CHAPTER I

INTRODUCTION

Economic growth and development of any nation relies on a well-sewed financial system. Financial system involves a set of sub-systems of financial markets, financial institutions, financial instruments and services which help in the development of capital. An economy is connected to the world economy through two wide channels: trade and finance. In 1991, India's economic policy reforms sought to globalize the hitherto relatively closed Indian economy by introducing both the channels. The progression in both trade and the financial sector has been slow giving the economy time to change. Despite restrictions, the trade channel between India and the rest of the world was far more open than the financial markets.

In the field of economic reforms, India has been undergoing a gradual, measured, cautious, and steady process of efficient price discovery for exchange rates, interest rates and securities in the overall operation of the financial markets. While securities market are subject to market forces for price determination, the partial convertibility of the rupee on capital account and full convertibility on current account should enable the rupee to discover its price based on market forces. A degree of financial integration has also developed over the past one decade which is likely to strengthen the interrelationship between the different variables of the financial matrix of an economy. More importantly, India is recognized as a destination for investment by developed countries which in turn increases greater level of integration with the global markets.

The stock market and the foreign exchange market plays a significant role in financial system. In India the two markets have come through significant stages of reformation since 1991 in a phased manner. From being nearly closed and administered domestic markets, they are currently emerging as globally relevant and integrated markets. In India, financial market reforms have reached a greater integration of different segments of the market, achieving higher level of freedom, efficiency in market operation and reducing arbitrage opportunities with changing roles of the regulators like Reserve bank of India and SEBI which leads to increase efficacy in the monetary policy of an economy. The growing integration between capital market and foreign exchange market

segments is perceptible in the co-movement and convergence of financial prices, within and among various segments.

The present study is an endeavor to analyze the impact of exchange rate fluctuations over share indices in Indian stock market. The stock markets are the most sensitive segment in the Indian economy because only through this segment, the exposure to the outer world is most readily felt. The study attempts to examine how changes in exchange rates affect stock prices over the period January 2007- December 2017.

1.1 OVERVIEW OF FOREIGN EXCHANGE MARKET

"Exchange rate fluctuations develop much virtual money and that money moves to the stock market and develops fluctuations in the stock market".

- **Peter Drucker**

The foreign exchange market is a market where currencies are purchased and sold. It is an Over-the-counter (OTC) market where there is no specific physical layout where dealers gather and transact foreign currencies. Rather, it comprises of trading desks at main agencies dealing in foreign exchange throughout the world that are connected by telephone, telex and so on. Although the market is global, the market features in each country are affected by the local regulatory framework. In India or USA, the market replies more on communication network while European countries or Paris, physical meeting of participants at bourses is also customary. Foreign exchange dealers are spread all over the globe, the time of transaction differs from one place to another depending upon the longitude of the place. In the world, the most traded major currency pairs are EUR/USD, USD/JPY, GBP/USD, AUD/USD, CAD/USD and USD/CHF. Share of these Majors in total daily trading volume of world are shown below.

Table 1.1 Share of Major Currency Pairs Daily Trading Volume

Currency	% Share
EUR/USD	23%
USD/JPY	17.7%
GBP/USD	9.2%
AUD/USD	5.2%
USD/CAD	4.3%
USD/CNY	3.8%
USD/CHF	3.5%

Table 1.1 (Continued)

Currency	% Share
USD/MXN	2.1%
EUR/GBP	2%

Source: BIS Triennial Central Bank Survey 2017

1.2 EVOLUTION OF FOREIGN EXCHANGE MARKET IN INDIA

The Indian forex market owes its origin to the significant step that the Reserve Bank of India(RBI) took initiative in 1978 which made the banks to undertake intra-day trading in Indian foreign exchange market. As a result, the stipulation of maintaining "square" or "near square" position was to be complied with only at the end of the business each day. During the period 1975-1992, the exchange rate of rupee was officially determined by the Reserve bank of India in terms of a weighted basket of currencies of India's major trading partners and there were important limitations on the current account transactions.

The initiation of economic reforms in the year July 1991 leads to two-step downward adjustment in the exchange rate of the rupee with a perspective of placing it at an appropriate level in accordance with the inflation differential to maintain the competitiveness of exports. Subsequently, LERMS (Liberalised Exchange Rate Management System) involving dual exchange rate mechanism was instituted in March 1992 which are recommended by the High Level Committee on Balance of Payments (Chairman: Dr C.Rangarajan) that followed an ultimate convergence of the dual rates effective from March 1, 1993. The unification of the exchange rate of the rupee denotes the beginning of an era of market determined exchange rate regime of rupee, based on demand and supply in the forex market. Also, it is an important step in the development towards current account convertibility, which was finally succeeded in August 1994 by accepting Article VIII of the Articles of Agreement of the IMF(International Monetary Fund).

