introduction: the Global Financial Crisis" *Cambridge Journal of Economics*, vol. 33, pp. 531-538.
26. Bodie Z (1976), "Common Stocks as a Hedge against Inflation", *The Journal of Finance*, Vol. 2, pp. 459-470.
27. Bortis, H. (2003), "*Keynes and the Classics - Notes on the Monetary Theory of Production*, in: *Modern Theories of Money - The Nature and Role of Money in Capitalist Economies*, ed. L.-P. Rochon, Sergio Rossi, Cheltenham (UK) and Northampton (USA): Edward Elgar: 411-475.
28. Bose, Suchismith (2005), "Indian, US and Asian Stock Markets recent trends in Interlinkages" *Money and Finance (ICRA Bulletin)* July- Dec.2005, pp 49-72.
29. Bosworth, B.(1975), "The Stock Market and the Economy", *Brookings Papers on Economic Activity*, Vol. 2.

30. Boyer, Brian H., Michael S. Gibson, and Mico Loretan (1999), "Pitfalls in Tests for Changes in Correlation" *Federal Reserve Board, International Finance Discussion Paper 597*.
31. Bracker, K., Docking, D.S., and Koch, P.D., (1999), "Economic Determinants of Evolution in International Stock Market Integration". *Journal of Empirical Finance*, 6, 1-27.
32. Campbell, Y.J and Perron, P. (1991), "Pitfalls and Oppurtunities: What Macroeconomists Should Know about Unit Roots" NBER Macroeconomics Annual Vol. 6, Accessed thorough; <http://www.nber.org/chapters/c10983>.
33. Caporale, Guglielmo Maria and Spagnolo, Nicola (2010), "Stock Market Integration between Three CEECs, Russia and the UK" *Working Paper No. 10-02*, Department of Economics and Finance, Brunel University, London, UK.
34. Chakrabarti, Rajesh (2001), "FII Flows to India: Nature and Causes" *Money and Finance*, Vol. 2, No. 7, October-December.
35. Chakravarty Sangeeta (2006), "Stock Market and Macroeconomic Behavior in India", *Institute of Economic Growth Discussion paper series no.106/2006*.
36. Chen, Nai-Fu, R. Roll, and S. Ross (1986), "Economic forces and the stock market", *Journal of Business*, vol. 59, pp. 383-403.
37. Chittedi, Krishna Reddy (2009), "Indian Stock Market Integration and Cross country analysis" Presented paper 11 *Annual conferences on Money and Finance in Indian Economy, organized by IGIDR, Mumbai, India on January 23-24, 2009*.
38. Chittedi, Krishna Reddy (2010a), "*Development and Integration of Global Stock Markets With special reference to India*" VDM Verlag Dr. Muller, Germany.

39. Chittedi, Krishna Reddy (2010b), "Global Stock Markets Development and Integration: with Special Reference to BRIC Countries" *International Review of Applied Financial issues and Economics*, Paris, France Vol 2, Issue 1, March.
40. Cho, D, Eun., Chinyung, Cheol S., and Senbet lemma W. (1986), "International arbitrage pricing theory: an empirical investigation", *Journal of Finance*, vol. 41, pp 313 -329.
41. Choudhury, T., (1997), "Stochastic Trends in Stock Prices: Evidence from Latin American Markets", *Journal of Macroeconomics*, vol. 19, pp 285 -304.
42. Chowdhry, T, Lin Lu and Ke Peng (2007), "Common stochastic trends among Far Eastern stock prices: effects of Asian financial crisis", *International Review of Financial Analysis*, vol 16.
43. De Santis, R.A and Gerard, B. (2006), "Financail Integration, International portfolio choice and the European monetary union". ECB working papers Series, No. 626. European Central Bank.
44. Deb, S. G. and Mukherjee, J., (2008), "Does Stock Market Development Cause Economic Growth? A Time Series Analysis for Indian Economy" *International Research Journal of Finance and Economics*, Issue 21, pp. 142-149.
45. Demirguch-Kunt, A., and R. Levine. (1996a), "Stock Market Development and Financial Intermediaries: Stylized Facts." *The World Bank Economic Review*, Vol. 10: 291-321.
46. Demirguc-Kunt, A. and V. Maksimovic, (1996), "Financial Constraints, Uses of Funds and firm Growth: An International Comparison", *Policy Research Working Paper*, The World Bank.
47. Demirguc-Kunt, Asli, and Ross Levine, (1996b) "Stock Markets, Corporate Finance and Economic Growth: An Overview", *The World Bank Economic Review*, Vol. 10 (2), pp. 223-239.

