

INVESTMENT IN FINANCIAL SECURITIES IN INDIA SINCE GLOBALISATION

Thesis

Submitted to the University of Calicut
for the Award of the Degree of

DOCTOR OF PHILOSOPHY IN ECONOMICS

By

LOUIS J. KATTADY

**DEPARTMENT OF ECONOMICS
UNIVERSITY OF CALICUT
DR. JOHN MATTHAI CENTRE
ARANATTUKARA, THRISSUR**

DECEMBER 2007

Dr. C. KRISHNAN

Selection Grade Lecturer
Department of Economics
Government College
Kodencherry
Calicut

CERTIFICATE

Certified that this written account on “Investment in Financial Securities in India Since Globalisation”, submitted for the award of the Degree of Doctor of Philosophy of the University of Calicut is a bonafide record of research work done by Mr. Louis J. Kattady under my supervision. No part of this work has been submitted earlier for any other degree or diploma.

Place : Calicut
Date : 15 December 2007

Dr. C. Krishnan
Supervising Teacher

DECLARATION

I, Louis J.Kattady, do hereby declare that this written account entitled “Investment in Financial Securities in India Since Globalisation” is a bonafide record of research work done by me under the guidance of Dr.C.Krishnan, Selection Grade Lecturer, Government College, Kodencherry, Calicut.

I also declare that the thesis has not been submitted by me earlier for the award of any degree, diploma, fellowship or other similar title of recognition.

Place : Calicut
Date : 15 December 2007

LOUIS J. KATTADY

C O N T E N T S

List of Abbreviations
List of Tables
List of Figures

<i>Chapter s</i>		<i>Page No.</i>
1	Introduction	1
2	Review of Literature	15
3	Capital Markets-Theoretical Frame Work	79
4	Indian Financial Sector Reforms and Resource Allocation	112
5	Indian Capital Market – An Overview	151
6	Analysis of Impact of Stock Market on Macro-Economy	207
7	Financial Performance and Stock Markets-A Firm Level Analysis.	261
8	Indian Securities Market and Equity Culture-Emerging Issues and Challenges.	296
9	Summary of Findings, Suggestions and Conclusion	312

Bibliography
Appendices

Dedicated to
My Family

Acknowledgement

I express my heartfelt thanks to my supervisor Dr.C.Krishnan, Selection Grade Lecturer, Government College, Kodencherry, Calicut, for invaluable advice, kind help, and constant and whole-hearted encouragement at each stage of my work.

My profound gratitude is also due to Dr. K.P. Mani, Professor, John Mathai Centre, Thrissur, who has been inspiring and motivating throughout. I am thoroughly obliged to him for his constant encouragement, critical comments and valuable suggestions.

I am grateful to Dr.U.T. Damayanthi, Professor and Head of the Department, Dr. Laxmidevi and Dr. Kutttykrishnan Nambiar, former Heads of the Department, for their encouragement and support.

I am extremely thankful to Mr.D.Shyjan, Lecturer in the Department, for his timely help at various stages of the study.

My sincere thanks to Dr.K.X.Joseph, Dr.D. Retnaraj and Dr.P. Kareem, Faculty members of the Department, for their constant encouragement.

My profound gratitude to all the faculty members of the Department, for their timely assistance and encouragement throughout my research work.

I duly acknowledge the encouragement and support by the research scholars in the department, and all my colleagues and friends.

I thank my friends in stock market and the management of broking firms who helped me with valuable data in time.

My thanks and gratitude to Dr. Susan Thomas and Dr.R. Nagaraj, Faculty members of IGDR, Mumbai , J.R Varma, Ajay pandey and Ramesh Gupta, Professors of IIM, Ahemedabad, Mr.Hariharan , Manager of SEBI , Bombay, Dr. Suresh Babu, Assistant Professor, IIT, Madras, and Mr.Saji Cheriyan, Manager, Bombay Stock Exchange, for their valuable suggestions and all the help.

I extent my thanks to the librarians of John Mathai Centre, Trichur, CDS, Trivandrum, IIM in Calicut, Bangalore and Ahemedabad, BSE , NSE, SEBI and UTI Capital Markets in

Bombay, JNU, IPFP and IEG in Delhi, IFMR and IIT in Madras, IISc and ISEC in Bangalore and University of Cochin.

My thanks to the Chairmen of Geojit Securities, Cochin, JRG Securities, Cochin Share Wealth Securities, Thrissur, and Equity Intelligence, Cochin for sparing their time and giving valuable inputs.

I am thankful to Dr. Jeromy, Research Officer, RBI, Cochin, for his valuable help.

I acknowledge with thanks the University Grants Commission for the award of Teacher Fellowship during the tenure of this work.

LIST OF TABLES

<i>Sl No.</i>	<i>Table No.</i>	<i>Title</i>	<i>Page No.</i>
1.	4.1	Flow of funds based indicators of financial development in India	115
2.	4.2	Trends in gross domestic saving	120
3.	4.3	Saving and investment	121
4.	4.4	Disbursement of financial institutions	125
5.	4.5	Resource mobilised by mutual funds as a percentage of GDP	125
6.	4.6	Assistance sanctioned by all financial institutions	138
7.	4.7	Capital issues by public limited companies	139
8.	4.8	Resource mobilisation through private placement	141
9.	4.9	Sector- wise domestic savings	144
10.	4.10	Sector -wise gross capital formation	146
11.	4.11	Market design in Indian securities market 1992 and 2002	148
12.	5.1	Resource mobilisation from the primary market	160
13.	5.2	New capital issues by non-government public limited companies (1993-94 to 2004-05)	162
14.	5.3	Resource mobilisation by mutual funds	165
15.	5.4	Pattern of growth of stock exchanges	167

16.	5.5	Stock market development in India	170
17.	5.6	Trends in Bombay stock exchange	178
18.	5.7	Trends in National stock exchange	181
19.	5.8	Growth and distribution of turnover on stock exchanges	187
20.	5.9	Capital from abroad-ADRs and GDRs	196
21.	5.10	Trends in FII investment	197
22.	5.11	Stock market development-international comparison	199
23.	5.12	Growth of share owing population in India	201
24.	5.13	Reduction in transaction cost in India - 1994 and 1999	203
24.	6.1	The growth of Indian stock market - select indicators	213
25.	6.2	Market capitalisation ratio	215
26.	6.3	Value traded ratio	217
27.	6.4	Turnover ratio	219
28.	6.5	Volatility of sensx at BSE	221
29.	6.6	Sindex	225
30.	6.7	Behaviour of economic indicators and their suggestive impact on share market	231
31.	6.8	Inflation rate of whole sale price index	233
32.	6.9	Savings of house hold sector in financial assets	235
33.	6.10	Disinvestment in public sector units	240
34.	6.11	Financial depth	245
35.	6.12	Foreign exchange reserves, rupee dollar exchange rate and openness	248
36.	6.13	Exponential growth rate of real GDP with dummy	251
37.	6.14	Unit root test	252
38.	6.15	First difference	253
39.	6.16	Second difference	254
40.	6.17	Co-integrated regression results	255
41.	7.1	Financial highlights of Reliance Industries Ltd.	267

42.	7.2	Financial highlights of Larsen and Turbo Ltd.	271
43.	7.3	Bonus and stock split of Infosys Ltd.	273
44.	7.4	Financial highlights of Infosys Ltd.	274
45.	7.5	Financial highlights of Wipro Ltd.	277
46.	7.6	Financial highlights of Hidustan Lever Ltd.	279
47.	7.7	Financial highlights of ITC Ltd.	282
48.	7.8	Financial highlights of Ranbaxy Ltd.	284
49.	7.9	Financial highlights of Dr. Reddy Lab. Ltd.	287
50.	7.10	Financial highlights of HDFC bank Ltd.	290
51.	7.11	Financial highlights of SBI Ltd.	293
52.	9.1	Goldman Sach's report	331

LIST OF FIGURES

<i>Sl. No.</i>	<i>Figure No.</i>	<i>Title</i>	<i>Page No.</i>
1.	3.1	Line chart	82
2.	3.2	Bullish trend	83
3.	3.3	Bearish trend	84
4.	3.4	Bar chart	85
5.	3.5	Japanese candle sticks	86
6.	3.6	Flag formation	89
7.	3.7	Pennant formation	90
8.	3.8	Representation of Elliot wave theory	91
9.	3.9	The classification of market efficiency in EMH	104
10.	3.10	The Markovitz model – optimal portfolio	106
11.	5.1	The share of BSE, NSE and regional stock exchanges in the total turnover 2001-02	189
12.	5.2	Reduction in transaction cost in India (1994 and 1999)	204
13.	6.1	Market capitalisation ratio from 1979-80 to 2004-05	215
14.	6.2	Value traded ratio from 1979-80 to 2004-05	218
15.	6.3	Turnover ratio from 1979-80 to 2004-05	220

15	6.4	Volatility of sensex at BSE	222
16	6.5	Sindex for the year 1979-80 to 2004-05	226
17	6.6	Trends in bank rate	236
18	6.7	Cash reserve ratio	238
19	6.8	Financial depth from 1979-80 to 2004-05	245