The appointment of an Expert Group on Foreign Exchange in November 1994 (popularly called as Sodhani Committee) is a landmark in the design/structure of foreign exchange market in India. The Group examined the market in great detail and came up

with the recommendations to develop, widen and deepen the forex market. In the process of growth of forex markets, banks have been rendered important initiative and freedom to operate in the market. To mention a few significant measures relating to market development and liberalisation, banks were permitted freedom to invest or borrow funds in the overseas markets up to specified limits, fix their trading limits, allowed to use derivative products for asset-liability management purposes and to determine interest rates on Foreign Currency Non-Repatriable (FCNR) deposits within ceilings. Likewise, corporates were given freedom to use a variety of instruments like caps/collars and forward rate, interest rates and currency swaps agreements in the international forex market and allowed to book forward cover by considering the past turnover.

Foreign currency swap market for hedging longer term exposure has significantly developed in the last few years. The Indian rupee was permitted to trade against other currencies such as USD, Euro, Pound Sterling and the Japanese Yen.

1.3 MARKET STRUCTURE AND DESIGN

Foreign exchange market in India is a decentralized multiple dealership market comprising two segments – spot market and derivatives market. The currencies are traded in the spot market at the prevailing rates and the value or settlement date is two business days ahead. The two-day period offers an adequate time for the parties to give instructions to debit or credit the appropriate bank accounts at home and abroad. The derivatives market contains swaps, forwards and options. Forward contracts exist up to one year but majority of forward contracts are for two months or six months. For longer period's forward market are not common due to the uncertainties involved and related pricing issues. A swap transaction in the exchange market is a mixture of a spot and a forward in the opposite direction.

The major participants in the foreign exchange market are individuals, Authorized Dealers(AD) i.e., banks, government, firms and occasionally the international agencies. In recent years, FII (Foreign Institutional Investors) have developed as important players in the foreign exchange market. The participants are generally grouped according to their motives and behaviour in the market as follows,

- Non-banking entities simply exchange currencies to govern their obligations or to get the desired currencies.
- Non-banking entities for traders use the exchange market with the purpose of hedging their foreign exchange exposure on account of change in the exchange rate.
- Banks exchange currencies on behalf of their customers. In such cases, their profit is limited to the amount of spread between the bid and the ask rates.
- Arbitrageurs who change currencies because of varying rates of exchange in different markets where the varying rates are the main source of their profit.
- Speculators who purchase or sale currencies as per their expectation towards the movement of exchange rate in a desired direction and they get their return from movement of exchange rate in a desired direction.

The RBI undertakes purchase/sale of foreign currency in periods of excess demand/supply in the exchange market. FEDAI(Foreign Exchange Dealers' Association of India) plays a significant role in the Indian Foreign Exchange Market for smooth and speedy development of the foreign exchange market in all perspectives.

Table 1.2 Most Traded Currencies in Foreign Exchange Market

Rank	Currency	Country	Share of trade (%)
1	USD	USA	87.6
2	EUR	Europe	31.4
3	JPY	Japan	21.6
4	GBP	Great Britain	12.8
5	AUD	Australia	6.9
6	CAD	Canada	5.1
7	CHF	Switzerland	4.8
8	CNY	Chinese	4.0
9	SEK	Swedish	2.2
10	NZD	New Zealand	2.1
11	MXN	Mexican	1.9
12	SGD	Singapore	1.8
13	HKD	Hong Kong	1.7
14	NOK	Norway	1.7
15	KRW	Korea	1.7

Table 1.2 (Continued)

16	TRY	Turkey	1.4
17	RUB	Russia	1.1
18	**INR**	**India**	**1.1**
19	BRL	Brazil	1.1
20	ZAR	South Africa	1.0

Source: BIS Triennial Central Bank Survey 2017

The table 1.2 shows currency distribution of global foreign exchange market turnover. It indicates that US Dollar covered 87.6% of the total Global Foreign Exchange Market Turnover and is treated as the strongest currency in the world. The second highest trading currency in world is EURO covering 31.4% in the total Global Foreign Exchange Market Turnover followed by Japanese Yen (21.6%), Pound Sterling (12.8%), Australian Dollar (6.9%) and others. India ranked 18th position covering 1.1% in the total Global Foreign Exchange Market Turnover. It is evident from table 1.2 that India has exchange trades in the top four traded currency i.e. US Dollar, Euro, Japanese Yen and Pound Sterling.

1.4 REFORMS IN THE FOREIGN EXCHANGE RATE REGIME

Generally, to a large extent, the exchange rate regime is based on the regulatory framework governing the foreign exchange market and the operational freedom available to market participants. In India, the exchange rate regime has undergone important changes since independence and mainly during the beginning years of 1990's.

Table 1.3 Reforms in the Foreign Exchange Rate Regime

Year	Type of Change
1966	The rupee was devalued by 57.5% against the sterling on June 6.
1967	Rupee-sterling parity changed as a result of devaluation of sterling.
1971	Bretton woods system broke down in August. Rupee briefly pegged to the US dollar at Rs.7.50 before repegging to sterling at Rs.18.96 with a 2.25% margin on either side.

