CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The background for this study starts from Government of India’s economic liberalization policy in 1991. A grave Balance of Payments (BOP) position in 1991 compelled the policymakers and legislators in India to reconsider their policies and stance of allowing foreign investment in to the country. Financial sector reforms and Globalization policy in India have ushered in a massive change in the financial architecture of the economy. This along-with the declaration of some fiscal disciplinary and corrective measures attracts the foreign investors towards India. Subsequently, the investments made by Foreign Portfolio Investors (FPI), in particular, Foreign Institutional Investors (FIIs) have exhibited a slow but steady growth except in the 1998-99 and 2008-09 (ISMR 2006; 2013). The FII’s net investment inflows have averaged around US$12 billion per year during the period 2000-01 to 2012-13 (computed from ISMR, 2013) and net out flows have been very uncommon except for the years 1998-99 & 2008-09 when most South Asian countries were out of favour in 1998-99 and Global financial crisis which led FIIs to withdraw their investment made in other countries in order to fulfil their domestic commitments during 2008-09.

In spite of numerous beneficial investment opportunities, FIIs are focusing on India as a most favoured destination for making investment following China. Though many emerging countries are providing healthier
return on stock market investment, FIIs still prefer India, due to sustained long term progress in the Indian economy and because of the inherent strength of the economic fundamentals. India as a nation has undergone a paradigm shift as far as attracting foreign investment is considered. There has been widespread change in the Economic condition, Government policies, Business outlook and in the approach of the Indians in general. As a growing economy, India has huge advantages in the form of large human resources with adequate skills in the world business and employment market. Over the last twenty five years, India has transformed itself from the situation of a weak economy with little foreign exchange reserves to abundant resource and skilled nation.

The fundamental economic indicators of India have become healthy and sustainable in most recent years. The nation’s economic welfare is supreme at present in the history of independent India. At present, the forex reserves and foreign investments are at highest level along with strong increase in exports and lower inflation. A distinctive feature of the change is that the Indian economy has become one of the fastest growing economies in the world during the last decade. The introduction of new trading instruments, change in procedures, widening network of participants etc. in stock market invites researchers for a re-evaluation of the relationship between the stock market and the foreign institutional investor’s investment. Exciting new results are evolving mainly from the developing economies where the financial markets are undergoing new interactions which were not observed previously. The analysis of stock markets has come to the forefront since this is the prism through which a country’s economic progress can be observed readily by the outside world.

The higher level of globalization of economies resulted in liberalized foreign capital flows across the world. This phenomenon has resulted in the deeper participation of FPI especially, FIIs in the stock market.
FII inflows have both positive as well as negative impact on the economic health of the recipient country. On the positive side, these capital inflows raise the level of economic development. But these capital inflows also pose several threats to the domestic economic and financial system of the recipient economy like inflation and possibility of sudden withdrawal. Sinha (2011) observed that FII flows into India have been very volatile with large inflows as well as outflows. Choi & Baek (2006) show that the volatility of portfolio flows significantly raises the level of reserve holdings. It is believed that the fluctuations in FIIIs are extremely sensitive to the change in fundamentals of the economy and to the change in expectations about future stock market performance. Some existing studies claim that stock market performance induces the FIIIs to react (Rajesh Chakrabarti 2001; Dua & Grag 2013). At the same time, it is also argued that, FII investment flows to the country influence the stock market movements (Jain et al 2012).

Apart from knowing the nature of relationship exists between Foreign Institutional Investors and Indian stock market, this study focuses on determinants and forecasting of FII investments in Indian stock market. To explore this, the study attempts to identify the sources which drive FIIIs to Indian stock market and also make an effort to predict the FII investment flows with reasonable accuracy. To understand the linkage between FII investment flows and Indian stock market in a better way, Macroeconomic indicators are considered. The major economic indicators like country’s growth, inflation, exchange rate etc. are assumed to be an influencing force for both FII investment flows and Indian stock market. Owing to this distinctive feature of macroeconomic variables, the researcher uses the macroeconomic variables along with the key stock market variables as influencing factors in determining the FII investments.
1.2 FOREIGN INVESTMENTS IN INDIA

Any investment flowing from one country to another is foreign investment. Foreign investments in India takes the form of (i) Direct investment of capital in India by branches of foreign companies or subsidiaries of foreign companies, or (ii) Creditor Capital, or (iii) Portfolio equity holdings by non-residents. Inflow of investment from other countries is typically encouraged as it complements domestic investments in capital-scarce economies of developing countries. Foreign investments not only help India in creating more economic activity and employment generation but also enable flow of technology into our country and help the economy to become more competitive. India opened up to foreign investments slowly and steadily over the past two decades, especially since the landmark economic liberalization of 1991.

International capital investments are expected to benefit both home (source) country and the host (destination) country. However, the past and the latest global financial crisis also state some lessons on the fact that both these investments and host country are exposed to certain new risks. Therefore, it is essential to understand the nature of the foreign investment and its associated risk. India offers one of the best and safest investment avenues in the globe and particularly among the emerging countries. The pre-emptive foreign investment government policies and economic liberalization helps India to emerge as a striking investment destination. The stable growth and ample high skilled manpower gives huge opportunities for investment to both foreign and domestic investors. Capital investments from foreign countries are encouraged not only for the purpose of financial capital but also for technological know-how.
The Indian government has taken various initiative measures in the recent past to boost foreign investments that too FDI in particular towards the sectors like infrastructure, power, telecommunication, energy etc. Another major reason for India’s ability to pull foreign investment is the fact that India has not only survived during the global downturn in 2008-09, but also expected to grow at steadily higher rates in the coming years. India proves to be a worthy investment destination for global investors in spite of bureaucratic hassles and infrastructural deficiencies.

India is going to be one of the largest economies in the world by the year 2025 as per IMF projections. Investors and business houses around the world do not want to overlook the opportunities offered by Indian markets and therefore India attracts huge foreign investments. India offers great avenues for investment in various sector viz., Automobile, Biotechnology, Cement, Chemicals, Civil Aviation, Defence, Education, Food Processing, Gems & Jewellery, Healthcare, Heavy Industry, IT & ITeS, Media & Entertainment, Mining, Oil & Gas, Pharmaceuticals, Ports, Power, Retailing, Roads & Highways, Steel, Telecommunication, Textiles, Tourism and Hospitality. Invest India, the country’s official investment promotion and facilitation agency states the following are few important reasons which make India as a magnet for investment;

1. Large and fast growing middle class & graduation of poor to middle class and hence growing domestic consumption

2. Indian Government’s constantly evolving investor friendly policy

3. Lower cost of production due to lower labour rates

4. Availability of skilled manpower
5. Abundant natural resources
6. English as one of the major business languages
7. Government’s emphasis on infrastructure improvement
8. India’s location, close to markets of South East Asia, Middle East and also Europe.