48. Devereux, M. B., and G. W. Smith, (1994), "International Risk Sharing and Economic Growth", *International Economic Review*, **35**, 535-50.
49. Dornbusch, R., and Park, Y.C.(1995), "Financial integration in a second-best world: are we still sure about our classical prejudices". In: Dornbusch, R., Park, Y.C. (Eds.), *Financial Opening: Policy Lessons for Korea*. Korea Institute of Finance, Seoul, Korea.
50. Durai, S. Raja Sethu and Bhaduri, Saumitra N (2009), "Stock prices, inflation and output: Evidence from Wavelet Analysis" *Economic Modelling*, Vol. 26, pp. 1089-1092.
51. Emran, M.H., Shilip, and Alam, M.I. (2007), "Economic liberalisation and price response of aggregate private investment, time series evidence from India." *Canadian Journal of Economics*, vol. 40, pp. 914-934.
52. Fama, E. (1991), "Efficient Capital Markets: II" *Journal of Finance*. Vol. XLVI, No. 5 pp. 1575-1617.
53. Fama, E.F. (1981), "Stock Returns, Real Activity, Inflation and Money." *American Economic Review*, vol. 11, pp. 545-65.
54. Fama, Eugene F (1970), "Efficient capital markets: A review theory: macro variables vs derived factors," *Journal of Finance*, vol. 25, pp. 383-417.
55. Fama, Eugene F. and French, Kenneth R. (2004), "The Capital Asset Pricing Model: Theory and Evidence" *Journal of Economic Perspectives*, Volume 18, Number 3, summer.
56. Fama, Eugene F., (1990), "Stock Returns, Expected Returns, and Real Activity," *Journal of Finance*, vol. 45, pp. 1089-1108.

57. Friedman, M. (1988), "Money and the Stock Market", *Journal of Political Economy*, vol. 96, no. 2, pp. 221-245.
58. Geisst, Charles R. (2004), "Wall Street: A History: from Its Beginnings to the fall of Enron". *Oxford University Press*.
59. Goldsmith, Raymond W. (1969). *Financial structure and development*. New Haven, CT: Yale U. Press.
60. Greenwood, J. and B. Jovanovic (1990), "Financial Development, Growth, and the Distribution of Income", *Journal of Political Economy*, 98, 1076-1107.
61. Greenwood, Jeremy and Smith, Bruce (1997), "Financial Markets in Development, and the Development of Financial Markets," *Journal of Economic Dynamics and Control*, January, 21(1), pp. 145-186.
62. Habibullah, M S, A Z Baharumshah, M Azali, and W N W Azman-Saini (2000), 'Stock Market and Economic Activity: An Application of Toda- Yamamoto Long-Run Causality Test' in *M S Habibullah (ed), ASEAN in an Interdependent World, Ashgate Publishing Company, Aldershot*, pp. 81-94.
63. Hardaker, Glenn and Najeb Masoud, (2012), "The Impact of Financial Development on Economic Growth: Empirical Analysis of Emerging Market Countries", *Studies in Economics and Finance*, Vol. 29 Issue: 3.
64. Hashmi, A R and Xingyun, L, (2001), "Interlinkages among South East Asian Stock Markets (A Comparison Between Pre- and Post-1997-Crisis Periods)", *Working Paper presented at the 10th International Tor Vergata Financial*.
65. Hicks, John (1969), *"A Theory of Economic History"*, Oxford. Clarendon Press.
66. Hicks, John (1989), *"A Market Theory of Money"*, Oxford: Clarendon Press,