Table 1.3 (Continued)

Year	Type of Change
1972	Sterling was floated on June 23. Rupee-sterling parity increased to Rs.18.95 and then in October it decreased to Rs.18.80.
1975	Rupee pegged to an undisclosed currency basket with margins of 2.25% on either side. Intervention currency was sterling with a central rate of Rs.18.03.
1979	In January, margins around basket parity extended to 5% on both side.
1991	Dual exchange rate was started through EXIM scrip scheme by providing the exporters a freely tradeable import entitlements.
1992	LERMS (Liberalized Exchange Rate Management System) introduced with 40-60 dual rate for converting export proceeds, market determined rate for all but specified imports and market rate for approved capital transactions. US Dollar became intervention currency from March 4. EXIM scrip scheme abolished.
1993	Unified market determined exchange rate was initiated for all transactions i.e., Reserve bank will purchase spot US Dollar and sell for specified purpose but it will not purchase or sell forward, even though it will enter into dollar swaps.
1994	RBI announces substantial relaxation of exchange controls for current account transaction and a target date for moving to current account convertibility.
1997	Tarapore committee started Capital Account Convertibility (CAC), which indicated three crucial preconditions i.e., strengthening of the financial system, fiscal consolidation and a mandated inflation target
2000	Foreign Exchange Regulation Act (FERA), 1973 was replaced by Foreign Exchange Management Act (FEMA), 2000 for the purpose of proper money market, government securities and to regulate foreign exchange market.

Table 1.3 (Continued)

Year	Type of Change
2001	Clearing Corporation of India Limited (CCIL) was introduced by RBI for regulating settlement of trade and eliminating counter party risk.
2005	An Internal Technical Group was set up by the Reserve Bank which made various recommendations for further liberalization such as freedom to cancel and rebook forward contracts of any tenor, delegation of powers to ADs for grant of permission to corporates to hedge their exposure in the international commodity exchanges/markets and extension of the trading hours of the inter-bank foreign exchange market.
2008	Currency futures started trading at National Stock Exchange (NSE).
2010	Currency options started trading at National Stock Exchange (NSE).
2013	Rupee depreciated sharply by 19.4% against the US dollar from the level of 55.4 to a historic low of 68.85 per US dollar because of the global financial crisis and the Eurozone debt crisis.
2015	Financial Awareness Messages (FAME) was constituted by RBI to provide basic financial literacy messages for the information of the general public.
2017	The Reserve Bank of India (RBI) has commenced the Tri-Party Repo which allows the investors to use underlying collateral more effectively and facilitate for the development of repo market in India.

Source: P G Apte (2017). International Financial Management, Delhi: Tata Mcgraw Hill Publishing Company Limited

1.5 GROWTH OF FOREIGN EXCHANGE MARKET IN INDIA

The continuous progress in market infrastructure had its impact in terms of liquidity, enhanced depth and efficiency of the Indian foreign exchange market. The Indian foreign exchange market turnover has grown significantly in both the derivatives and spot segments in the recent past. The average monthly turnover in merchant segment and interbank transactions in the category of purchases increased from USD 2.272 million in March 2017 to about USD 524 million in 2015. In the category of sales, the

turnover also scaled up from about USD 2,342 million in March 2017 to around USD 534 million in August 2015. Due to the commencement of the capital account, the process of price discovery in the foreign exchange market has shown improvement in the bid-ask spread and forward premia behaviour. Today, India holds an important position in the Global economic scenario and it is recognized as one of the emerging economies in the World. The percentage share of the rupee in total turnover covering all currencies has increased from 0.3 percent in 2004 to 1.1% in 2017 and ranks 18th position (BIS global survey, 2017).

The Indian Forex market is a flourishing ground of profit and initiatives are taken at several periods by the Central Government of India. The diversification of the industrial sectors and the stable growth of Indian economy has significantly led to the rapid growth of the Indian Foreign Exchange Market. The important center of foreign exchange in India is located at Mumbai and the other centers are situated in major cities like New Delhi, Kolkata, Chennai, Cochin and Bengaluru. Hence, all these Forex Markets work collectively by employing latest technology.

In the recent past, exchange rate stability has bred complacency. Importers are assured that the reserve bank will intervene to halt any rupee decrease and exporters have an opinion that the rupee is always over rated and it shall increase from the present value. Thus, companies have this traditional mindset that has kept away from hedging their exposure. However, the exchange rate of rupee against various currencies has depicted a mixed trend. The average exchange rate of rupee during USD March, 2017 was around 65.9 while Japanese yen was hovering near 58.3. The exchange rate of rupee against Euro has remained at an average of 70.3 during March 2017. While, the average exchange rate of rupee against pound sterling was about 81.26 during March 2017.

Due to the lack of information & technology, generic corporate reluctance, and consideration of hedging as unwanted cost, companies involved in hedging have mostly gone the conservative way to hedge their exposures, i.e., by entering into forward contracts with banks, which have been the AD(Authorized Dealers) in Indian foreign exchange market. The limited use and general lack of interest in the available instruments can be explained by the fact that the dependence on external sources of funding was limited and the external sector was not really developed.