LIST OF ABBREVIATIONS

ADR	:	American Depository Receipt
AMC	:	Asset Management Company
BOLT	:	Bombay On Line Trading
BSE	:	Bombay Stock Exchange
CAPM	:	Capital Asset Pricing Model
CCI	:	Controller of Capital Issues
CDSL	:	Central Depository Services Limited
ECBs	:	Euro currency Bonds
ELOB	:	Electronic Limit Order Book
EMH	:	Efficient Market Hypothesis
FIIs	:	Foreign Institutional Investors
FR	:	Finance Ratio
GDCF	:	Gross Domestic Capital Formation
GDR	:	Global Depository Receipt
IPO	:	Initial Public Offering
MCR	:	Market Capitalisation Ratio
NASDAQ	:	National Association of Security Dealers Automated Quotations
NCAER	:	National Council of Applied Economic Research
NIR	:	New Issue Ratio
NSCC	:	National Securities Clearing Corporation

NSDL	:	National Securities Depository Limited
NSE	:	National Stock Exchange
NYSE	:	New York Stock Exchange
OTCEI	:	Over the Counter Exchange of India
PSU	:	Public Sector Undertaking
SEBI	:	Securities and Exchange Board of India
TOR	:	Turnover Ratio
UTI	:	Unit Trust of India
VTR	:	Value Traded Ratio

CHAPTER 1

INTRODUCTION

Globalisation of financial markets occupies a significant place in the economic development of any country as it promotes faster economic growth. The past two decades have witnessed a process of accelerating changes in the global financial markets. Experiences showed that countries, which were, globalised their financial markets improved their economic performance in a much faster pace. The most vibrant aspect of financial sector reforms is the liberalisation of stock markets.

Stock market liberalization is a decision by a country's government to allow foreigners to purchase shares in the country's stock markets. The standard International Asset Pricing Models (IAPMs) predict that stock market liberalization may reduce the liberalizing country's cost of equity capital by allowing for risk sharing between domestic and foreign agents (Henry 2000)¹. There is almost unanimity among academicians that financial liberalization encourages the formation of equity markets where they did not exist previously and helps in their deepening and widening where they predated reforms. The expansion of equity market of many Asian countries after liberalization is truly impressive (Clemente 1994)². Some of these markets are growing at a faster rate than European markets over the last few years and are likely to continue to do so.

A developed stock market is considered crucial to national economic growth as it: (a) provides an additional channel (along with banks and other financial institutions) for encouraging and mobilizing domestic savings (b) ensures improvements in the productivity of investment through market allocation of capital and (c) increases managerial discipline through the market for corporate control. The stock market may influence national savings, allocation of these savings, firm financing decisions, and finally may pave the

way to economic growth. A distinguished international study group (in the late 1980s) for the 'World Institute for Development Economic Research' (WIDER) argued that, the developing countries should liberalize their financial markets in order to attract foreign portfolio equity flows. Their argument has been that huge amount of financial capital available in the developed countries through pension funds and investment funds could be attracted to the developing countries, provided the later liberalize their markets externally and develop their stock market internally. Similarly, another study (Dailami and Atkin 1990)³ pointed out that that the provision of funds to finance domestic financial capital formation is a key factor for the prospects for long term economic growth of developing countries.

With the objective of bringing about highly competitive system and promoting efficiency in the real sectors of the Indian economy, many reforms in the areas of trade, industry and exchange rate systems have been undertaken in the 1990s to correct economic imbalances and bring about structural adjustments. The liberalization policies of the government have made drastic development with major plans of diversification, expansion and modernization of industrial sector in the country. This has led to increased demand for funds and the recent development of capital market in India is a concomitant of the same.

After independence, though we have given more importance to industries, most of the public sector units were financed by government and banks. Bank intermediation was very strong. Stock market trading was lacking professionalism. In 1990s due to the deterioration of foreign exchange reserves and economic instability, we were forced to devalue our currency and we have gone for liberalisation, privatisation and globalisation measures especially in the financial sector. Industrial licensing was made easy. FIIs were allowed to participate in the equity market.

Notwithstanding two security scams in India, we established SEBI on par with Securities Exchange Commission (SEC) of the USA. The policies of

liberalisation, structural changes and industrial policy reforms, abolition of government control on pricing of securities and the exemption of dividend income from income tax have made the Indian stock market more dynamic.

The setting up of regulatory bodies like SEBI, credit rating agencies, step towards scrip less trading systems, computerization of dealings, a National Stock Exchange System (NSE), quicker settlement system (now T+2) and setting up of NSDL and CSDL depositories, made Indian stock market more efficient, transparent and investor friendly.

The industrial and service sectors' growth is a *sine quo non* of overall growth of an economy and is primarily dependent on domestic savings. However, in countries like India, the rate of savings is low and more importantly most part of the savings are held in physical forms and conventional forms of financial assets like currency, bank deposits, post office savings, chitty funds, and insurance funds and provident and pension funds. If we can channelise these savings in to the corporate sector, it will definitely facilitate the development of the country. This transmission mechanism requires an efficient capital market. If it is done efficiently, it can lead to increase in income and employment of the people and ultimately lead to economic growth.

With this in view, capital market investment having diverse nature like shares, debentures, and mutual funds are offered to investors. People can select the suitable mode of investment according to their desired level of risk, return and liquidity. Investment in securities capital market can be made through primary market or secondary market. In the primary market, corporate entities offer new securities directly to the investors and mobilise the funds needed for their development. Continuous liquidity is provided by the secondary market through stock exchanges. The investors can trade the existing securities at the prevailing market prices in the stock exchanges through stock brokers.

Indian capital market is one of the oldest and largest capital markets of the world. The first instance of organized trading in securities in India started with trading in securities of East India Company in the 19th century. The establishment of BSE started in 1875 gave momentum to the capital market operations in the country. The rapid industrialization in the country since independence has given vitality to the capital market. The market reforms initiated as a part of liberalization measures in the 1990s like dematerialization of securities, screen based trading and rolling settlement and establishment of SEBI and NSE and two depositories (NSDL and CSDL) added vigour to the growth of Indian capital market. At present there are 23 stock exchanges in the country. The aggregate value of trade, market capitalization and number of listed companies of these stock exchanges are comparable to international standards. BSE is the first and foremost stock exchange in the country and it is following free float methodology for the computation of its index. Since BSE Sensex is considered as the barometer of Indian economy, the researcher has taken BSE as the base for computational purpose.

Indian stock market has experienced a phenomenal growth in capital mobilization, trading volume and market capitalization in the past few years. This has developed and created more economic activity and real GDP and per capita income have increased. Wealth creation has also taken place. In this background, it is highly pertinent to examine the impact of globalisation on the investment in financial securities in India. The present study is an attempt in this direction.

SIGNIFICANCE OF THE STUDY

Since the publication of the seminal work of McKinnon (1973) and Shaw (1973), the relationship between domestic financial markets and economic growth in developing countries has become a prominent issue on the agenda of academic researchers interested in Development Economics. The adverse experiences of the international debt crisis as happened in 1982 with Mexican

moratorium, stimulated strong interest in domestic capital mobilisation. The debt crisis and the related domestic economic stagnation in many less developed countries emphasized the importance of mobilising domestic financial resources, instead of being dependent on financial inflows to finance growth. With large external debts, developing countries appeared to be very vulnerable to outside economic shocks.

The importance of financial market in the process of economic growth can be understood on the basis of its functions and services. First of all, the financial markets create an accepted medium of exchange which facilitates trade among agents and which contributes to increased specialization in the economy. Secondly, they provide various services related to stimulating the volume of scrips and transferring the services to the most efficient investment projects. Obviously the financial markets do make a valuable contribution to economic growth.

It is widely acknowledged that economic growth without well developed domestic financial markets would be detrimental to long run growth prospects of developing countries. This view was underlined by the World Bank study of 1989. As a reaction, several developing countries designed and carried out economic reform programmes during the 1980s in which financial market reforms received a prominent role. The most important work in this line was done by Levine Ross (World Bank, 1996) and this was a landmark in the history of globalisaion of stock markets and consequent growth in many economies.

Indian capital market is an emerging market. The capital market has undergone drastic transformation in 1990 due to economic reforms, macro-economic changes and the regulation on securities market. There have been both qualitative and quantative changes in the Indian capital market since 1990. The Indian capital market has experienced momentous institutional evolution like open electronic limit order book market, nation wide integrated market, establishment of clearing corporation that guarantees trade, establishment of

depositories, indexation, derivative trading, IPO market, book building mechanism, debt market trading and foreign portfolio inflows. The institutional changes have increased liquidity, decreased transaction cost and increased market efficiency, contributing overall improvements. This has increased capital market acumen and confidence of the people, ultimately resulted in corporate business expansion and more job creation and higher labour productivity. The wealth creation has also taken place. Since liquidity has increased, people have no fear to invest in stocks because they can alter their portfolio at any time. This has ultimately made growth in the Indian economy.