67. ISMR (Indian Security Market Review) (2010), "*Indian Security Market Review*" Volume XIII ,National Stock Exchange of India Ltd. (NSE).
68. Janakiramanan, S and A S Lamba (1998), "An empirical examination of linkages between Pacific Basin stock markets", *Journal of International Financial Markets, Institutions and Money*, vol 8, no 2, pp 155-173.
69. Jobst, Andreas (2008),"What is Securitization?" *Finance & Development, World Bank*.
70. Jorion, Philippe and Eduardo Schwartz, (1986), "Integration vs. segmentation in the Canadian Stock Market" *Journal of Finance*, vol. 41, pp. 603-616.
71. Kalecki, M. (1971), *Selected Essays on the Dynamics of the Capitalist Economy*, Cambridge, Cambridge University Press.
72. Keynes, John Maynard (1936), "*The General Theory of Employment, Interest and Money*, Newyork : Harcourt, Brace and Co.
73. King, R.G. and R. Levine (1993), "Finance and Growth: Schumpeter Might be Right", *Quarterly Journal of Economics*, 108, 717-737.
74. Kirankabeş and Başarir (2012) ,"Stock Market Development and Economic Growth in Developing Countries: An Empirical Analysis for Turkey" *International Research Journal of Finance and Economics*, Issue 87.
75. Kyle, Albert (1984), "Market Structure, Information, Futures Markets and Price Formation" in *International Agricultural Trade: Advanced Readings in Price Formation, Market Structure and Price Instability*, (eds) G Story, A Schmitz and A Sarris, Westview Press, Boulder, CO.
76. Lee, B.S. (1992), "Causal Relations among Stock Returns, Interest Rates, Real Activity and Inflation." *Journal of Finance*, vol. 47, pp. 1591-1603.

77. Leong S. C. and Felmingham B. (2003), "The Interdependence of Share Markets in the Developed Economies of East Asia", *Pacific-Basin Finance Journal*, Vol. 11, 219-237.
78. Levine, Ross (1991), "Stock Markets, Growth, and Tax Policy", *Journal of Finance*, Vol. 46, No.4, pp: 1445-1465.
79. Levine, Ross (1996), "Financial Development and Economic Growth: Views and Agenda," Policy Research Working Paper Series 1678, The World Bank.
80. Levine, Ross (1997). "Financial Development and Economic Growth: Views and Agenda". *Journal of Economic Literature*, Vol. 35, No. 2 (June), pp. 688-726.
81. Levine, Ross, (2005), "Finance and Growth: Theory and Evidence," Handbook of Economic Growth, in: Philippe Aghion & Steven Durlauf (ed.), Handbook of Economic Growth, edition 1, volume 1, chapter 12, pages 865-934 Elsevier.
82. Levine, Ross and Zervos, Sara, (1996), "Stock Market Development and Long-Run Growth", World Bank Economic Review, Oxford University Press, vol. 10(2), pages 323-39, May
83. Levine, R. and Zervos, Sara. (1998), "Stock Markets, Banks, and Economic Growth". *The American Economic Review*, Vol. 88 (3) 537-558.
84. McKinnon, R.I. (1973), *"Money and Capital in Economic Development"* Washington D.C.: The Brookings Institution.
85. Michie, Ranlad. C (2006), *"The Global Securities Market: A History"* Oxford University Press, New York.
86. Minsky (1982), *"Can 'It' Happen Again? A Reprise,"* Challenge (July-August): 5-13.

87. Mookerjee, Rajen and Yu, Qiao (1997), "Macroeconomic variables and stock prices in a small open economy: The case of Singapore", *Pacific-Basin Finance Journal*, vol. 5, pp. 377-388.
88. Morgan, Victor and Thomas, W.A (1969), "The Stock Exchange: Its History and Functions" *The Gresham Press old working survey England, Elek Books Limited, London.*
89. Nath, Golaka C and Reddy.Y.V (2004), "Macroeconomic Indicators and Stock prices -Indian Evidence" *Journal of Applied Finance, Volume 10, No. 07.*
90. Neaime, Simon, (2002), "Liberalization and financial integration of MENA stock markets", a paper presented at the ERF's 9th annual conference on "Finance and Banking", United Arab Emirates.
91. Panda, Chakradhara (2008), "Do interest rates matter for stock markets?" *Economic and Political Weekly*, Vol. 43 No.17, pp.107-115.
92. Phylaktis, K., (1999), "Capital Market Integration in the Pacific-Basin Region: An Impulse Response Analysis", *Journal of International Money and Finance*, vol. 18, pp. 267-287.
93. Phylaktis, Kate and Ravazzolo, Fabiola (2005), "Stock prices and exchange rate dynamics" *Journal of International Money and Finance*, vol. 24, pp. 1031 - 1053.
94. Pretarius, E (2002), "Economic Determinants of Emerging Stock Market Interdependence", *Emerging Markets Review*, pp. 84-105.
95. Raj, Janak and Dhal, Sarat Chandra (2009), "Is India's Stock Market Integrated with Global and Major Regional Markets?" *The ICAFI Journal of Applied Finance*, Vol. 15, No. 2, pp 1-37.
96. Raj, Janak and Sarat Dhal (2008), "Integration of India's stock market with global and major regional markets", *BIS Papers* No 42.