1.5.1 Way forward

The Indian foreign exchange market has come a long way in terms of variety of instruments, participants and the overall market turnover. Liberalization in simplification of operating procedures, exchange controls and introduction of several new instruments has provided more flexibility to the market participants in managing their currency risks or undertaking foreign exchange operations. Due to increase in the size of India's presence in international trade and finance, more needs to be done to make the market deeper, broader and more vibrant.

1.6 CHANGING ROLE OF RBI

The financial landscape of any country in the world at large has been changing and calling for a dynamic role of the central bank. The delicate balancing of foreign exchange and monetary policies has turned much more difficult than it has been in past decades. Reserve Bank of India (RBI) has to continually engage itself in the balancing act between the imperatives of domestic monetary, economic, financial concerns and the surmounting international environment. The speedy changes due to financial innovations and technology have developed the financial markets as a force that has taken into account on a real time basis to safeguard financial and monetary stability.

The role of RBI has undergone significant changes over the one and a half decades in improving the financial architecture of an economy transforming from a regulated structure or a plan-based structure to a market based system. The primary objective of the central bank is financial stability and maintenance of orderly conditions in the markets. Reserve of Bank of India has been undertaking a continuous rebalancing between the price stability and its growth, sequenced into deregulation of interest rates, and also the progressive liberalization of the exchange rate regime, consisting of the institution of a market oriented exchange rate policy. Towards this end, it strives to develop a congenial regulatory setting to support orderly market development by setting a place in appropriate procedures, systems, standards and codes, accounting standards on par and risk management systems with international standards.

The initial step at reforms in exchange rate management was taken in 1993 referred to as LERMS (Liberalized Exchange Rate Management System). Under LERMS the dollar was termed as an intervention currency, which indicated the primary exchange rate and all official government statistics should be dominated in U.S. dollar($) in terms of global convenience and trends. This "dual exchange rate" was officially decided by the Reserve bank of India and the other through market forces. 40% of the foreign exchange transactions have to be at the official rate and the remaining at the market rate.

After 1999 the official rate was discontinued and the exchange rate became MDER (Market Determined Exchange Rate). Under MDER, the forces of supply and demand of currency in India determine the exchange rate. The supply of dollars is upward sloping (more is sold when more rupees are offered and less is sold when lesser rupees are offered). Similarly, demand for dollars is downward sloping (higher demand when lesser rupees have to be offered and lower demand when more rupees have to be offered). Thus this interaction of supply and demand determines the exchange rate, at which the supply and demand of currency balances out.

Any issue in the inflow of dollars leads to the rupee increasing its value (appreciation). This leads to imports as cheaper and exports as expensive. To prevent impact on exports under market determined exchange rate, the Reserve Bank of India purchases dollars by making an artificial demand for the excess dollars in circulation. Thus, purchase of dollars by the Reserve Bank of India impacts liquidity as rupees get unrestricted into the system creating inflationary pressures. In such circumstances, the Reserve Bank of India automatically moves for the reverse repo auction to immerse the excess liquidity which is made on account of purchase of dollars by the Reserve Bank of India. The reverse repo auction is done under the MSS (Market Stabilization Scheme).

Any act of intervention by a Central Bank like the RBI in affecting the exchange rate is called as 'dirty floats'. But in India it is called as 'managed floats'. In adverse situation of demand for dollars is increasing more than the supply of dollars, it leads to decrease the rupee value (depreciation). Thus, it discourages imports and

positively impact exports, and it is usually considered as an erosion of faith in the domestic currency and can escalate into a currency crisis.

In such situations, the Government plays a major role where they have to sell foreign currency to increase the supply of dollars. However, the past experience has been more that the currency is sold, it results in depreciation. Thus RBI instead of aiming any exchange rate, it interferes in the foreign exchange market only to stabilize the volatility and disruptions to the macro economic situation.

1.7 INDIAN CAPITAL MARKET

A capital market is a financial market where long-term debt or equity-backed securities are bought and sold. The Indian capital market contains the complex of institutions by which long and intermediate term funds are pooled and are made available to government, individuals and business. For the purpose of the study the focus is placed on the equity market as it is referred as capital market.

1.8 BRIEF PROFILE IN RETROSPECT

Before liberalization, Indian economy was strongly protected and controlled by number of measures like high tariffs and rates, licensing system, very limited investment in core sectors only. Growth of economy was highly unsustainable during 1980's, due to its dependence on borrowing to correct the current account deficit. The government of India introduced economic policy in 1991 to reduce the imbalances by implementing structural reforms. At that time, the financial sector was very much unstructured and its importance was limited only to equity, bonds, commodity markets, insurance, pension and mutual funds. In order to formulate the security market, a regulatory authority i.e., SEBI (Security Exchange Board of India) was commenced and first electronic exchange i.e., NSE (National Stock Exchange) was also introduced. The purpose behind this was to regularize investments, mobilization of resources and to give credit.