Globalisation has done much to the economy and Indian stock market now stands on par with international standards. Researches have proved that globalisation of stock markets can enhance GDP growth rate to the tune of 2.5 per cent per annum, thereby enhancing the standard of the living of the people. There are only a few attempts (Ajay Shah and Susan Thomas) to seriously examine the Indian economic development and stock market development. The present study attempts to examine the macro-economic impact of stock market development since the Economic reforms. It also tries to find out the problems faced by the Indian stock market. The study is restricted only to shares and mutual funds. With this background, we put forth the following objectives.

OBJECTIVES OF THE STUDY

The specific objectives are the following:

1. To analyse the structure and pattern of investment in financial securities in India.
2. To assess the impact of investment in financial securities on the macro performance of the economy.
3. To analyse the extent of market capitalisation and performance of selected companies since globalisation.
4. To identify the constraints for growth of financial securities in India.

Hypotheses of the Study

The following hypotheses have been formulated on the basis of the objectives of the study

1. Liberalisation and globalisation have significant impact on Indian stock market.
2. There is a significant relationship between macro-economic variables and economic growth.
3. Stock market index is having significant impact on economic growth.
4. Firm level performance is a good indicator for economic prosperity of the country.

Data Base and Methodology

The study is primarily based on secondary data. Secondary data have been collected in two stages. In the first stage, data from publications of Government of India, Central Statistical Organization (CSO), Reserve Bank of India (RBI), Stock Exchanges, Securities and Exchange Board of India (SEBI) and from relevant reports, periodicals, and news papers are collected and analysed. In the second stage, firm level data have been collected from prowest, CMIE publications and annual report of companies.

For collecting the firm level data, the listed companies are divided into five sectors viz., Manufacturing and Construction, Information Technology (I.T), Health Care, Fast Moving Consumer Goods (FMCG), and Banks. Two companies are selected from each sector on the basis of the highest market capitalisation and performance as indicated by the Sensex. Firm level data have been collected from the annual reports and the analysis is done for 10 years.

Discussions have also been held with the share brokers, portfolio managers, officials of SEBI, BSE, NSE, and UTI capital markets, and professors

of leading business schools and other experts in the field, to get an insight in to the problems of stock market investment.

In order to measure the stock market development, we have made use of three methods. (i) **Market Capitalisation Ratio (MCR):** It is considered as a measure of stock market size. The MCR is defined as the total value of the listed shares divided by GDP. Market capitalisation is computed using the value of the equity shares only: the stock market price per share is multiplied by the number of shares that are outstanding (that is, by the number of listed shares not held by the company itself). In economic sense, market capitalisation as a proxy for market size is positively related to the ability to mobilise capital and diversify risk. (ii) **Liquidity Ratios:** We use two measures for market liquidity viz., the value traded ratio and turnover ratio. The value traded ratio equals the total value of traded shares in the stock market divided by GDP. The total value traded ratio measures the organized trading of the equities as a share of national out put and should therefore positively reflect liquidity on an economy wide basis.

The turnover ratio which equals the value of total shares traded divided by the market capitalisation. High turnover is often used as an indicator of low transaction cost. Turnover also complements total value traded ratio. Although total value traded ratio captures trading compared with size of the economy, turnover measures the trading relative to the size of the stock market. A small liquid market will have a better turnover ratio but a small total value traded ratio. Thus incorporating information in total value traded ratio and turnover ratio provide a more comprehensive picture of liquidity of a stock market.

(iii) The third indicator used to measure the stock market development is the **volatility parameter** which conceptualizes the asset price movement in a stock market. This conveys the important signal for development. Less volatility in the market shows greater market efficiency and development.

To understand the impact of stock market on Indian economic growth during the pre-globalisation and post-globalisation period, the piecewise regression using Boyce index have been used. Augmented Dickey Fuller (ADF) test has been used to check the stationarities in the time series data. In order to test the hypotheses, co-integration technique is used. Ratios and percentages are used for the purpose of firm level analysis.

Period of the Study

The period of the study is from 1979-80 to 2004-05. This time frame has been considered because of two reasons: (i) The BSE started computerization in this period and time series data are available only from 1979 onwards. (ii) The liberalization measures have initiated in India since 1980s and the economy has opened up in 1991.

Concepts Used:

The main concepts and definitions used in the study are listed below:

1. Private placement

It is a method of primary market operations in which new financial instruments are offered directly to investors on a private basis without complying with all legal formalities including issue of prospectus.

2. Equity shares

A share is a form of capital market instrument, which evidences fractional ownership of corporate body and included both equity shares and preference shares held in physical and electronic form.

3. Debenture

It is a credit instrument issued by a corporate body, including a public sector undertaking whether converted into shares or not, and which carries a fixed rate of interest.

4. Mutual fund scheme

A mutual fund scheme is a capital instrument issued by a mutual fund organization, whether open - ended or close - ended and includes any type of scheme.

5. Debt-Equity ratio

Debt-Equity ratio is calculated by dividing total debt by net worth.

$$\text{Debt-Equity ratio} = \frac{\text{Total debt}}{\text{Net worth}}$$

6. Gross profit margin (GPM)

Gross profit margin is the ratio of gross profit to sales.

$$\text{GPM} = \frac{\text{Gross Profit}}{\text{Sales}}$$

7. Net profit margin (NPM)

Net profit margin is the ratio of the net profit to sales.

$$\text{NPM} = \frac{\text{Profit after Tax}}{\text{Sales}}$$

8. Operating profit margin (OPM)

Operating profit margin is a ratio of operating profit to sales.

$$\text{OPM} = \frac{\text{Profit before interest, depreciation and tax}}{\text{Sales}}$$

9. Return on investment (ROI)

Return on investment is expressed either as return on total assets or return on net assets.

$$\text{ROTA} = \frac{\text{EBIT (1-T)}}{\text{Total Assets}}$$

Where EBIT = Earnings before interest and taxes, T = corporate tax.

$$\text{RONA} = \frac{\text{EBIT (1-T)}}{\text{Net Assets}}$$

10. Return on share holder's equity (ROE)

ROE is the ratio of profit after tax to Equity.

$$\text{ROE} = \frac{\text{Profit after tax}}{\text{Equity capital}}$$

11. Earnings per share (EPS)

Equity per share is calculated by dividing the profit after taxes by the total number of equity shares outstanding.

$$\text{EPS} = \frac{\text{Profit after tax}}{\text{Number of shares outstanding}}$$

12. Cash earnings per share (CEPS)

Cash earning per share is calculated by dividing profit after taxes before depreciation by the number of equity shares outstanding.

$$\text{CEPS} = \frac{\text{Profit before depreciation after tax}}{\text{Number of shares outstanding}}$$

13. Dividend pay out ratio

Dividend pay out ratio is a ratio of dividend per share divided by earnings per share.

$$\text{Dividend pay out ratio} = \frac{\text{DPS}}{\text{EPS}}$$

14. Price-earnings ratio (P/E ratio)

P/E ratio is calculated by dividing market price per share by earnings per share.

$$\text{P/E ratio} = \frac{\text{Market price per share}}{\text{Earnings per share}}$$

15. Book value per share

This ratio indicates the asset-backing available for each share. Book value per share is calculated by dividing shareholder's funds by the number of equity shares.

$$\text{Book value per share} = \frac{\text{Shareholder's funds}}{\text{Number of equity shares}}$$

Limitations of the Study

This study has certain limitations. First of all, the availability of quality data over a long period of time poses a great challenge. Secondly, this study is an aggregate study and only yearly data are available for GDP.

Capital market development indices, based on the three parameters viz., 1) Market Capitalisation Ratio 2) Value Traded Ratio and 3) Turnover Ratio, can be further improved by incorporating the measures of development of capital market like the international integration of capital markets etc. But such data are not available in India. However, variables like political stability, black market exchange premium, etc., would have added to the model. In India, these types of official data are also lacking.

In spite of the above limitations, the highlights of the study can help the policy makers and the investing community at large to frame suitable policies for the better stock market investment.

Scheme of the Report

The study is presented in nine chapters. The first chapter introduces the topic, discusses the significance of the study, methodology, objectives and limitations. The second chapter reviews the relevant literature and the findings

are arranged in three sections viz., capital market and investment, stock market and economic growth (cross country studies), and India specific studies. The third chapter examines the theoretical frame work of the study in which technical analysis, efficient market hypothesis (EMH) and portfolio theories are explained. The fourth chapter deals with Indian financial sector reforms and resource allocation. An overview of Indian capital market is discussed in chapter five. The analysis of the impact of stock market on macro-economy is explained in the sixth chapter. Seventh chapter deals with financial performance and stock markets. The firm level analysis is also presented in this chapter. The Indian securities market and the emerging issues and challenges are explained in the eighth chapter. The summary of findings, policy recommendations and suggestions are provided in the last chapter.

References:

1. Henry, Peter Blair (2000): “Stock Market Liberalisation, Economic Reforms and Emerging Market Equity Prices” *Journal of Finance*, Vol. LV, No. 2, April, pp. 529-564.
2. Clemente Lilia (1994): “Investing in Asia’s Emerging Equity Market”, *The Columbia Journal of World Business*, Summer.
3. Dailami Mansoor and Atkin Michael (1990): “Stock Market in Developing Countries: Key Issues and Research Agenda”, World Bank Working Paper No. 515, *World Bank*, Washington DC.