India emerged as one of the most attractive investment destinations in the world owing to its faster economic growth and liberalized foreign investment policies. Since economic liberalization in 1991, India has been able to attract large foreign investments from the developed economies both in the form of FDI and FII. Foreign investment flows to India have steadily grown in size and importance over the years. FDI not only complement the direct financing institutions in providing investments to corporate projects but also provide technical and managerial know-how. FIIs supplement the domestic investments in the country’s capital market rather than taking a direct route.

Foreign investments in the country can take various forms as shown in the Figure 1.1.

![Figure 1.1 Foreign Investments in India](source: www.nseindia.com)
1.2.1 Foreign Direct Investment

Foreign Direct Investment (FDI) is a controlling ownership in business enterprise in one country by an entity based in another country. FDI in most of the sectors are under the automatic route and require only notifying the Reserve Bank of India. India had 5.5% of global FDI inflows in the year 2012 and ranked fourth largest recipient of FDI in terms of projects\(^1\).

1.2.2 Private Equity / Foreign Venture Capital Investor

Private Equity (PE) is an asset class consisting of equity securities and debt in operating companies that are not traded on a stock exchange. Private equity is a source of investment capital from high net worth individuals and institutions for the purpose of investing and acquiring equity ownership in companies. Foreign Venture Capital Investor (FVCI) means an investor incorporated and established outside which proposes to make investment in Venture capital funds in India and registered with SEBI under SEBI (Foreign Venture Capital Investors) Regulations 2000. A small part of foreign investments are coming to India through this channel.

1.2.3 American Depositary Receipts and Global Depositary Receipts

ADR is a negotiable certificate issued by a U.S. bank representing a specified number of shares (or one share) in a foreign stock that is traded on a U.S. stock exchange. ADRs are denominated in U.S. dollars, with the underlying security held by a U.S. financial institution overseas.

GDR is a bank certificate issued in more than one country for shares in a foreign company. The shares are held by a foreign branch of an

\(^1\) India 2014 – Enabling the prospects, EY’s attractiveness survey
international bank. The shares trade as domestic shares, but are offered for sale globally through the various bank branches.

1.2.4  Foreign Institutional Investors

FIIs are those institutional investors which invest in the assets belonging to different country other than that where these organizations are based. These are the big companies such as investment banks, mutual funds etc. who invest considerable amount of money in the Indian markets.

1.2.5  Investment by NRI and PIO

NRI (Non-Resident Indian) is a citizen of India who holds an Indian passport and has temporarily immigrated to another country for six months or more for employment, residence, education or any other purpose.

PIO is a Person of Indian Origin or ancestry who was or whose ancestors were born in India or nations with Indian ancestry but is not a citizen of India and is the citizen of another country. A PIO might have been a citizen of India and subsequently taken the citizenship of another country.

1.3  OVERVIEW OF FOREIGN INSTITUTIONAL INVESTORS

Foreign Institutional Investors (FIIs) are allowed to invest in all securities traded on primary and secondary markets, comprising shares, debentures and warrants of listed or to be listed companies on stock exchanges in India. FIIs are also allowed to invest on schemes introduced by domestic mutual funds. The FII inflows into Indian equity market can be classified into two ways viz., Primary market and secondary market. The FII investment to primary market in India comes predominantly through the conversion of Foreign Currency Convertible Bonds (FCCBs), private
placement to Qualified Institutional Placements (QIPs), Initial Public Offers (IPOs), follow-on overseas offers and conversion of warrants and preferential offers. As far as the secondary market is concerned, the significance of FIIs is very much obvious as one of the familiar reasons offered by the market analysts with respect to share price movements may be “FIIs fuel rally” at the time of market rises and “Market melts due to FIIs selling” at the time of down trend. To faster the economic performance and attain growth apart from Foreign Direct Investment, FIIs role is an important one for developing nations like India.

Institutional investors in Indian stock market are continuously active as they perform a vital role in the Indian stock market turnover and volume. Institutional investors are the firms which pool large sums of money and invest those sums in securities, property and other investment assets. There are two types of institutional investors’ viz. FIIs and Domestic Institutional Investors (DIIs). FIIs are allowed to buy/sell securities on Indian stock exchanges, but they have to get registered with stock market regulator Securities Exchange Board of India (SEBI). FIIs investment is volatile by nature and is often labelled as ‘hot money’. Available empirical evidence also identifies that FII inflows and outflows are by and large influenced by the action of stock markets and macroeconomic aggregates of the host country. Thus, FIIs investments are dragged towards an economy with strong macroeconomic factors, high returns, lesser risk and rising stock markets in terms of increasing market capitalization and turnover.

India, one of the major emerging markets, is now a notable destination for FDI and FII inflows. FII investments are considered as an enormous source of fund in the Indian stock market. FIIs arrival makes the market more competitive and assists the financial system of the host country to come in line with international standard. FIIs have steadily made their
position stronger in the Indian market and from the time 2003-04, they are actively participating in the trading at stock exchanges. This year’s net investment by foreign institutional investors into India till March 2014 has reached $10 billion, while their cumulative total inflows into the country is nearing $200-billion\(^2\). The total turnover of the FIIs in the equity market constituted 19.0 per cent of the total turnover on the BSE and the NSE in 2012–13\(^3\). Further, FIIs also helps in achieving a high degree of liquidity in stock markets. Though FIIs usually focus on secondary markets, they also assist the competent firms to price their new issues at a reasonable premium.

Foreign Portfolio investments in the form of institutional investments are welcomed by the developing countries as these are not debt-creating. It is expected that FIIs lead to improvement in the functioning of the stock markets, which in turn results in increased trading volume and market capitalization.

1.3.1 Definition of FII

FII is defined as an institution organized outside of India for the purpose of making investments into the Indian securities market under the regulations prescribed by SEBI. FIIs can invest their own funds as well as invest on behalf of their overseas clients registered as such with SEBI. These client accounts that the FII manages are known as ‘sub-accounts’.

Foreign Institutional investors (FIIs) are those institutional investors which invest in the assets belonging to a different country other than that where these organizations are based.