Majority of the trading in Indian stock market takes place on its two main stock exchanges i.e., National Stock Exchange (NSE) and Bombay Stock Exchange (BSE). The Bombay Stock Exchange has been found in 1875. On the other hand, National Stock Exchange was founded in 1992 and started trading in 1994.

However, both the stock exchanges follow the same trading hours, trading mechanism, settlement process and many.

1.8.1 Bombay Stock Exchange

Bombay Stock Exchange Ltd (BSE) is Asia's first and the fastest Stock Exchange in world with the speed of 6 micro seconds. Over the past decades, Bombay Stock Exchange has developed the Indian corporate sector by providing an effective capital-raising platform. Popularly known as BSE, in the year 1875 was established as "The Native Share and Stock Brokers' Association". Today Bombay stock exchange provides an effective and transparent market for trading in equity, debt instruments, currencies, mutual funds and derivatives. BSE also has a platform for trading in equities of SME (Small & Medium Enterprises). India's 1st international exchange, India INX is located at GIFT CITY IFSC in Ahmedabad is a fully owned subsidiary of BSE.

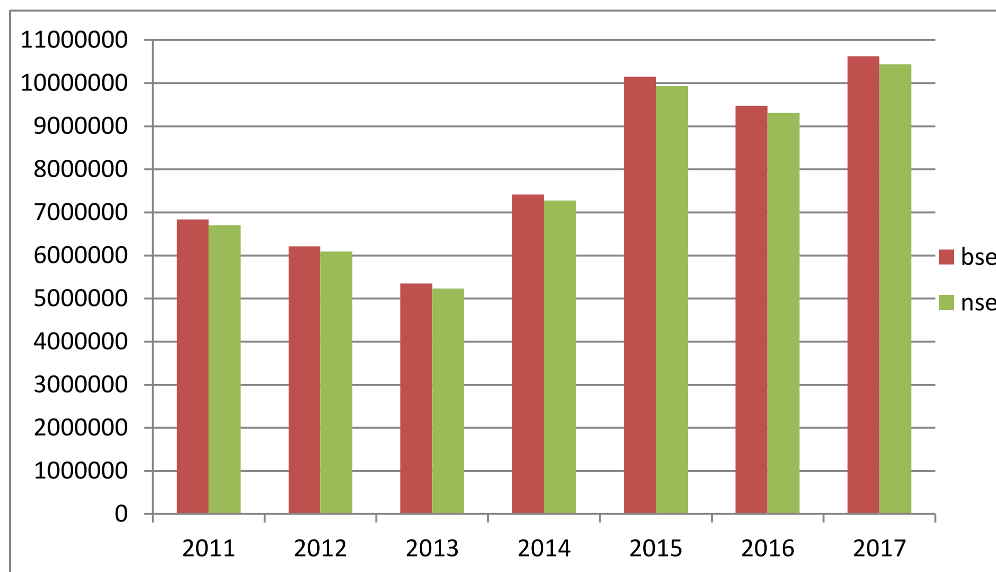
BSE offers many services to capital market participants like market data services education, clearing and settlement and risk management. It has a nation-wide presence and global reach with customers around the world. Bombay Stock Exchange is the first stock exchange in India and second exchange in the world to receive ISO 9001:2000 certification and to obtain Information Security Management System Standard BS 7799-2-2002 certification for its BOLT (Online trading System). This stock exchange, functions as one of the most respected capital market educational institutes in the country. One of the main function of BSE is that this market provides depository services through its Central Depository Services Ltd. (CDSL) arm. BSE's popular equity index is S&P BSE SENSEX, India's most widely used stock market benchmark index. It is traded internationally on the EUREX and also considered as leading exchange in BRICS nations (Brazil, Russia, China and South Africa).

1.8.2 National Stock Exchange

The National Stock Exchange commenced its operation in November, 1994. It has modern and fully automated screen based trading system using more than two lakh trading terminals, which provides the flexibility to the investors to trade from anywhere in India. It is playing a significant role to improve the Indian equity market to be more integrated, transparent and efficient stock market. The popular index of National Stock Exchange is CNX NIFTY and it is mostly used by the investor throughout India and also at global level. NSE is the 12th largest stock exchange in the world as per World Federation of Exchanges, 2016 (WFE).

NSE is one of India's largest exchanges internationally in index options trading, cash and currency. There are huge number of domestic and international companies that hold stake in the stock exchange. Some important domestic companies include LIC, GIC, IDFC and SBI ltd. Some foreign investors are Mauritius limited, City Group Strategic Holdings, Tiger Global five holdings, MS Strategic (Mauritius) limited, Norwest Venture Partners FII (Mauritius) have stake in NSE.