CHAPTER 2

REVIEW OF LITERATURE

RELATIONSHIP BETWEEN THE FINANCIAL SYSTEM AND ECONOMIC GROWTH: SOME THEORETICAL AND EMPIRICAL EVIDENCE

Introduction

It is true that academic works on capital markets are very few till recently. However, since the 1980s, there have been attempts by many to analyse the various ramifications of the capital market and its impact on different economies. This chapter reviews the major contributions (theoretical and empirical) in the areas of stock market development and the consequent growth in different economies.

The existence of an efficient financial system facilitates economic growth. The growth of financial structure is a pre-condition to economic growth. The financial system of the country diverts the country's savings towards more productive uses thereby increasing the output of the economy. Besides mobilising savings, the financial system helps to accelerate the volume and the rate of savings by providing a diversified range of financial instruments and services through intermediaries. This results in increased competition in the financial system which channels resources towards the highest return investment for a given degree of risk. This lowers financial intermediation costs and stimulates economic growth.

A sophisticated financial system makes innovation less costly and most profitable, thereby enhancing a faster economic growth. The financial systems encourage diverse financial arrangements and able to maintain international competitiveness through upgrading their productive capacities. In addition to affecting the rate as well as the nature of economic growth, a financial system is useful in evaluating assets, increasing liquidity and producing and spreading information.

It happens often that a financial system develops in response to changing patterns of demand for funds. In the 1970s, there was a world wide increase in the demand for more risk management services. Many financial systems met this demand by increasing trading activity and by the development of many new risk management products. Hence, economic growth can also stimulate growth of the financial system.

Financial markets represent the deep end of the financial system; deeper the system greater its stability and resilience. A well-developed money and government securities market helps the Central Bank to conduct monetary policy effectively with the use of market-based instruments. Well-developed financial markets are also required for creating a balanced financial system in which both, financial markets and financial institutions play important roles. An imbalance between the two leads to financial crisis, as it happened in South-East Asia.

The financial system plays an important role in disciplining and guiding the management of companies, leading to sound corporate governance practices. The domestic financial system when linked to the international financial system, increases capital flow with the help of financial markets. This link reduces risk through portfolio diversification and helps in accelerating economic growth.

There has been much theorising about a two-way and symbiotic relationship between the financial system and economic growth. A sophisticated and sound financial system accelerates the rate of economic growth and the financial system in turn, develops more with higher economic growth. This relationship between financial system and economic growth has received considerable attention in empirical literature also. Theoretical agreement and disagreement exist simultaneously.

THEORETICAL CONTRIBUTIONS

Early views:

The Classical economists (Adam Smith and others) regarded capital accumulation as one of the key factors in economic development. According to this view, the major source of capital accumulation is savings which comes from profit and what is saved is assumed to be invested.

The Neo Classical School (Alfred Marshall and others) also believed that there is a close connection between accumulation of capital and development process. They emphasized the role of interest as a determinant of investment.

According to Karl Marx, accumulation of capital is dependent on the level of technology and consumption of the working class. Both Marx and Lenin recognised the importance of financial system and appreciated its crucial role.

A mixture of the Classical, Neo-Classical and Marxian elements can be traced in Schumpeter's theory. Schumpeter (1911)¹ argued that financial development is required for technological innovation and economic growth. He studied the effects of introduction of "innovations" or technological advances on the working of the economic organism and opined that services provided by financial intermediaries are essential. According to him, innovations depend on the expectation of profits and are financed by the creation of credit.

The collapse of the financial system along with real economic activity during the time of Great Depression in 1930s, motivated Irving Fisher (1933)² to argue that economic down trend resulted due to poor performance of the financial markets.

Keynes (1936)³, in the General Theory argued that a collapse in the confidence of either borrowers or lenders was sufficient to induce a downturn, but at the same time a return to prosperity required that both be in good repair.

After 1930s, economists largely ignored the potential links between the financial development and economic growth till Gurley and Shaw published their work in the 1950s. As a consequence of this, attention was once again re-directed towards the overall interaction between financial structure and real activity. Emphasis was given on financial intermediation and its role in credit supply. They elucidated the need for institutionalisation of saving and investment activities. Gurley and Shaw (1955)⁴ showed that both banks and non-bank financial intermediaries can create an excess supply of loanable funds which can bring about the excess stock of money and produce an excess of desired investment over desired savings and so change the economy's rate of growth. Before Gurley and Shaw's contribution, it was recognised that commercial banks only can promote this process because they can create money i.e., they affect the supply side. Gurley and Shaw proved that non-bank financial intermediaries can also produce these effects because they influence the demand side for money.

Patinkin (1965)⁵ also arrived at same conclusion. According to him, "the banking system affects the economy by changing the supply of money; whereas non-banking intermediaries do so by changing the demand for money, and hence the velocity of circulation". Gurley (1967)⁶ further showed that in countries where economic growth and development have occurred, the growth of financial accumulation has generally exceeded the growth of national output of goods and services.

Patrick's Argument: Demand Following and Supply Leading Pattern

Patrick views that the financial system can influence the capital stock for growth purposes in three ways. Firstly, financial institutions encourage efficient allocation of a given total amount of tangible wealth by bringing about changes in its ownership and its composition, through intermediation among various types of asset holders. Secondly, financial institutions encourage a more efficient allocation of new investment-additions to capital stock-from relatively less to

relatively more productive uses, by intermediation between savers and entrepreneurial investors. Thirdly, they induce an increase in the rate of accumulation of capital by providing increased incentives to save, invest and work.

According to Patrick (1966)⁷, the causal nature of the relationship between financial development and economic growth can be demand following or supply leading. The demand following phenomenon exist when financial institutions and services are created in response to demand for the services by investors and savers in the real economy. The nature of the demand for financial services is dependent upon the growth of real output and demand by enterprises and other traditional subsistence sectors for external funds. In the case of supply leading phenomenon, the expansion of the financial system precedes the demand for its services. By channelising scarce resources from savers to investors, the financial sector precedes and induces real growth. Supply leading phenomenon performs the twin function of transferring resources from traditional non-growth sectors to modern sectors and promotes and stimulates entrepreneurial response in these modern sectors, which is akin to the Schumpeterian idea of innovative financing. According to Patrick, supply leading financial systems may not be economically viable in the early stages and will have to be supported by government subsidies.

Goldsmithian View

For Goldsmith (1969)⁸, the existence of ‘financial superstructure’ is necessary though not a sufficient condition for economic growth. He used the term ‘financial superstructure’ to refer to the gamut of financial institutions, instruments and markets. The financial superstructure in the form of both primary and secondary securities accelerates economic growth and improves economic performance to the extent that it facilitates the mitigation of funds to the best use in terms of social return. The superstructure, particularly financial institutions also tend to increase the importance of foreign investment in both

lending and borrowing countries. However, for Goldsmith, the influence of financial superstructure on real sectors varies from country to country and changes substantially overtime. Moreover, the relationship between financial development and economic development is very complicated and not amenable to generalisations.

In support of Goldsmithian view, economic historians like Gerschenkron (1962)⁹ had blamed the abortion of the Italian industrial revolution in the 1980s on the non-existence of modern investment banking. Cameron (1967)¹⁰ also blamed the underdevelopment of French financial system for the lacklustre growth of the French economy during the nineteenth century as compared to the more financially developed countries of Europe and the US. According to Cameron, German, Japanese and Scottish financial systems were encouraging. Cameron also showed that high economic growth rates were attained by countries with high financial ratios than those with relatively low financial ratios.

Shaw and McKinnon

In the 1970s, the financial liberalisation school, which was strongly influenced by the new classical theory, emerged. This school of thought was led by Shaw and McKinnon. According to Shaw (1973)¹¹ when economy is 'shallow', it depends heavily on government fiscal budget and international capital accounts. It also implies that organized finance is dominated by the banking system, foreign exchanges and curb markets of money lenders and co-operative societies. Deepening eases the strain on taxation and demand for foreign savings. To put it differently, it creates higher degree of pooling of domestic savings for specialised investments. It also stops and reverses capital flight. When finance is shallow, demand for financial assets is repressed by low rate of interest and supply of primary securities is repressed by credit rationing. Also the financial markets are required to trade at interest rates that overvalue the future in terms of the present. Financial deepening implies that interest rate must report more accurately the opportunities that exist for substitution of investment

for current consumption and the disinclination of consumers to wait. Real rates of interests are high when finance is deepening. Financial deepening increases the real size of the monetary system and generates opportunities for profitable operations of other institutions as well. Deepening also involves specialisation in financial functions or institutions and organised domestic institutions and markets' gain in relation to foreign markets and the curb.

In Shaw's view, the origin of financial repression lies in:
(i) overvaluation of domestic currency in terms of foreign currencies and
(ii) in the strategy of low prices for domestically produced primary products

Deepening can be brought about only by financial liberalisation, i.e., by doing away with repressionist regime or interventionism. Overall, liberalisation tries to displace in some degree, the fiscal process, inflation and foreign aid. It also tends to equalise distribution of income and contributes to the stability of growth in output and employment.