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\(^3\)Foreign Investments in India, Indian Securities Market – A Review, 2013
1.3.2 Eligible Entities/Funds for FII

As per the SEBI (FII) Regulations, following entities / funds are eligible to get registered as FII:

- Pension Funds
- Mutual Funds
- Investment Trusts
- Insurance company / Reinsurance company
- International or Multilateral Organization or an agency thereof
- Foreign Governmental Agency
- Foreign Central Bank
- Banks
- Endowments
- University Funds
- Foundations
- Charitable Trusts / Charitable Societies
- Sovereign Wealth Fund

In addition, following entities intending to invest on behalf of broad based funds are also qualified to be registered as FIIs:

- Banks & Asset Management Companies (AMCs)
- Investment Manager/Advisor
Institutional Portfolio Managers

Trustee of a trust established outside India, and proposing to make investments in India on behalf of broad based funds and its proprietary funds, if any.

1.3.3 Investment Prospects for FIIs

The investment in the following form of securities by SEBI registered FIIs are allowed in India:

- Primary and secondary market securities including shares, debentures and warrants of companies unlisted, listed or to be listed on a recognized stock exchange in India.
- Units of schemes floated by domestic mutual funds.
- Collective Investment Scheme.
- Dated Government Securities.
- Derivatives traded on recognized stock exchanges.
- Commercial paper.
- Security receipts (issued under the SARFAESI Act).
- Indian Depository Receipts.

1.3.4 FII Registration in India

It is essential for FIIs to register with SEBI in order to buy, sell or otherwise transact in securities. After the registration with SEBI, a FII obtains a registration certificate. The registration procedure of a FII is elaborated as follows:
1.3.4.1 Application for registration

- An applicant seeking registration as FII must fill and submit the form A.
- Documents necessarily to be submitted with the FII application include:
  
  a) A certified copy of the applicable clause of the organizational documents or the agreement permitting the applicant to invest on behalf of its clients; and
  
  b) Audited financial statements / annual report for the preceding financial year (period covered shall not be less than 12 months).

1.3.4.2 Granting FII registration

The aspects considered from applicant seeking FII registration as per Regulation 6 of SEBI (FII) Regulations Act 1995 are as follows;

- The applicant's track record, professional know-how, financial strength, experience, general reputation of fairness and honesty.

- If the applicant is a newly established fund, the track record of the investment manager of the fund who has promoted it may be taken into consideration and such investment manager shall furnish the details in respect of disciplinary action, if any, taken against it.

- Foreign regulatory authority regulating the applicant provided that university funds, endowments, foundations, charitable trusts and charitable societies may be considered
even though they are not regulated by a foreign regulatory authority.

- The legal form of the applicant i.e. applicant should be any one of those entity stated under eligible entity list.

- While considering the application from University funds, endowments, foundations, charitable trusts or charitable societies, SEBI shall additionally consider the following:
  
a) Whether the applicant has been in existence for at least 5 years;
  
b) Whether it is legally permissible for the applicant to invest in securities outside the country of its incorporation or establishment;
  
c) Whether the applicant has been registered with any statutory authority in the country of its incorporation or establishment;
  
d) Whether any legal proceeding has been initiated by any statutory authority against the applicant; and
  
e) Whether the applicant has been serving public interest;
  
f) Whether the grant of certificate to the applicant is in the interest of the development of the securities market;
  
g) Whether the applicant is a fit and proper person. The criteria which may be considered include integrity, reputation and character, absence of convictions and restraint orders and competence including financial solvency and net worth.
1.3.4.3 Fee for registration

A fee of US$ 5,000 is payable in favour of “Securities and Exchange Board of India” through a demand draft or by any appropriate mode of instrument as may be specified by the Board. Each and every applicant eligible for grant of a certificate has to pay a registration fee of US$ 5,000 for every block of 3 years. The fee should be paid at least one month prior to the expiry period.

1.3.4.4 Validity of certificate

The registration certificate and every single renewal thereof shall hold good for a period of five years from the issue or renewal date, as the case may be.

1.3.4.5 Application for renewal of certificate

At least three months prior to the expiry period of certificate, the Foreign Institutional Investor, if it wishes, shall apply for renewal. The Foreign Institutional Investor who does not desire to recommence its registration or has failed to apply for renewal prior to the expiry date shall obtain a specific approval from the board, for disinvesting the securities held with it on its own account or on behalf of its sub-account(s), within a stated time period, subject to such terms and conditions as may be specified by the Board.

1.3.4.6 Account opening

Apart from SEBI registration, FIIs have to fulfil the following general commitments;
Appointment of custodian of Securities: A FII or an international custodian acting on behalf of the FII can get into a contract with a domestic custodian to act as custodian of securities available with FII. After getting prior permission from SEBI, FII can appoint more than one domestic custodian. However, there should be only one domestic custodian for a single sub-account.

Appointment of Designated Bank: A FII is supposed to appoint a branch of a bank approved by RBI for opening of foreign currency denominated accounts and special non-resident rupee account. All operations of FII are routed through these accounts only.

Possession of appropriate Records and Books of Accounts: FIIs registered with SEBI have to maintain exact accounts related to transfer of funds for the purpose of buying and selling the securities. The FIIs also have to preserve Accounts of remittance for making investments in India and for making capital gains on investments made on such remittances.

Appointment of Compliance Officer: A compliance officer shall be appointed by FII for ensuring the compliance of rules, regulations, norms, legal acts etc. The compliance officers are expected to immediately inform to the board for any non-compliance detected.

1.3.4.7 Tax aspects

The primary source of income for the FIIs is the gains attained from the investment made on securities in India. Section 115AD of the Income Tax Act, 1961, deals with Tax on income of FIIs from securities or capital gains.
arising from their transfer. Table 1.1 depicts the taxes applicable to FIIs in India for the accounting year 2013-14.