97. Rajan R. C. and Zingales, L. (1998), "Financial dependence and growth" *American Economic Review*, vol. 88, pp. 559-586.
98. Rajan, R. C. and Zingales, L. (2003), "The Great Reversals: The Politics of Financial Development in the Twentieth Century." *Journal of Financial Economics*, vol. 69, no.1.
99. Ray, Prantik and Vani, Vina (2004), "What Moves Indian Stock Market: A Study on the Linkage with Real Economy in the Post-Reform Era", *Paper presented in The Sixth Annual Conference on Money and Finance in The Indian Economy*, March 25-27.
100. Rik W. Hafer and Scott E. Hein (2007), *"The Stock Market"* Greenwood Press, Westport.
101. Robinson, Joan (1952). "The Generalization of the General Theory," in *The rate of interest, and other essays*. London: Macmillan, pp. 67-142.
102. Rockinger, M and Urga, G (2001), "A time-varying Model to test for Predicatability and Integration in the stock markets of transition Economies", *Journal of Business and Economic Statistics*, Vol 19, No1, pp 73-84.
103. Schumpeter, Joseph A (1912). *Theorie der Wirtschaftlichen Entwicklung* [*The theory of economic development*]. Leipzig: Dunker & Humblot; translated by Redvers Opie (1934). Cambridge, MA: Harvard U. Press.
104. Sellin, Peter (2001), "Monetary Policy and the Stock Market: Theory and Empirical Evidence." *Journal of Economic Surveys*, vol. 15, no. 4, pp. 491-541.
105. Shaw, E.S. (1973), *"Financial Deepening in Economic Development"*, New York: Oxford University Press.

106. Shiller, Robert J, (1981), "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?," *American Economic Review*, vol. 71(3), 421-36, June.
107. Singh, A (1997), "Financial Liberalization, Stock Markets and Economic Development". *Economic Journal*, vol.107, 771-782.
108. Smith, G. (2001), "The price of gold and stock price indices for the United States". Unpublished manuscript, *The World Gold Council*, pp. 1-35.
109. Solnik B (1983), "The Relation between Stock Prices and Inflationary Expectations", *Journal of Finance*, Vol. 38, pp. 35-48.
110. Solow, Robert. (2009), "How to Understand the Disaster", *The New York Review of Books*, May 14.
111. Summers,L.H (1986), "Does the stock market rationally reflect fundamental variables?" *Journal of finance*, pp. 591-601.
112. Syriopoulos, T. (2007), "Dynamic Linkages between Emerging European and Developed Stock Markets: Has the EMU any Impact?" *International Review of Financial Analysis*, vol. 16, pp. 41-60.
113. Wehinger, Gert (2011), "Fostering Long-term investment and Economic growth Summary of a High-level OECD Financial Roundtable" *OECD Journal: Financial Market Trends*, Volume 2011, Issue 1.
114. Wolf, Holger. (1999), "International Asset Price and Capital Flow Comovements during Crisis: The Role of Contagion, Demonstration Effects, and Fundamentals." Paper presented at the *World Bank/IMF/WTO conference on "Capital Flows, Financial Crises, and Policies,"* April 15-16, Washington, D.C.

115. Wong W K, A Agarwal and J Du (2005), "Financial Integration for India Stock Market, a Fractional Cointegration Approach", *National University of Singapore Working Paper No. WP0501*.
116. Yartey, C. A. (2008), "Determinants of Stock Market Development in Emerging Economies: Is South Africa Different?" *IMF working Paper-WP/08/32* Washington, International Monetary Fund.
117. Young, Patrick L (2003), *"The New Capital Market Revolution: The Winners, the Losers and the Future of Finance"*, Texere Publishing; New Ed edition.
118. Yu, J.S. and Hassan, M.K. (2008), "Global and Regional Integration of the Middle East and North African (MENA) Stock Markets", *The Quarterly Review of Economics and Finance*, Vol. 48, pp. 482-504.
119. Zhou, C. (1996), "Stock Market Fluctuations and the Term Structure". *Board of Governors of the Federal Reserve System, Finance and Economics Discussion Series: 96/03*.