In Shaw's view, financial liberalisation leads to an increased role for financial intermediaries who are able to reduce transaction costs between savers and investors through economies of scale, risk diversification and so on and hence can offer more attractive accounts and lower loan rates to savers. Investment and savings are thus encouraged and economic growth is increased.

McKinnon (1973)¹² instead of emphasising the scarcity of resources / capital focussed on distortion in the domestic capital markets of developing countries. According to him, economic development is "the reduction of the great dispersion in social rates of return to existing and new investments under domestic entrepreneurial control". He finds that the monetary and financial policies have an impact on capital market than is generally supposed. Governments follow policies that stifle incentives to save and invest. He also advocated liberalisation of the economy. He emphasised the unification of capital market instead of fragmentation. While acknowledging the role of

external finance in development, high rates of interest for both lenders and borrowers is advocated by him which will induce dynamism in development, as low rates will neither help savings, nor help efficient deployment of finance for development. Taken together, monetary reforms should take precedence over other developmental measures such as tariff and tax reforms or the encouragement of foreign capital investment. This approach has been termed as "bootstrap" approach in the literature.

Kapur (1976)¹³ and Matheison (1980)¹⁴, two more advocates of the 'financial liberalisation school', while endorsing the McKinnon - Shaw view felt that repressed financial markets would have detrimental effects on economic growth in LDCs and that liberalisation of financial markets would lead to a rise in interest rate which would in turn contribute positively to economic growth.

Models of Financial Development for Economic Growth

1) McKinnon - Shaw Model: The Repressionist Environment

The McKinnon - Shaw approach comprises of several distinct models which yield the common prediction that government intervention in the financial system deters investment and economic growth.

In order to support this school of thought, Fry (1978)¹⁵, an advocate of financial liberalisation school assumed that financial institution exists in some developing economy (for simplicity consisting only of commercial banks) which intermediate financial resources between savers and investors. It is further assumed that demand for deposits from savers and the interest rates are positively related. The flow of saving which is increasing along with real rate of interest is viewed as the supply of investible funds and the demand for investment is a decreasing function of the real rate of interest.

In a free financial market, the rate of interest is determined at the point of intersection of the two functions. But when government imposes an upper limit

on the real rate of interest, it will have the dual effect of reducing the quantity of investment as measured by the average productivity of investment, thus reducing the growth rate of the economy.

The McKinnon- Shaw model has been attacked because it is mechanical and based on strong assumptions about the relationship between finance and growth. This model also ignored cultural and political conditions relevant for the process of financial development and has ignored the existence of informal markets (curb markets).

2. Vincent Galbis Model: The Role of Effective Intermediation

Vincent Galbis (1977)¹⁶ developed a two sector model, extendable to the n-sector case and showed that the high real interest rates are growth promoting. This model combines the main elements of the model developed by McKinnon and Shaw and comes to the same conclusion that liberalisation of interest rates is conducive to economic growth. According to him, any developing economy has fragmented markets and a dualistic pattern of production where a backward inefficient sector (Sector 1) co-exists with a modern efficient sector (Sector 2), which uses modern technology. Also, projects in the modern sector are characterised by indivisibilities where large sums of capital are required and as the financial sector is underdeveloped, opportunities of external finance are limited. Investment in Sector1 is entirely self-financed; this traditional sector has no access to bank credit whereas Sector 2 borrows from the banking system. Banks use deposits entirely to extend loans to Sector 2.

Thus the Galbis model pinpoints that the transfer of savings from backward sectors to modern efficient sectors takes place through the financial system. The model also highlights the need for freeing of interest rates so that they can rise to their equilibrium level for facilitating investment efficiency and accelerated economic growth.

While Shaw recognised the need for monetary deepening and McKinnon called for raising the return on monetary assets relative to that on real assets, according to Kindleberger (1976)¹⁷, it is not enough to emphasise the improvement of domestic money and capital markets. In a well-functioning developed or developing economy, domestic money and capital are connected to international markets. During the early stages of economic development international financial intermediation is likely to be developed much further than internal intermediation. However, these relations between domestic and international money and capital markets add a dimension which has been inadequately stressed. Therefore connections between internal money and capital markets and external markets should be recognised.

3. Greenwood and Jovanovic's Model: Two Way Relationship

Greenwood and Jovanovic (1990)¹⁸ presented a model in which both financial intermediation and growth were endogenous. In this model, financial intermediaries play the role of collection and analysis of information in order to facilitate migration of funds to the activity with the highest yield. Since this activity involves cost, Greenwood and Jovanovic showed the existence of a positive two-way relationship between economic growth and financial development. On the one hand, growth stimulates creation and expansion of financial institutions and on the other, financial institutions, by collecting and analysing information from potential investors, allow investment projects to be undertaken more efficiently which stimulates investment and growth. According to this model, in the early stages of development, in which exchange is large unorganised, growth is low. As income levels rise, financial structure becomes more expensive, economic growth becomes more rapid and income inequality across the rich and the poor widens. But as the economy develops with a fully developed financial structure, it attains a stable distribution of income across people with higher growth rate.

Development since late 1970s

Alternative theories on the topic in the late 1970s and 1980s questioned the views expounded by the liberalisation school led by McKinnon and Shaw. One strand of this literature is based on the new Keynesian approach which has stressed upon the imperfect information in financial markets. The new Keynesians viz., Jaffee and Russel (1976)¹⁹ and Stiglitz and Weiss (1981)²⁰ among others propounded that credit rationing due to imperfect market information is the explanation for the failure of some countries to actually stimulate higher savings, investment and growth, even after adopting financial liberalisation leading to high interest rates.

Gibson and Tsakalotos (1994)²¹ reviewed the financial liberalisation hypothesis on the theoretical contributions linking the case for and against liberalisation and its experience on many developing countries which are liberalised. The authors argued that the existence of market failures in financial markets hampers the liberalisation process and suggest that simple liberalising strategy envisaged in much of the literature is inappropriate. They further argued that development of appropriate financial institutions along with government intervention will lead to a positive and dynamic effect of financial liberalisation which can be achieved.

EMPIRICAL STUDIES

This section brings out an overview of the important studies on the capital market and the second and third sections deal with the aspects of linkages between financial development and economic growth. This review is presented in three broad heads viz., (i) Capital market investment, (ii) Stock market and economic growth - Cross country studies and (iii) Stock market and economic growth - India specific studies.

CAPITAL MARKET INVESTMENT

Baumol (1965)²² makes an important contribution to a better understanding of the performance of the stock market. His book represents a synthesis of past research and current thinking of the subject. It analyses in detail about the short run and long run price equilibrating process and points out important departures from the competitive ideal and implication of these departures to stock market efficiency. Besides, Baumol offers his own hypothesis on the pricing of securities and he throws new light on overall efficiency of the stock market mechanism for allocating the nation's capital resources.

Gupta (1972)²³ in his book examines the workings of stock exchanges in India and has given a number of suggestions to improve its functioning. The study highlights the need to regulate the volume of speculation so as to serve the needs of liquidity and price continuity. It suggests that listing of securities in more than one stock exchange is needed to improve liquidity. The study also wishes the cost of issue to be low, in order to protect the small investors.

Khan (1976)²⁴ examines the role and cost of raising funds from the market. The study also suggests appropriate measures to enable the new issue market to play a part in consonance with the requirements of the planned growth of industry. The crux of the study deals with the new issues and company finance, the structure of underwriting, and cost of capital. This study has important policy implications in terms of its relevance to the national economy. In the process of industrialisation, a developed NIM would be instrumental in foraging an organic link between the collection and distribution of industrial capital.

Panda (1980)²⁵ studies the working and role of stock exchanges before and after independence. This study reveals that listed stocks covered four-fifth of joint stock companies. The share of government sector joint stock companies

were not getting quoted on the stock exchanges. Investment in securities was no longer the monopoly of any particular class or a small group of people. It attracted the interest of the large number of small and middle class individuals. The people in general, were not reluctant to invest in equity shares.

Chitale (1983)²⁶ in his work evaluates the underlying causes of the growing shortage of equity finance for funding new industrial enterprises in the private sector during the period 1960 - 1980. The available evidence suggests the emerging scarcity of risk finance, despite bullish trend in the price of selected shares and over subscription to a few issues of good companies. The study also evaluates the quantum and kind of returns that investors are able to earn from their investments in equity shares of new companies.

Gupta (1987)²⁷ makes available a comprehensive analysis of geographical distribution of corporate shareholders in India. The study shows that a process of securitisation is going on in the Indian capital market. The crux of the study is on equity shareholders. It covers individual holders of industrial securities in India. This study is based on a sample of 109031 shareholders drawn from 165 companies, distributed over various regions of India. The study points out that the dominant share was from metropolitan cities. The respective percentage shares, as per data relate to 1983-84, were Bombay (35.3), Calcutta (10), Delhi (9.5) and Madras (3.9). According to Gupta, the lack of infrastructure needed for facilitating share transaction, is the root cause of a very meagre share of small towns and villages in the country's shareholding population.