### Table 1.1 Taxes applicable to FIIs in India

<table>
<thead>
<tr>
<th>Income</th>
<th>Company defined under section 2(17)</th>
<th>Non-Company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aggregate income exceeds Rs. 1 crore (surcharge @ 2% applicable)</td>
<td>Aggregate income does not exceed Rs. 1 crore (no surcharge)</td>
</tr>
<tr>
<td>Dividends*</td>
<td>Exempt under sec. 10(34) of Income Tax Act, 1961</td>
<td></td>
</tr>
<tr>
<td>Income from Units</td>
<td>Exempt under sec. 10(35) of Income Tax Act, 1961</td>
<td></td>
</tr>
<tr>
<td>Income (other than above) in respect of securities</td>
<td>21.012%</td>
<td>20.60%</td>
</tr>
</tbody>
</table>

**Capital Gains where Securities Transaction Tax (STT) is chargeable**

<table>
<thead>
<tr>
<th>Income</th>
<th>Company defined under section 2(17)</th>
<th>Non-Company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aggregate income exceeds Rs. 1 crore (surcharge @ 2% applicable)</td>
<td>Aggregate income does not exceed Rs. 1 crore (no surcharge)</td>
</tr>
<tr>
<td>Short Term (&lt; 12 months holding)</td>
<td>15.759%</td>
<td>15.45%</td>
</tr>
<tr>
<td>Long Term (&gt; 12 months holding)</td>
<td>Exempt u/s 10(38) of the Income Tax Act, 1961</td>
<td></td>
</tr>
</tbody>
</table>

**Capital Gains where Securities Transaction Tax (STT) is not chargeable**

<table>
<thead>
<tr>
<th>Income</th>
<th>Company defined under section 2(17)</th>
<th>Non-Company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Aggregate income exceeds Rs. 1 crore (surcharge @ 2% applicable)</td>
<td>Aggregate income does not exceed Rs. 1 crore (no surcharge)</td>
</tr>
<tr>
<td>Short Term (&lt; 12 months holding)</td>
<td>31.518%</td>
<td>30.90%</td>
</tr>
<tr>
<td>Long Term (no indexation benefit) (&gt; 12 months holding)</td>
<td>10.506%</td>
<td>10.30%</td>
</tr>
</tbody>
</table>

*applicable if Dividend Distribution Tax (DDT) u/s 115-O of Income Tax Act 1961, is paid by the Indian company declaring the dividend.

### 1.3.4.8 Eligibility criteria for sub-account registration

The FII Regulations offer the subsequent eligible norms to apply for a subaccount registration:
A broad based fund or portfolio which is broad based, incorporated or established outside India; or

Proprietary fund of a registered FII; or

A foreign corporate or

A foreign individual or

University fund, endowments, foundation, charitable trust or charitable society that are eligible to be registered as an FII.

In case of a foreign corporate, its securities are listed on a stock exchange outside India and has an asset base of at least USD 2 billion. The foreign corporate should have an average net profit of at least USD 50 million during the three financial years preceding the date of the application.

1.3.4.9 Forms and fees for sub-account registration

Form AA need to be completed and submitted by the applicant eyeing for registration as a sub-account.

A fee of US$ 1,000 is essential to be paid along with the application for registration of the sub-account.

A registered sub-account has to pay US$ 1,000 once in 3 years for which the FII, through whom the sub-account makes investment in the Indian securities market, pays its fees.

Prior to filing an application for registration on behalf of a specific sub-account being a foreign corporate, it is the FII’s responsibility to verify and satisfy itself about the identity of such sub-account through a “know-your-client” procedure.
The time required by SEBI to provide registration is prescribed as 3 months.

1.3.5 Investment Limits for FIIs and Sub-Accounts

Investment of FIIs in Indian Market is classified into:

i) Investment in Equity Market

ii) Investment in Debt Market

The investment limits pertaining to FIIs are displayed in Table 1.2.

**Table 1.2 Investment limits for FIIs**

<table>
<thead>
<tr>
<th>Normal FII (70:30 Route)</th>
<th>100% Debt FII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total investment in equity and equity related instruments shall not be less than 70% of aggregate of all investments.</td>
<td>100% investment shall be made in debt security only.</td>
</tr>
</tbody>
</table>

(i) Investment Restrictions in the Equity Market:

a) FIIs, on its own behalf, are not permitted to invest in equity more than 10% of total issued capital of an Indian company.

b) Investment on behalf of each sub-account should not exceed 10% of total issued capital of an India company.

c) Sub-account registered as Foreign Company /Individual, the investment limit is fixed at 5% of issued capital.
The above limits are to be within overall limit of 24% / 49% / 74% or the sectoral caps as approved by Government of India / Reserve Bank of India.

(ii) **Investment Restrictions in the Debt Market:**

FIIs are mandated to allot their investment between equity and debt instruments in the ratio of 70:30 (Minimum 70% in equity and Maximum 30% in Debt). However, it is also possible for a FII to declare itself a 100% debt FII in such case it can make its entire investment in debt instruments. FIIs investment in debt is further divided into two classes:

1) Government Debt

2) Corporate Debt

### 1.3.6 Significance of FII Investments

- Enhanced flows of share capital
- Improving capital markets
- Better corporate governance
- Handling uncertainty and controlling risks
- Cheap cost of equity capital
- Brings strength to India’s Balance of Payments (BOP)
- Progresses to efficient market

### 1.3.7 Disadvantages of FII Investments

- Sudden capital outflows and Volatility
Money laundering issues

Negative impact on BOP during the times of huge withdrawal

Price rigging

Herding and positive feedback trading practices

Backdoor control or possibility of acquiring companies

1.3.8 Recent Developments in FII Investments

On January 2014, Foreign Institutional investment share in India's top 50 stocks is at an all-time high of 22% whereas the matching figure for domestic funds is at 11.2%.

From January 29, 2014 onwards, the sub-limit for long term investors under the government debt category was increased from US$ 5 billion to US$ 10 billion within the overall debt limit of US$ 30 billion. Long term investors are registered with SEBI under the classifications of Sovereign Wealth Funds, Multilateral agencies, Endowment funds, Insurance funds, Pension funds and Foreign central banks.

At March 2014, The Reserve Bank simplified foreign portfolio investment norms by putting in place an easier registration process and operating framework with an aim to attract inflows.

The net cumulative investment made by FIIs since economic liberalization in 1991, crossed US$ 200 billion as of March 2014.

Foreign Institutional Investors (FIIs) have pumped in US$1.3 billion in Indian markets. And, investor preference has shifted to cyclical stocks such as those in the capital goods,
infrastructure and real estate, banking and consumer durables sectors in March 2014

- On April 1, 2014 The Reserve Bank of India (RBI) barred foreign investors from buying government debt with less than one-year maturity to encourage longer-term fund inflows and reduce the country's dependence on hot money.

- There are a total of 1,715 foreign funds registered with the Securities and Exchange Board of India as on April 16, 2014.

1.3.9 Key Terms in Relation to FIIs

1. Sub-account

Sub-account comprises those foreign corporations, foreign individuals, and institutions, funds or portfolios established or incorporated outside India on whose behalf investments are proposed to be made in India by a FII.

2. Designated Bank

Designated Bank is the banking institution which is authorized by the Reserve Bank of India to act as a banker to FII in India.

3. Domestic Custodian

Domestic Custodian is an entity registered with SEBI to carry on the activity of providing custodial services in respect of securities.