Chart 1.1 Market capitalization of BSE and NSE



Source: SEBI – Handbook of Statistics 2017

The BSE has about 5834 listed firms, whereas the rival NSE has about 1,200 listed firms. Out of fourteen stock exchanges in emerging economies, BSE stand at the 10th position having the market capitalization of 1,21,54,5 crore and NSE at 5th position having the market capitalization of 1,19,78,421 crore as on 2016- 2017.

1.9 TRANSFORMATION OF INDIAN EQUITY CAPITAL MARKET THROUGH THE REFORM PERIOD (1991-2017)

With the objective of enhancing transparency, developing the market efficiency, preventing unfair trade and bringing Indian stock market to global standards, various reforms were introduced. These reforms considered the measures to regulate, develop and liberalise the securities market.

1) Establishment of SEBI: Capital Issues (Control) Act, 1947 was cancelled in 1992 and the SEBI (Securities and Exchange Board) Act 1992 was introduced. SEBI Act was the first effort towards integrated regulation of the stock market. With this the Indian government control over fixing premium, pricing of capital issues, etc., were stopped and the market was permitted to allocate resources to competing users. The main objective of SEBI were

- To protect the interests of investors in stock market
- To promote the growth of stock market, and
- To regulate the functioning of stock markets.

2) DIP(Disclosure and Investor Protection) Guidelines: It is issued by SEBI to bring the substantive body of regulations and to observe high standards of fair dealing and integrity, complete disclosure of related information to the investor and compliance with the necessities in due diligence to ensure the protection of investors.

3) Demutualization and establishment of NSE: A demutualized exchange for Equity trading at National Stock Exchange (NSE) commenced its operation in November 1994.The advantage of demutualized Exchange with the development of stock market has led to a regime-shift towards anonymity, transparency, operational efficiency, competition in the brokerage industry, and many. Indian government has provided various tax incentives to enable demutualization of stock exchanges.

4) Screen Based Trading: In securities market, the outcry system used for floor trading was replaced by IT enabled screen based order matching system to offer liquidity, transparency and efficiency, In the year 1994 National Stock Exchange began a nation-wide online fully automated Screen Based Trading System (SBTS) where participants are allowed to punch into the computer quantities of securities and the transaction is performed when it finds a matching buy or sale order from a counter party when the price is fixed. The Bombay Stock Exchange immediately developed a similar technology (BOLT) in March 1995. Thus, this was an important step in modernizing the Indian stock market among other developed market in the world.

5) Derivatives: To support investors in managing risk through hedging, arbitrage and hedging Securities Contract Regulation Act (SCRA) was commenced in 1995 to rise the ban on options in securities. The Securities Contract Regulation Act (SCRA) was commenced further in December 1999 to include derivatives so that the entire regulatory framework of trading the securities will apply to the trading of derivatives. Derivative trading took off in June 2000 on both NSE and BSE exchanges.

6) Dematerialization: Depositories Act was initiated in 1996 with the main objective of safeguarding free transferability of stocks with accuracy, speed and security by

(a) Securities in public limited companies are to be freely transferable subject to some exceptions;

(b) Maintaining the records in a book entry form.

7) Risk Management: To protect investors from market failures, the stock exchanges have developed risk management system, which is regularly upgraded and monitored by the Exchanges. It includes net-worth criteria, capital adequacy of members, adequate margin requirements, limits on exposure and turnover, on-line position monitoring, indemnity insurance, and automatic disablement on crossing the limits and many. Stock exchanges set up settlement/trade guarantee funds for meeting shortages rising out of non-fulfillment/partial fulfillment obligations by the members.

8) Cyber Resilience and Cyber Security: During 2016-17 SEBI established a HPSC-CS (High Powered Steering Committee on Cyber Security) led by a whole time member.

Further, a Cyber Security Cell was also developed which issued the following two main advisories to MII (Market Infrastructure Institutions):

(a) To support the entire cyber security framework of Web Application Firewall (WAF), MIIs' websites, the Web Server Security Policy, Security Audit of Software Vendors and Application Security Audit.

(b) To further support the vigil and surveillance of critical IT assets considering network traffic and website, observe internal network communications to block an unauthorized or a typical network communications among servers.

9) Stock Exchanges and Clearing Corporations in the IFSC (International Financial Services Centre) SEBI announced a broad framework for the clearing corporations in IFSC with respect to trading hours and settlement, market structure, position limits, product category, trading in rupee denominated bonds issued overseas (Masala bonds), the dispute resolution mechanism and business continuity plan & disaster recovery and the risk management framework.