Rao and Bhole (1990)²⁸ points out that over longer period of time positive rate of returns was being provided by equities, but in the short run the real return was often negative. The regression analysis shows that the nominal total return on equities in India has increased, but not in proportion to an increase in the rate of inflation. The co-efficient of inflation is found to be the nearer to zero than one. The real return on equity has been found negatively related to inflation

throughout all periods. So the equity share in India may only be a weak or partial hedge against inflation.

Gupta (1991)²⁹ makes an extensive survey of Indian share owners, around mid 1990. The study throws light on many unknown aspects of the market for shares and other financial assets. The study covers a wide range of aspects and has generated much new data on investors, their investment habits and preferences. The study consists of 6000 households spread over more than 100 cities of India. According to the study there are around 38 lakh share-owing households and about 90 to 95 lakh share-owing individuals in India. There are about 29 lakh debenture-owing households and most of them are share owners also. The middle class phenomenon (75 per cent) became the share owners which shows urge to have wealth creation. Nearly 6.5 per cent of Indian households own shares and are mainly restricted to cities. The research analysis reveals that nearly 75 per cent of the shareholders are long term investors.

Gupta (1992)³⁰ in his study examines the volume and nature of speculation in Indian stock exchanges with focus on effects of excessive speculation. He points out the most important weakness of Indian stock market is the existence of unhealthy and excessive speculation resulting in irrational price behaviour and very high volatility. According to Gupta, the over-speculative character of the Indian stock market was reflected in two features. They are the high concentration of market activity in a handful of scrips and absurdly high trading velocities of the speculative counters. The top five shares account for 41 per cent of entire trading volume in Bombay stock exchange, but the corresponding figure for New York stock exchange being 4 per cent. Another interesting thing is that about 80 per cent of the shares listed in the Bombay Stock Exchange were illiquid in various degrees.

Gupta et al (1994)³¹ in their study enquire into the share owners geographical distribution, covering a sample of 165819 shareholders and 63157 debenture holders from 80 companies. The study points out that despite the

spectacular growth of share holding among Indian households over the last decade, individual shareholders are still highly concentrated in a few traditional areas. The top 10 cities ranked by their percentage share of total accounted for nearly two-thirds (65.3 per cent) of India's total number of shareholders in 1992. However, the degree of concentration of share owners in traditional area is only coming down. Bombay's share has fallen by about one-fifth, from 35.3 per cent in 1983-84 to 27.3 per cent in 1992.

Malhotra (1994)³² examines the empirical relationship between equity prices and various explanatory variables like dividend per share, earnings per share, book value, P/E ratio, yield, growth etc., for the period from 1982 to 1985. According to the study, the dividend per share and earnings per share are the strongest determinants of market price.

Pyarelal Singh (1994)³³ in his study points out that the development and growth of securities market play a vital role for a faster growth of industry and economy. The role of securities market can be judged by examining how efficiently and successfully they meet the financial requirements of industrial enterprises by mobilising the savings of people and their ability to provide a well organised market for sale and purchase of the industrial securities. The securities market help in distributing the fruits of economic prosperity in a country amongst the masses through returns on investment of surplus in the securities.

Vinayakam (1994)³⁴ in his study shows that with the introduction of free pricing in 1992, the total equity share issues were the order of Rs. 2792 crores. Of these the share premium was a stupendous Rs. 1945 crores i.e., nearly 70 per cent of the issue amount. This has resulted in failure of some issues which had to be bailed out. He suggests that apart from investors' awareness, education and associations which would go a long way in giving much needed protection to the small investors, a separate legislation or compendium conferring protection to investors was a need of the hour. The investors would have a sigh of relief just

as consumers did with the emergence of consumer protection act and consumer courts in all trading centres in the country.

The absolute number of share owners has exploded everywhere rising from an estimated 30 lakhs for the whole country in 1983-84 to roughly 125 lakhs in 1992; most places show an increase of 3-4 times in the number of share owners over this period. The share owing population in India is currently increasing by about 10 per cent per annum (excluding indirect ownership through mutual fund schemes). The shareowner distribution by states shows that Maharashtra has the largest share holding population with Gujarat as a distant second followed by West Bengal, Delhi and Tamil Nadu. The above said five states accounted for 74.7 per cent of country's share owing population and 71.7 per cent of aggregate value of shareholding of individuals in India in 1992. However, comparison of state wise distribution for 1992 and 1983-84 confirms the trend towards reduced geographical concentration.

Bhole (1995)³⁵ in his paper "The Indian Capital Market at Cross Roads" finds that various categories of people in India have become preoccupied, rather obsessed with, the industrial securities market since the middle of 1980s, particularly since the launching of the New Economic Policy (NEP). The stock market has been regarded and projected as the barometer of the health of the economy, the essentiality of the growth or the spread of equity cult is being constantly stressed. Though the stock market activity has been subject to wide fluctuations, the long term trend has been one of steep increase. An accelerating or exponential increase in new issues has occurred during 1980s and 1990s. The investor's asset preference has shifted from bank deposits to individual securities.

According to Bhole, capital market in India has grown substantially in the past 40 years in terms of conventional and qualitative indicators such as volume of fresh capital raised, the number of equity holders, increase in share prices, volume of turnover, market capitalisation, the number of market instruments, etc.

However in terms of quality, there has been regress and the market has tended to become dysfunctional. According to him, Future and Options (F&O) would be wasteful from the view point of creating true wealth.

Feldman and Kumar (1995)³⁶ in their article examine the important characteristics of emerging stock markets. They pointed out that the regulatory environment is particularly important for countries eager to integrate their market with the international financial system. Without effective regulation and enforcement, domestic and international investors will be reluctant to bring resources to these markets. Regulation to effect governmental control should be restricted to those strictly necessary for correcting market failures proves to occur in unregulated markets. They should never be permitted to impede the development of the market. Rules and regulations can become so stringent that they stifle private initiative and discourage companies from going public; the challenge is to attain a balance between a system that ensures adequate protection for investors and one that does not deter market growth.

Vinayakam and Charumathi (1995)³⁷ in their study observe that equity cult had spread to different parts of the country and millions of Indian investors invested their savings in the booming stock markets. Stock market operations which was considered a game of rich and privileged class is now becoming a matter of day to day interest for millions of middle and low income groups of investing public in India. In spite of such wide spread interest of Indian investors in shares, the knowledge of investment is lacking in them. This is evident from the fact that most of them usually get attracted towards the stock exchanges like moths to a candle in periods of boom and rise in prices in a bid to become rich quickly. When the boom bursts and a depression sets in, most of such new entrants prove to menace to themselves and to the general public ultimately.

Classens (1995)³⁸ in his study on equity investment in developing countries points out that the benefits available to an investor of equity investment in emerging markets ultimately depend on a trade off between the expected rate

of return and its associated risk. To assess this trade off, a few numbers of factors are important. They are; (a) the underlying factors driving the rate of return and its variability, (b) the efficiency of the domestic stock market, (c) the regulatory, accounting enforcement standards in the host country etc. The risk-return trade-off should be investigated from the point of view of an internationally well diversified investor who is considering investment in emerging markets. Because correlation between equity returns from different countries are lower than those between equity returns in the same country, the benefits of diversification - a lower risk for equivalent return or a high return for an equivalent risk - are stronger across international financial markets than within domestic markets.

Roy and Karmakar (1995)³⁹ measure stock market volatility for the period from 1935 to 1992. They have taken into consideration two key issues. They are; (1) what is the average level of volatility and whether it has increased in current year period (2) whether the present trend of share price movement is likely to impair the development process of our country. The authors have used several volatility measures based on different price indices which have been used to evaluate the stock price movement in a historical perspective. They have checked the share prices movement in consonance with the fundamental economic factors or information and expectations. They have come to the conclusion that the ability of the government to restructure reforms and the existing system was the cause of severe volatility. To avoid such episodes the authors suggest that various committees must be appointed from time to time for the smooth functioning of stock markets and introduce short-term capital gain tax to curb heavy speculation.

Cheriyian (1996)⁴⁰ in his study opines that the stock market plays only a limited role providing finance for both US and Indian firms. In order to seek funding a firm's main choice is between external and internal financing. Internal finance plays only less role in Indian firms than for US firms and external debt a

bigger role. This is inconsistent with the theoretical predictions that information and agency problems are less severe for Indian firms than for US firms. The author examines the role of stock market as a signal to managers in undertaking capital expenditures. Both managerial and market perceptions are important, but managerial perception is more important.

Agrawal (1997)⁴¹ examines the determinants of foreign portfolio investments and its impact on the national economy in six Asian developing countries. Regression results show that inflation rate, real exchange rate, index of economic activity and the share of domestic capital market in the world, and stock market capitalisation are the four statistically significant determinants of FPI. The first variable has a negative coefficient while the last three variables possess positive coefficient. The analysis has been carried out with the help of data of the period from 1986 to 1993. India, Korea, Malaysia, Indonesia and Thailand are the countries included in the sample.

The results show that, all country dummy variables are statistically significant implying that the pattern of flow of foreign portfolio equity investment across countries has been uniform. The opening of the economy to the rest of the world has led to rising foreign trade and current account deficits, but the ratio of the national income have generally gone down. Regarding the macro-economic impact of the inflow of FPI, inflation rate show a rising trend in all the sample countries, exchange rate has depreciated in India, Indonesia and Malaysia, while it has appreciated slightly in Korea and Thailand. Index of economic activity showed an uptrend in all countries considered in the sample. Volatility of portfolio has not increased over time. Ratio of foreign debt and debt servicing to the national income has generally declined whereas foreign trade has increased significantly.