4. Broad Based Fund

Broad Based Fund means a fund established or incorporated outside India, which has at least twenty investors with no single individual investor holding more than 10% shares or units of the fund.
5. **Participatory Notes**

Participatory Notes are usually known as P-Notes or PNs. These are issued by registered foreign institutional investors (FII) to foreign investors, who desire to invest in the Indian stock markets without registering themselves with the Indian market regulator, the Securities and Exchange Board of India - SEBI.

**1.3.10 Hedging Policies for FIIs**

- FIIs can hedge their currency risk on the market value of entire investment in India through Authorized Dealer (AD) banks as long as that the FII’s global outstanding hedges plus the derivatives contracts across all AD category banks are within the market value of its investments.

- FIIs are permitted to hedge foreign currency risks coming out of investment made in IPO through Application Supported by Blocked Account (ASBA) method but subject to some terms and conditions.

- FIIs are also permitted to hedge their risk in contradiction of default in corporate bonds as per the Credit Default Swaps (CDS) guidelines issued by Reserve Bank of India (RBI); FIIs are allowed to buy CDS contracts.

**1.3.11 Trends in FII Investments**

FIIs investment in the past four years ending December 2013 is higher than the collective investment in years from 2001-2009. The result of such a huge investment in the recent past is that FII holdings in Indian stocks are at all-time high. FIIs are permitted to directly invest up to 24% in Indian
companies; the upper limit of FII investment is higher in many sectors. The Table 1.3 shows the trend of FII investment in India since the year 2000-01.

Table 1.3 Trends in FII Investments

<table>
<thead>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-01</td>
<td>7,40,506</td>
<td>6,41,164</td>
<td>99,342</td>
<td>2,159</td>
<td>13,396</td>
</tr>
<tr>
<td>2001-02</td>
<td>4,99,199</td>
<td>4,11,650</td>
<td>87,549</td>
<td>1,846</td>
<td>15,242</td>
</tr>
<tr>
<td>2002-03</td>
<td>4,70,601</td>
<td>4,43,710</td>
<td>26,891</td>
<td>562</td>
<td>15,804</td>
</tr>
<tr>
<td>2003-04</td>
<td>14,48,575</td>
<td>9,90,940</td>
<td>4,57,635</td>
<td>9,949</td>
<td>25,754</td>
</tr>
<tr>
<td>2004-05</td>
<td>21,69,530</td>
<td>17,10,730</td>
<td>4,58,800</td>
<td>10,173</td>
<td>35,927</td>
</tr>
<tr>
<td>2005-06</td>
<td>34,49,780</td>
<td>30,55,120</td>
<td>3,94,660</td>
<td>9,334</td>
<td>45,261</td>
</tr>
<tr>
<td>2006-07</td>
<td>52,05,090</td>
<td>48,96,680</td>
<td>3,08,410</td>
<td>6,709</td>
<td>51,967</td>
</tr>
<tr>
<td>2007-08</td>
<td>94,80,196</td>
<td>83,89,304</td>
<td>10,90,892</td>
<td>16,040</td>
<td>68,006</td>
</tr>
<tr>
<td>2008-09</td>
<td>61,45,810</td>
<td>66,03,920</td>
<td>-4,58,110</td>
<td>-11,356</td>
<td>56,650</td>
</tr>
<tr>
<td>2009-10</td>
<td>84,64,400</td>
<td>70,37,810</td>
<td>14,26,580</td>
<td>30,253</td>
<td>89,333</td>
</tr>
<tr>
<td>2010-11</td>
<td>99,25,990</td>
<td>84,61,610</td>
<td>14,64,380</td>
<td>32,226</td>
<td>1,21,561</td>
</tr>
<tr>
<td>2011-12</td>
<td>92,12,850</td>
<td>82,75,620</td>
<td>9,37,250</td>
<td>18,923</td>
<td>1,40,482</td>
</tr>
<tr>
<td>2012-13</td>
<td>90,48,450</td>
<td>73,64,810</td>
<td>16,83,670</td>
<td>31,047</td>
<td>1,71,529</td>
</tr>
<tr>
<td>2013-14</td>
<td>1,02,10,100</td>
<td>96,93,610</td>
<td>5,16,490</td>
<td>8,876</td>
<td>1,80,405</td>
</tr>
</tbody>
</table>

Source: Compiled from SEBI annual report 2013-14 & ISMR report 2013

The cumulative investment of FIIs in India has crossed US$200 billion as of March 2014. FIIs turnover numbers also saw a multi-fold increase since 2000-01. The investment trends of FIIs are heartening due to
the sheer size of their investment and it is expected that the trend will continue in the near future also.

The good part of FIIs investment in India is they are also giving due consideration for investing in Indian debt market, though their role in equity market participation is more significant. FIIs investment in both equity and debt market invariably remains positive over the period barring rare odd years. The Figure 1.2 depicts the FIIs net equity, debt and total investment since the year 2008-09.

Source: SEBI annual report 2013-14

**Figure 1.2 Net Investments by Foreign Institutional Investors**

Yet another way to study the growing presence of FIIs in India is through the number of FIIs registered with SEBI to make investment in Indian market. The number of FIIs registered with SEBI has seen a giant leap from mere 18 from the year 1992-93 to a whopping 1710 in 2013-14. The Figure 1.3 portrays the number of FIIs registered with SEBI since 2008-09 and their net investments in India.
Figure 1.3 Number of FIIs and Net Investments

Though, number of FIIs registered in India saw a steep decline from 1757 in 2012-13 to 1710 in 2013-14, the number of sub-accounts registered has marginally increased from 6,335 in 2012-13 to 6,344 in 2013-14. The FIIs persistent interest in India is evident in 2013-14 as according to SEBI annual report 2013-14, 106 fresh FII registrations are granted and 529 registrations were renewed. FIIs from 51 different countries have registered with SEBI to invest in India during the period 2013-14. Among the source countries, USA has maximum number of FIIs in India with 573 (33.5%) and it is followed way behind by UK with 231 (13.5%). The Table 1.4 represent the major FII source countries with number of FIIs.
Table 1.4 FII source countries and Number of FIIs

<table>
<thead>
<tr>
<th>Country</th>
<th>No. of FIIs registered with SEBI</th>
<th>Percent of Total FII registered with SEBI</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>573</td>
<td>33.51</td>
</tr>
<tr>
<td>UK</td>
<td>231</td>
<td>13.51</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>128</td>
<td>7.49</td>
</tr>
<tr>
<td>Mauritius</td>
<td>99</td>
<td>5.79</td>
</tr>
<tr>
<td>Canada</td>
<td>77</td>
<td>4.50</td>
</tr>
<tr>
<td>Ireland</td>
<td>72</td>
<td>4.21</td>
</tr>
<tr>
<td>Singapore</td>
<td>71</td>
<td>4.15</td>
</tr>
<tr>
<td>Others</td>
<td>459</td>
<td>26.84</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,710</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Source: Compiled from SEBI annual report, 2013-2014