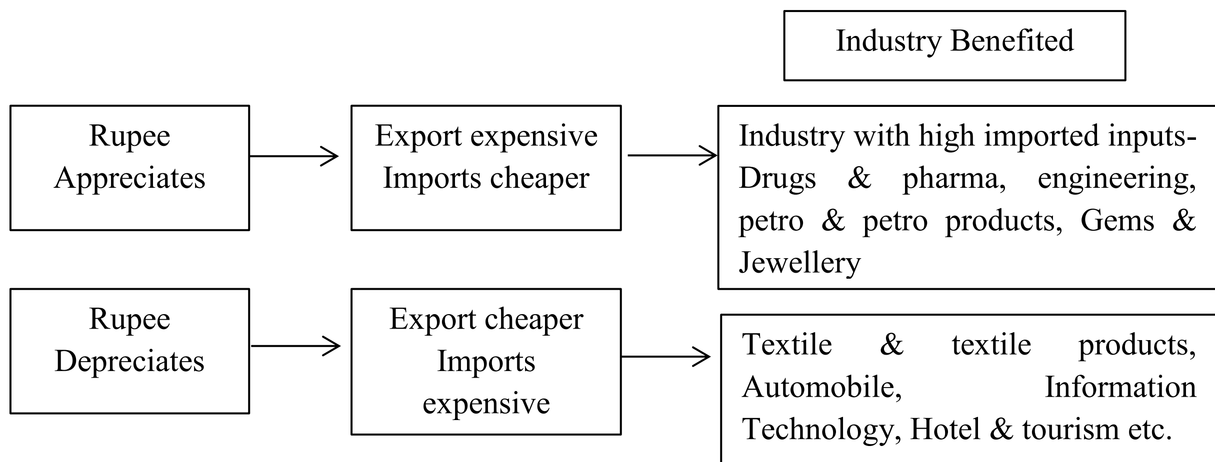
1.10 MOVING TOWARDS A GLOBALLY INTEGRATED MARKET

With a gradual increase and a continuous process of deregulation and integration of the financial markets to the global economy, Indian equity market is developing as a mature and near perfect one in its framework. The relative price stability along with reduced long term and medium inflation expectations; the installation of an institutional framework and policy reform stimulating efficient price discovery; corporatized/demutualization exchanges providing online trading system and settlement in two days, along with investor caring regulatory system has given rise to a capital market of global recognition making it a market of preference by investors over the globe. Many factors like dividends, stock prices of other countries, enterprise performance, exchange rates, gross domestic product, interest rates, money supply, current account, employment and many have a direct impact on daily stock prices. The question of inter temporal relationship between exchange rates and stock prices have recently preoccupied the minds of economists, for empirical and theoretical issues, since both the market plays a significant role in the development of an Indian economy. Also, the relationship between foreign exchange rates and stock returns has often been used in

forecasting the future trends by the investors. Besides, the continuing rise in the capital movements and world trade led the exchange rates as one of the important factor for equity prices and business profitability. Change in exchange rate directly impacts the international competitiveness of firms on their input and output price. Fundamentally, volatility in foreign exchange rate affects the value of the firm because the future cash flows of the firm change with the variations in the foreign exchange rates. When the Exchange rate increases, exporter's competitiveness in international market will decline and also the sales and profits of exporters will shrink which lead to decrease in the stock prices.

On the other hand, importers will raise their competitiveness in domestic markets which lead to increase in the stock prices. The devaluation of exchange rate will create adverse effects on importers and exporters. Exporters will have benefit against other countries exporters which increase their sales and their stock returns will be higher i.e., currency appreciation has both positive and a negative effect on the domestic stock market for an import-dominated and export-dominated country respectively. Studies have revealed that higher currency risk can mean increased portfolio volatility and perhaps hinder an investor's overall returns.

Chart 1.2 Domestic Currency appreciation and depreciation



Source: Rakesh, J.K.Raju *et al.,* (2016)

Exchange rates will affect stock prices not only for export-oriented or multinational firms but also have greater impact on domestic firms. For a multinational company, fluctuation in exchange rates will cause a continuing change in the profitability of its foreign operations which is reflected in successive income statements. Thus, the changes in economic value of firm's foreign operations may have an impact on stock prices. Also, the domestic firms can be influenced by exchange rates fluctuation because they may export a part of their outputs and import their inputs.

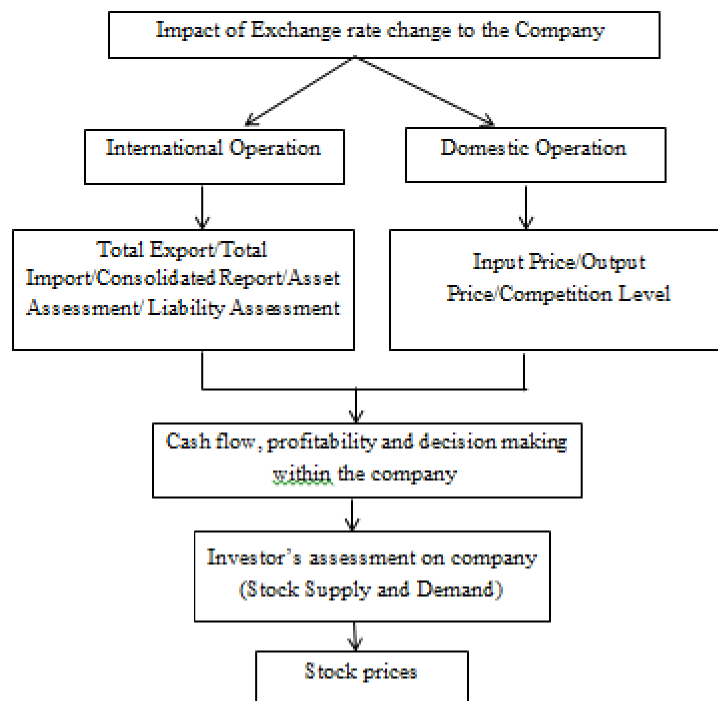
For instance, a depreciation of its currency makes imports more expensive and exports cheaper for a firm. Thus, depreciation of a currency will have positive effect for export firms which increase the income of these firms and consequently boosting the average level of stock prices. Therefore, understanding the relationship between foreign exchange market and stock market will help domestic and international investors for hedging and diversifying their portfolio. Also, fundamentalist investors consider this relationship to forecast the future trends for each other. (Phylaktis and Ravazzolo, 2005, Stavárek, 2005, Mishra et al., 2007).