Gupta (1997)⁴² deals with the problem of the prolonged and unprecedented stock market depression. The important question raised is why the market forces on their own, are not able to correct themselves in the Indian

stock market. The study brings together several aspects of the problem viz., the future of Indian trading system, the attitudes of retail investors and the long-term changes in the price-earning ratio. Gupta's study revealed that Indian shares were never so cheap over the last ten years as today. He also highlights the importance of the retail investors and their investment protection.

Misra (1997)⁴³ traces the evolution of Indian capital market and describes important aspects of developments of its primary and secondary segments. He points out that Indian capital market has evolved during the last fifty years (1947-1997) from a dormant segment of the financial system to a highly active and dynamic segment characterised by institutional build up, technological advancement and modernisation. The reforms in the market have been vast and varied since 1992. The primary market has emerged as a major source of funding for the corporate entities both in the public and private sectors. The secondary market has modernised itself through advanced technology and transparent trading practices. The array of development financial institutions also has played a crucial role in meeting long-term credit needs of the industrial sector.

Despite the structural transformations of the Indian capital market, there are many problems which often come on the way of its efficiency. These relate to investor protection, consolidation (after massive expansion), integration with other market segments, product innovation, technology etc., which are critical and needed to be addressed.

Mohanthy (1997)⁴⁴ in his study observes that the primary objective of market regulation is avoidance of market failure. Symptoms of market failure emerge when the risk-return balance breaks down. This is because imperfect market conditions in which accurate evaluation of market risks is not possible. The most important task of the market regulator is to identify the imperfect market conditions, evaluate the risks involved and take corrective mechanisms. For proper identification of market imperfections, the capital market can be

viewed as being composed of three distinct market segments; 1) The Capital Allocation Market where savings are pooled among the productive uses of capital (i.e., primary market), 2) The Financial Securities Market where stocks owned by the providers of capital are traded by them (i.e., secondary market), and 3) The Financial Information Market where information is transmitted by the productive users of capital to the suppliers. These three markets are like a triangle and integrated. Therefore stock market efficiency as a whole will depend on the efficiency of each of the three markets separately. Inefficiency in one market can jeopardise fair valuation of securities and efficient trading even if the other two markets are efficient.

Crockett (1998)⁴⁵ in his study reveals that the past twenty five years have witnessed a plethora of changes in the world financial market. Driven by an interacting process of liberalisation and innovation, regulations have been removed, new products have emerged and old boundaries between financial intermediaries have been blurred. Financial innovation has brought many advantages. The menu of financial assets and liabilities available to end-users has been greatly enlarged. The costs of financial intermediation have fallen and at the same time, risk management tools have become increasingly sophisticated. Developing countries have found new ways to mobilize domestic and international savings.

Gupta et al (1998)⁴⁶ in their study analyse short term movements of the market's average P/E ratio and conclude that Indian market still has the character of "bubble market" and not a market governed essentially by economic fundamentals. The market's unhealthy functioning should be a matter of concern for policy makers specially because, in the context of economic liberalisation, greater reliance to be placed on the market.

Parthapratim (1998)⁴⁷ in his study opines that the influx of foreign institutional investors fail to invigorate the Indian stock market. According to him, the working of FIIs and their portfolio did not boost the India's economy.

He again says, the support linkage effects have not worked in the way the main stream model predicted. Instead, there have been an increased uncertainty and scepticism about the stock market in India.

Rangarajan (1998)⁴⁸ in his paper explains a valid view regarding the major issues to be addressed in order to strengthen the functioning of Indian Capital Market. He holds the view that effective and efficient capital market required a stable and sturdy infrastructure of payment, settlement and clearing system and setting up of depositories. The infrastructure is the life-line of the securities market as it helps market participants to exercise economic choice by prompt and credible transfer of value.

SEBI (1998)⁴⁹ in its discussion paper points out that as the process of reform continues and the share of corporate sector in the economy increases, the role of security market as a source of raising funds for investment is expected to become more critical. It is necessary that the transaction cost to be reduced and adequate fairness and integrity of Indian market must be reached in order to serve the needs of the firms and nationwide investors. Many measures have taken by the government, SEBI, stock exchanges and market intermediaries in this direction which led to an increase in the capital market activity and investor confidence. But the paper concludes that, further changes are required for the smooth functioning of security market.

Nagaishi (1999)⁵⁰ in his paper on stock market development and economic growth shows that there is dubious relationship between these two. He says that stock market development from 1980s onwards has not played any particular role in domestic savings mobilisation. Both GDS and the share of the financial assets of the household sector have been stagnating since 1992 i.e., in the post reform period. The author's findings are in support of Singh and Nagaraj. The findings indicate that the financial relationship between stock market development and economic growth is not so far, a font of hope in the Indian context.

Desai (2000)⁵¹ in his paper opines that the role of the intermediaries is to increase the wealth of investors who bring their risk capital. So, to safeguard the investors and their wealth is very important. But in India, there are too many regulators who have no coordination among themselves. Moreover, multiple regulations of financial institutions divide up their business in an inefficient manner. So the financial regulation must be taken out of the hands of zealous servants of the government and placed in the hands of smaller number of regulators who would have the investor's interests at heart and who would concentrate on giving investors more choice and greater voice in the investment decision of the intermediaries.

Patil (2000)⁵² observes the dynamism which is taking place in stock exchanges throughout the world. According to him, stock exchanges, as we understand today may not be there after two decades. The major transformation in this regard is the importance of growing cross-country listings. The other major development relates to the mergers and strategic partnerships among stock exchanges of different countries. The sum total of these developments will be the emergence of large global exchanges beyond the regulatory purview of any national regulatory. Since companies started getting listed on international exchanges, the regulatory problems are bound to be difficult. This is a complex problem and more international approaches are necessary to tackle the situation.

Pratip et al (2000)⁵³ on behalf of SEBI make a comprehensive survey to gauge the importance of the growth of securities market on the households during the decade 1990s. The objective of the survey was to analyse the quality of its growth. The survey was based on a sample of 30000 geographically dispersed rural and urban households, out of which a sample of 25000 households were interviewed with the help of questionnaire. The major findings of the survey are:

1) An estimated 12.8 million or nearly 8 per cent of all Indian households representing 19 million individuals had virtually invested in equity shares or debentures or both, at the end of the financial year 1998-99.

2) An estimated 15 million or nearly 9 per cent of all households had invested in units of mutual funds, many of which would be investor households. It was likely to be 23 million unit holders in mutual fund.

3) More household owned mutual funds compared to equity shares and debentures.

4) Equity investor households and equity investors far exceeded debenture owing households and debenture holders.

5) Households hardly differed in their risk perception of equity shares and debentures.

6) More investor households became equity share owners after 1991 than those who did prior to 1991.

7) Despite the growth, only a fringe of Indian households had direct investments in equity shares or debentures or both.

Roy (2001)⁵⁴ in his article opines that the rational speculators play an important role in the asset market. They provide functions like providing liquidity, ensure price continuity and usher instability of the market. But when speculators gamble, they dominate the market and accumulate wealth by destabilising prices. Studies show that assets market suffer adversely, after regime shift due to feverish activities of speculators that infuses economic instability to the determinant of rural sector growth and stability. Some proactive research findings even suggest that liberalisation provides licence to speculators who go on a rampage and economy suffers. So it is necessary to develop appropriate regulatory and legislative framework to curb the speculative activities of both domestic and foreign investors.

Alimov et al (2004)⁵⁵ examine the stock prices of Bombay Stock Exchange to test whether it follows random walk hypothesis. Fourteen randomly picked stocks and BSE 500 and BSE 100 stock indices using weekly returns during the period from July 2001 to October 2003 are studied. The authors have used Dickey Fuller unit root test and Mackinsky's variance ratio tests. The findings are the stock on the Bombay Stock Exchange follow a random walk. But the BSE 500 and BSE 100 stock indices established some stationarity. The implications of the results are the investors cannot earn excess profits using past stock prices as a source of information.

Biswas (2005)⁵⁶ evaluates the impact of financial liberalisation on the growth, development and efficiency of the Indian stock market with other select Asian markets. Though the development of Indian stock market is highly impressive, but in terms of quality there has been a regress. In BSE, out of 5650 listed companies, the largest 500 companies in terms of market turnover account for about 99 per cent of the turnover. According to the author, though domestically financial liberalisation helped to develop the size and liquidity of Indian stock market, compared to other emerging stock markets the Indian market is still lagging behind higher volatility in the market, without corresponding a high return, portends greater risk and more instability for investors.

Goswami and Nath (2005)⁵⁷ analyse market efficiency and linkages of Indian stock market. The study has two objectives; 1) to test the efficient market hypothesis for Indian stock market, and 2) to test how strongly the Indian stock market is influenced by the world markets. Nifty is taken as the representative of Indian stock market and indices of 11 different markets have been selected for analysis. Co-integration tests and Granger causality tests have been applied. The ADF test for unit root shows that market in weak form will be efficient in the longrun. The authors conclude that the regulators and the regulations getting

stricter and more mature, it would take much time for the stock market to develop to become more efficient.