The turnover of FIIs in the cash segment has witnessed a stable increase since FIIs entry in India. FIIs turnover on Indian Exchanges has reached nearly 23 percent and this may shoot up further as the policy actions such as easing the process of investment, enhancing the investment limits etc., are underway. FIIs investment to India have grown extraordinarily since 2009-10 as the percentage of FII turnover on stock exchanges has almost grown two fold from 11.6% in 2009-10 to 22.9% in September 2013-14. The Table 1.5 illustrates the gross turnover of FIIs in the cash segment of NSE and BSE.
Table 1. 5 Gross Turnover of FIIs in Cash Segment of NSE and BSE

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross Turnover of FIIs (Rs. in crore)</th>
<th>Total Turnover on Exchanges (Rs. in crore)</th>
<th>Percent of FII turnover on Exchanges</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006-07</td>
<td>9,14,570</td>
<td>57,94,624</td>
<td>15.8</td>
</tr>
<tr>
<td>2007-08</td>
<td>17,03,545</td>
<td>1,02,51,534</td>
<td>16.6</td>
</tr>
<tr>
<td>2008-09</td>
<td>11,52,625</td>
<td>77,03,788</td>
<td>15.0</td>
</tr>
<tr>
<td>2009-10</td>
<td>12,75,020</td>
<td>1,10,33,664</td>
<td>11.6</td>
</tr>
<tr>
<td>2010-11</td>
<td>14,33,009</td>
<td>93,64,874</td>
<td>15.3</td>
</tr>
<tr>
<td>2011-12</td>
<td>12,32,475</td>
<td>69,55,831</td>
<td>17.7</td>
</tr>
<tr>
<td>2012-13</td>
<td>12,39,604</td>
<td>65,14,107</td>
<td>19.0</td>
</tr>
<tr>
<td>2013-14*</td>
<td>7,56,879</td>
<td>33,01,044</td>
<td>22.9</td>
</tr>
</tbody>
</table>

*Till September 2013

Source: NSE (cited from ISMR report 2013)

It is also observed that FIIs are mostly concentrating on Blue-chip companies shares or companies listed in other major indices for investing. The higher participation of FIIs in medium range companies will add more liquidity and depth to the Indian stock market.

1.4 INDIAN STOCK MARKET

1.4.1 Introduction

The stock market is a place where securities are traded after the initial offer in the primary market. To trade the securities in stock market, the securities issued initially have to be listed on the stock exchange. The stock exchanges along with other intermediaries offer the essential platform for trading the securities in the secondary market. The stock exchanges in India
have to abide the Securities and Exchange Board of India (SEBI) guidelines. All the trade & settlement of securities should be carried out with in the regulatory framework prescribed by the exchanges and the SEBI. With the growing presence of information technology, the trading of securities is accessible from any part of the country through internet and trading terminals.

Indian capital market plays a massive role in the economic development of the country, as it acts as a platform for the firms to raise capital by mobilizing both domestic and external funds. India’s phenomenal stock market growth in terms of turnover value, trades, number of new issues etc. is the straight through outcome of SEBI’s initiative in creating awareness, education and intervention for the benefit of good. As the global economies are more and more integrating, the impact of global economic and stock market variables cannot be ignored. It is a very well accepted fact that 2008 subprime crisis in U.S. had a significant impact on the downward movement in the stock markets across the world including India. The reason for the impact in other emerging markets is due to scepticism among investor groups and unwinding their positions by US based hedge funds in various markets to meet their domestic obligations in USA.

Indian Stock Market is one of the oldest markets in Asia. The Indian stock market history dates back to nearly 200 years. The two prominent stock exchanges in India are namely, Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). The two major segments of the Indian stock market are Cash segment and Derivative segment. The Derivative segment is further classified in to Equity derivatives, Currency derivatives and Interest Rate derivatives. The Table 1.6 gives an overview of the turnover seen in various segments of Indian Stock Market.
Table 1.6 Turnover in various segments of Indian Stock Market

<table>
<thead>
<tr>
<th>Year</th>
<th>Turnover value (Rs. Crore)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cash Segment</td>
<td>Equity Derivatives</td>
</tr>
<tr>
<td>2011-12</td>
<td>34,78,391</td>
<td>3,21,58,208</td>
</tr>
<tr>
<td>2012-13</td>
<td>32,57,087</td>
<td>3,87,04,572</td>
</tr>
<tr>
<td>2013-14</td>
<td>33,41,338</td>
<td>4,75,75,571</td>
</tr>
</tbody>
</table>

Source: SEBI report, 2014

1.4.2 Bombay Stock Exchange

The Bombay Stock Exchange (BSE) was setup in the year 1875 and is the oldest stock exchanges in India. The BSE Sensex is one of the two benchmark indices of India and acts as a barometer of the nation’s economy. The Sensex is a 30 stock index which composed the largest and frequently traded stocks representing different sectors in the economy. The base year of Sensex calculation is 1981.

1.4.3 National Stock Exchange

The National Stock Exchange (NSE) was founded in 1992 and started trading from 1994 with the objective of establishing a nationwide trading facility for all types of securities and to provide equal access to all investors across the country and thereby achieving international standards. NSE Nifty is also a benchmark index of a country. Another noticeable index is the S&P CNX 500. It is India’s first broad-based stock market index of the Indian stock market. The CNX 500 represents about 96% of total market capitalization and about 93% of the total turnover on the NSE (An & Brown 2010).
1.4.4 Trading Mechanism

Both BSE and NSE follow the same trading mechanism, trading hours, settlement process, etc. Trading at both BSE and NSE are done through an open electronic limit order book, in which order matching is done by the trading computer. The entire trading process is order-driven, indicating that orders placed by the investors are immediately matched with the best limit orders. This matching is done by the trading system. As an outcome, both buyers and sellers stay anonymous.

1.4.5 Market Regulation

Securities and Exchange Board of India (SEBI) is the governing authority and responsible for stock market development, regulation and supervision. SEBI was formed in 1992 as an independent authority.