In India, globalization and financial sector reforms have ushered in a sea change in the financial framework of Indian economy. In the contemporary situation, the activities in the financial markets and their relationships with the real sector have assumed significant importance. Since 1990, the inception of the financial sector measures has brought a dramatic change in the functioning of the financial sector of the Indian economy. Floating exchange rate which was implemented in 1991 provides greater volume of trade and high volatility in Forex market as well as equity market by increasing its exposure to financial and economic risks. The relationship between the two financial variables i.e., exchange rates and stock returns became significant in the wake of the 1997 economic crisis in Asian countries, which influenced exchange rate and stock prices to fall over Asian markets. It has been suggested that difference in expected exchange rate should be related to changes in stock price. Moreover, in the recent years, due to the increase in cross-market return correlations, international diversification, foreign exchange restrictions or the adoption of more flexible exchange rate arrangements, gradual abolishment of capital inflow barriers in transition and emerging

countries, both these two markets have become significantly interdependent. Thus, these changes have led to the variety of investment opportunities as well as the fluctuation of exchange rates and risk of investment decisions and portfolio diversification process.

To summarize, the impact of exchange rates on stock prices is shown in chart 1.3 below.

Chart 1.3 Impact of exchange rate to stock prices



Source: Dornbusch & Fischer (1980), Evelyn (2010) & Fauziah et al., (2015)

Altogether, the entire gamut of institutional reforms connected to globalization programme, change in procedures, introduction of new instruments, expanding the network of participants call for a re-examination of the relationship between both these markets in India. Similarly, researches are also being conducted to understand the present state of the financial and economic system in the new scenario. Interesting results are emerging especially for the developing countries where the markets are experiencing new relationships which are not observed earlier. Although, economic theory suggests that the change in foreign exchange can have a significant impact on the stock price by affecting investment, cash flow and profitability of firms, there is no consensus about both the

market relationship and the empirical studies of the relationship are inconclusive in nature. (Joseph, 2002; Vygodina, 2006).

1.11 DISPOSITION OF THE THESIS

Chapter Scheme

The thesis is segregated into six chapters as follows:

Chapter 1: Introduction

This chapter presents Introduction to study, Indian Foreign exchange market – an overview, Evolution of Foreign exchange market in India, Market structure and design, Reforms in the Foreign Exchange Rate Regime, Growth of Foreign Exchange Market in India, Changing role of RBI, Indian Capital market – an overview, Brief Profile in Retrospect, BSE,NSE, Transformation of Indian Equity Capital Market through the reform period (1991-2017), Moving towards a Globally Integrated Market and Disposition of the thesis.

Chapter 2: Review of Literature

This chapter gives an overview about the previous literature done on the related topic and includes the references of the collection of literature which is used as a base for identifying the problem. Reviews are arranged in two categories i.e., Studies related to developed and other Asian countries and studies related to India.

Chapter 3: Methodology

This chapter consists of Statement of the problem, Research questions, Objectives of the study, Research approach, Research strategy, Sampling design & Data collection, Framework of Analysis, Scope of the study, Limitation of the study and Significance of the study.

Chapter 4: National Stock Exchange & Currencies – An overview

This chapter gives the overview of Currencies that are legally traded in India, National stock exchange and the sectors listed in NSE.

Chapter 5: Analysis & Discussion

This chapter consists of analysis on the behaviour of foreign exchange and stock market by employing descriptive statistics, Short relationship between both the market has been analyzed by using Granger Causality test and Block Exogeneity test. Long run relationship between both the markets have also been analysed by using Johansen Juselius Cointergration test and Vector Error Correction Model. Analysis on sectoral indices impact of exchange rate has been done by employing Granger Causality test and Johansen Juselius Cointergration test. An analysis on volatility spillover between both the market has been done using GARCH and EGARCH model.

Chapter 6: Results, Discussion & Conclusion

Findings of the analysis are summarized in this chapter. Based on the findings of the study, suggestions are given in the chapter. Further this chapter provides the conclusion of the study and scope for future research.