1.4.6 Past Trends and Present Scenario

BSE and NSE were the only two stock exchanges that reported significant trading volumes in 2013-14. They both together accounted for 99.7% of total cash segment turnover. The other two stock exchanges which recorded turnover during 2013-14 are MCX-SX and Calcutta Stock Exchange. The NSE has established its position as the market leader by contributing 84.1% of the total turnover in India and BSE accounted for 15.6% of the total cash segment turnover. Ever since its commencement in the year 1994, the NSE has arisen as the preferred stock exchange among trading members. The steady surge in reputation of the NSE is evident from the Table 1.7 and Figure 1.4 which provides growth of the cash segment of the NSE.
Table 1.7 BSE and NSE Turnover in Cash Segment

<table>
<thead>
<tr>
<th>Year</th>
<th>BSE Value (Rs. crore)</th>
<th>BSE Percentage of Total Turnover</th>
<th>NSE Value (Rs. crore)</th>
<th>NSE Percentage of Total Turnover</th>
<th>Total Turnover (Rs. crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>11,00,074</td>
<td>28.6</td>
<td>27,52,023</td>
<td>71.4</td>
<td>38,52,097</td>
</tr>
<tr>
<td>2009-10</td>
<td>13,78,809</td>
<td>25.0</td>
<td>41,38,023</td>
<td>75.0</td>
<td>55,16,833</td>
</tr>
<tr>
<td>2010-11</td>
<td>11,05,027</td>
<td>23.6</td>
<td>35,77,410</td>
<td>76.4</td>
<td>46,82,437</td>
</tr>
<tr>
<td>2011-12</td>
<td>6,67,498</td>
<td>19.2</td>
<td>28,10,893</td>
<td>80.8</td>
<td>34,78,390</td>
</tr>
<tr>
<td>2012-13</td>
<td>5,48,774</td>
<td>16.8</td>
<td>27,08,279</td>
<td>83.2</td>
<td>32,57,054</td>
</tr>
<tr>
<td>2013-14</td>
<td>5,21,664</td>
<td>15.6</td>
<td>28,08,488</td>
<td>84.1</td>
<td>33,41,337</td>
</tr>
</tbody>
</table>

Source: SEBI report, 2014

Looking at the trends in the turnover of NSE and BSE, one finds that decline in turnover on the exchanges started in 2010-11 continued till 2012-13, mainly on account of the crisis and the uncertainties in global financial markets. Both NSE and BSE registered a lower value of trade during that period. It is also observed NSE is doing far better than BSE in terms of turnover value.
Figure 1.4 Share of BSE & NSE Cash Segment Turnover – A Comparison

NSE’s share in the cash segment of the market is on continuous rise from 71% of total market turnover in 2008-09 to 84% in 2013-14. On the other hand, it is evident that BSE, the oldest stock exchange and largest in terms of Market Capitalization is losing its market share to NSE. BSE is a leading stock Exchange in India with respect to number of companies listed and market Capitalization. The Table 1.8 compares both BSE and NSE with regard to Number of companies listed and Market capitalization.

Table 1.8 Number of companies listed and Market Capitalization

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of companies listed</th>
<th>Market capitalization (Rs. Crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BSE</td>
<td>NSE</td>
</tr>
<tr>
<td>2012-13</td>
<td>5,211</td>
<td>1,666</td>
</tr>
<tr>
<td>2013-14</td>
<td>5,336</td>
<td>1,688</td>
</tr>
</tbody>
</table>

Source: BSE and NSE
The participants in Cash Market turnover are: Proprietary trade firms, Domestic Institutions, Mutual Funds, Retail investors, Non-Resident Indian (NRI) and Qualified Foreign investors (QFI). Domestic Institutions include Banks, Development Financial Institutions (DFI), Insurance Schemes and New Pension Schemes. The Table 1.9 illustrates the share of various participants in BSE and NSE.

Table 1.9 Share percent of Participants in Cash Market Turnover

<table>
<thead>
<tr>
<th>Participants</th>
<th>BSE</th>
<th>NSE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2012-13</td>
<td>2013-14</td>
</tr>
<tr>
<td>Proprietary Trades</td>
<td>24.0</td>
<td>20.5</td>
</tr>
<tr>
<td>Domestic Institutions</td>
<td>2.4</td>
<td>14.4</td>
</tr>
<tr>
<td>FIIs</td>
<td>9.2</td>
<td>4.8</td>
</tr>
<tr>
<td>MFs</td>
<td>2.5</td>
<td>0.9</td>
</tr>
<tr>
<td>Others</td>
<td>62.1</td>
<td>59.4</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: SEBI

The above table offers a clear insight that FIIs and MFs prefer NSE for Cash Market transactions whereas domestic Institutions shown their preference for BSE in 2013-14.

1.4.7 Significance of Corporate Governance in Capital Market

It is mandate to have a decent corporate governance principle to maintain the integrity of Corporations, Financial institutions and Markets. Many noteworthy measures have been initiated by SEBI pertaining to corporate governance improvements. The reforms commenced by SEBI mainly focused on safeguarding retail investors and improving the confidence
of public towards the capital market. It is also remarkable to mention that greater enthusiasm of FIIs forced to improve the corporate governance standards of the capital market, as such huge investments are more beneficial for the economy.

As per the World Bank study ‘Doing Business 2014’, India ranks 34th across the globe in investor protection criteria, this is a vital indicator of Corporate Governance. The Figure 1.5 shows India’s rating in investor protection norms among BRIC countries.

![Investor Protection Rating for BRIC countries](image)

Source: Doing business 2014, World Bank

**Figure 1.5 Investor Protection Rating for BRIC countries**

The persistent corporate governance reforms in capital market will lead to attracting more FII investments. The impact of globalization of capital markets has provided an inspiration in the direction of further rigorous corporate governance standards.
1.4.8 Trends in Nifty Index

CNX Nifty Index has grown in leaps and bounds over the years since its inception. Table 1.10 displays the trends in Nifty Index over the years.

<table>
<thead>
<tr>
<th>Year</th>
<th>NSE Nifty</th>
<th>Year</th>
<th>NSE Nifty</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-02</td>
<td>1130</td>
<td>2008-09</td>
<td>3020</td>
</tr>
<tr>
<td>2002-03</td>
<td>978</td>
<td>2009-10</td>
<td>5249</td>
</tr>
<tr>
<td>2003-04</td>
<td>1772</td>
<td>2010-11</td>
<td>5834</td>
</tr>
<tr>
<td>2004-05</td>
<td>2036</td>
<td>2011-12</td>
<td>5296</td>
</tr>
<tr>
<td>2005-06</td>
<td>3403</td>
<td>2012-13</td>
<td>5683</td>
</tr>
<tr>
<td>2006-07</td>
<td>3822</td>
<td>2013-14</td>
<td>6704</td>
</tr>
<tr>
<td>2007-08</td>
<td>4735</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: NSE Fact Book 2014

1.5 INTRODUCTION TO ECONOMETRICS

The data considered for the research study are analysed using statistical and econometric software namely SPSS, E-Views and Microfit 4.1. Time series data are analysed more effectively with the aid of econometric tools.

1.5.1 Econometric Modelling

Econometric modelling gives guidelines on application of strategic aspects to a problem such as high volatile and high uncertain. It gives fundamental idea on how to solve uncertain (volatile) problem. The core objective of economic modelling is to fit data in to a particular problem.
Econometrics can be stated as a branch of science in which theory and statistical methods are integrated in the analysis of numerical and institutional data. It is a scientific study of numerical data based on variation in nature. According to Goldberger, Econometrics may be defined as “the social science in which the tools of economic theory, mathematics, and statistical inference are applied to the analysis of economic phenomenon’. Econometrics is the integration of four different subjects namely, Economics, Finance, Mathematics and Statistics. Econometrics is based on sound fundamental theory from Economics and Finance and its modelling is derived with the help of Mathematics and Statistics. Modelling is the process of transforming the real world problem in to mathematical problem.

Figure 1.6 Anatomy of Econometric modelling
Econometrics is a set of procedures and rules for reducing large masses of data into manageable proportions so as to enable us to draw conclusions from those data. Econometrics proves to be very useful to handle time series data. For this, econometrics requires proper theory and proper information (data). The Figure 1.6 depicts the process involved in Econometrics.

1.5.2 Key terms in Econometric Analysis

Akaike Information Criterion (AIC)

It measures the relative worth of an econometric model for a particular set of data. AIC offers a means for model selection.

Autocorrelation

It is also known as serial correlation. It refers to correlation between members of series of observations in time series data. The classical linear regression model assumes that such autocorrelation does not exist in the disturbances $U_i$.

Autoregressive Conditional Heteroscedasticity (ARCH)

ARCH models are helpful to characterize and model observed time series. They are used whenever the error terms will have a characteristic size or the variance of the current error term is the function of the actual sizes of the previous time period’s error terms.

Autoregressive Integrated Moving Average (ARIMA)

ARIMA is a generalization of an Autoregressive Moving Average (ARMA) model. These models are applied to time series data either to better understand the data or to forecast the series. In ARIMA (p, d, q) model, the
parameters p, d and q are non-negative integers that refer to the order of the autoregressive, integrated, and moving average parts of the model respectively.

**Breush-Godfrey test**

It is a test for deducting serial or autocorrelation. To avoid some of the drawbacks of the Durbin-Watson d test of autocorrelation, statisticians Breusch and Godfrey have developed this test.

**Cointegration**

It is a statistical property of time series variables. Two or more time series are cointegrated if they share a common stochastic drift. In probability theory, stochastic drift is the change of the average value of a stochastic (random) process. The drift rate is the rate at which the average changes.

**Correlogram**

It is an image of correlation statistics. It is also known as autocorrelation plot in time-series analysis. The correlogram is commonly used tool for checking randomness in a data set. Correlogram is also used in the model identification stage for Box-Jenkins autoregressive moving average time-series models.

**Durbin-Watson (DW) statistic**

It is a test statistic used to find the presence of autocorrelation from a regression analysis. The DW statistic will always have value between 0 and 4. The DW value of 2 means there is no autocorrelation. Any value
approaching 0 specify positive autocorrelation and value towards 4 indicates negative autocorrelation.

**Forecast Error**

It is the difference between the actual value and forecasted value of a time series.

**Generalized Autoregressive Conditional Heteroscedasticity (GARCH)**

GARCH model is developed by Robert F Engle. The GARCH process in general involves three steps. The first step is to estimate a best-fitting autoregressive model. Secondly to compute autocorrelations of the error term and lastly, test for significance.

**Granger Causality Test**

It is a test to determine whether one time series is useful in forecasting another. If past A contains useful information to predict B, then A granger cause B. It is important to understand that Granger-causality may or may not indicate casual effect of A on B.

**Heteroscedasticity**

It refers to a situation in which the variability of an error variance is not constant or unequal across the range of values.

**Homoscedasticity**

It refers to a situation in which the variability of an error variance is constant or equal across the range of values.
Impulse Response Function

It refers to the reaction of any dynamic system in response to some external change. The change (input signal) is known as impulse or innovation.

Jarque-Bera test

It is a goodness-of-fit test of whether sample data have the Skewness and Kurtosis matching a normal distribution or not.

Stationarity

A time series data is said to be stationarity data if there is no change in mean, variance and if strictly periodic variations have been removed. In other words, if a data series has constant mean, variance and covariance then the data series is known to be stationarity in nature. The stationarity of data is important as most time-series models works only if the data is stationary.

Variance Decomposition

A Variance Decomposition or Forecast Error Variance Decomposition (FEVD) indicates the amount of information each variable contributes to the other variable in the autoregression. i.e. how much of the forecast error variance of each of the variables can be explained by exogenous shocks to the other variables.

1.6 CHAPTER ORGANIZATION OF THE THESIS

The thesis is organized into five chapters as follows:

Chapter 1 gives introduction to research study. It elaborately discusses Foreign Investments in India, Overview of Foreign Institutional
Investors and Indian Stock Market. This chapter also gives introduction to Econometrics and explains important terms in Econometric analysis.

Chapter 2 deals with review of literature. This chapter discusses review of previous studies about the Foreign Institutional Investors with respect to their determinants, association with Indian stock markets, volatility in stock markets and forecasting time-series data. This extensive review helps the researcher in gaining significant knowledge and identifying the research gap.

Chapter 3 presents research framework of the study. It elucidates the research gap, problem statement, research questions, objectives of the study, research hypothesis, scope of the study, research methodology and limitations of the study.

Chapter 4 details the data description and theoretical framework pertaining to the objectives framed in the study. This chapter forms the base for carrying out the research analysis. The theoretical framework helps in addressing the research questions by providing sound theory and econometric model for the analysis to carry on.

Chapter 5 carries out analysis and discussions. The financial time series data collected through various official websites and other sources are put in use to arrive a meaningful output with the help of various statistical and econometric tools. The results attained are extensively discussed for the benefit of all stakeholders.

Chapter 6 concludes the research work by summarizing the major findings and its research implications. This chapter also draws attention to future scope for research in this field.
Figure 1.7 An overview of Thesis Structure and Research Paradigm