Karmakar (2006)⁵⁸ measures the volatility of daily return in the Indian stock market over the period 1961 to 2005. The author has analysed the volatility by using companies' data set of Economic Times Index and the S&P CNX Nifty together. The GARCH (1,1) model is estimated and the result shows the evidence of time varying volatility. The TARARCH (1,1) model is also used to test the asymmetry volatility effect and results suggest an asymmetry in volatility.

According to the author, although the high price movement started in response to strong economic fundamentals, the real cause for abrupt movement appears to be the imperfection of the market. The irrational behaviour of the market made the year 1992 as the highest volatility in the history of the Indian stock market. The very high volatility shows the imperfection of the market and the social cost associated with high volatility was cumbersome to the investing public.

STOCK MARKET AND ECONOMIC GROWTH – CROSS COUNTRY STUDIES

Gurley and Shaw (1967)⁵⁹ explain that as countries rise along the scale of wealth and income, their financial structures usually become increasingly rich in financial assets, institutions and market. Substantial differences in financial accumulation persists between countries because there are alternative techniques available to each country for mobilising its economic surplus, and the financial technique is one among them. During economic development, as their per capita incomes increase, countries usually experience more rapid growth in financial assets than in national wealth or national product. Financial growth in excess of real growth is apparently common phenomenon around the world. Countries that are poor in income per capita generally have very low ratios of finance to real

wealth.

During the period of time for any country, as its income per capita increases, financial assets rise relative to national wealth. Financial assets accumulate as income and wealth grow. This accumulation reflects division of labour in production, saving and investment and intermediation. Specialisation in the use of productive factors generate a rising stream of income and rising stock of both real and financial wealth.

In the mid 1960s Gurley (1967)⁶⁰ estimates the ratio of total financial assets to GNP in some select countries of the world to study the use of finance for economic development. The ratio in many of the poorest countries like Afghanistan, Haiti and Ethiopia was not more than 0.5 and was between 1 and 1.5 in countries like Mexico, Turkey, Brazil and Malaysia. In the case of more prosperous economies like France and Israel, this ratio varied between 2 and 3 and in the case of few super economies like United States this ratio varies between 4 and 5. This consistent correlation between growth and financial assets is not accidental. Instead, this supports Gurley's view that finance is supply leading for economic growth.

Goldsmith (1969)⁶¹ uses a simple equation model and argues that the size of countries financial structure as proxied by the financial interrelations ratio was determined by its per capita income, its rate of growth and the rate of inflation. Using cross section and time series data for the period 1880 to 1963, Goldsmith tested his model for a set of developed and developing countries. He related the current value of financial inter-relations for 18 countries, both developed and developing, to the level of economic development as reflected in real national product per head for two different time periods. Among the countries considered, mixed results were obtained regarding the correlation between Financial Inter-relations Ratio (FIR) and the stages of economic development. The cases with positive correlation were that of developed countries which have higher FIR than less developed countries. Goldsmith observed that the positive

association between FIR and GNP though certainly present, is not very strong. Also, similar relations of FIR with a few other presumably relevant independent variables such as rate of change of real gross national product per head or price level, led him to draw the conclusion that real national product per head alone is unable to account for the observed values of FIR except within a rather wide range. Goldsmith also studied the trend of FIR of over the past century for four developed countries and came to the conclusion that in the long run, there is close correlation between the rate of growth of real national product and FIR although again some positive association between the two magnitudes could not be denied.

According to Hicks (1969)⁶², new technological innovations did not set off the industrial revolution in England in the eighteenth century. Rather, more liquid financial markets made it possible to develop projects that required large capital injections for long periods before the projects ultimately yielded results. The industrial revolution therefore had to wait for the financial revolution.

Bhatia and Khatkhate (1975)⁶³ study the relationship between financial deepening and economic growth in 11 African countries for the period 1960-70. They used alternately currency, demand deposits, time and save deposits and also their tool as a proportion of gross domestic product (GDP) as indicators of financial deepening. They tested the relationship between these alternative measures of financial development and percapita income and the rate of growth of GDP by plotting the dependent and one of the independent variables at a time. Since these graphs did not show any systematic plan, they could not derive any relationship between financial deepening and economic growth.

Jao (1976)⁶⁴ analyses the relationship between the rate of economic growth, the rate of growth in per capita real money stock and the ratio of money to GNP for a group of countries. He tested the hypothesis that economic growth is positively related to financial deepening which is represented by 'real balance effect' and 'intermediation effect'. The number of countries selected varied from

14 to 67 (depending on the variables used) and the period taken into consideration was 1967 to 1973. The explanatory variables used were real balances per head for testing real balance effect and the ratio of monetary liabilities to GDP as a proxy for testing intermediation effect. The two alternative definitions of money such as M1 and M2 (international definitions) were considered. From the results the author concludes that the relationship between the growth rate of percapita real income and financial deepening was positive and highly significant as far as 'real balance effect' is considered. Regarding the 'intermediate effect', the empirical evidence supported the view that the narrowly defined version of money is relatively poor indicator of financial development and that economic growth is associated with the accumulation of financial assets defined in the widest sense.

Fry (1978)⁶⁵ conducts a pooled regression analysis of saving function using annual time series data for seven Asian countries for the period 1960 to 1972. He came to the conclusion that the real rate of interest had a positive effect on domestic saving and economic growth in those LDCs. The results justified McKinnon and Shaw's emphasis on the importance of financial conditions in the development process.

Gupta (1984)⁶⁶ analyses the role of two financial factors viz., real interest rate and financial intermediation as determinants of saving in developing countries. He reported pooled time series estimates of saving function for a sample of 22 Asian and Latin American countries. The results obtained suggested that financial conditions do not affect savings in Latin America, but do so in Asia. Specifically, the nominal deposit rate of interest and the financial intermediation ratio exert positive effect on savings in the developing countries of Asia.

Cho (1986)⁶⁷ argues that the financial liberalisation may remain incomplete without an efficient market for equity capital as a means of spreading risk. The development of both bank and equity market is a necessary condition

for financial liberalisation. He argues that banks cannot achieve efficient capital allocation due to imperfect market information and equity markets achieve much superior capital allocation due to superior information.

Jung (1986)⁶⁸ analyses causality between financial development and economic growth using Granger causality tests. He selected 56 countries out of which 19 were developed countries, with a minimum of 15 annual observations on all the variables. He studied not only the existence and characterisation of causality but also its temporal behaviour. Two alternative proxies of financial development were emphasised by him. They were M1 and M2. For each country he ran four regressions, two for the case of the currency ratio and income and other two for monetisation and income. Using both sample and unidirectional concept of causality and two aforesaid alternative measures of financial development viz., the currency ratio and the monetisation variable, he found some evidences which indicated that less developed countries (LDCs) had supply leading causality pattern more frequently than a demand following pattern, thus emphasising empirically the usefulness and importance of financial development in LDCs.

As regards the temporal causal patterns, Jung obtained mixed results on the Patrick Hypothesis. When the currency ratio was used as a measure of financial development, a supply leading and demand following causality pattern during the course of development was observed. Thus LDCs were characterised by the causal direction running from financial to economic development and developed countries by the reverse causal direction of which causality concept was emphasised. The monetisation variable did not appear to distinguish developed countries (DCs) from LDCs in terms of causality directions.

Sulaiman (1986)⁶⁹ empirically tests the direction of causality between financial and economic development of Saudi Arabian economy for the period 1963 to 1984. Sulaiman used Granger-Sims causality tests. By using a) broad money (aggregate M3), b) net total financial assets of financial institutions,

c) total combined financial assets of the commercial banks and specialised financial institutions, d) new issue ratio (NIR) ratio of the change in the total net financial assets to total non-oil GDP, and e) financial inter-relations ratio (FIR) - ratio of total net financial assets to non-oil GDP as financial development variables on the one hand and non-oil private sector GDP as economic development variable on the other. The results obtained pointed to an unidirectional causality from finance to the real economy. He therefore concluded that finance played a supply leading role in the economic development of Saudi Arabia.

Gupta (1987)⁷⁰ examines the role of financial intermediation as propounded by the financial 'structuralist' and the role of interest rates as emphasised by financial 'repressionists'. For this purpose he develops a single equation model of saving behaviour which explicitly incorporated both real interest rate and financial intermediation. The empirical exercise was conducted for a sample of 12 Asian countries. He found that support for both structuralists and financial liberalists were limited.

Fry (1988)⁷¹ examines savings behaviour based on pooled time series data for 14 sample Asian developing countries for the period 1961 to 1981 using regression analysis. The results showed that on an average, the national saving rate increased by about 0.1 per cent point rise in the real deposit rate.

Thornton (1990)⁷² tests McKinnon's complementarity hypothesis using annual data for India for the period 1964-1984 with the help of two stage least square estimate. The demand for money was considered as a function of savings ratio and simultaneously saving was made as a function of real money balances. The results indicate strong support for McKinnon hypothesis in both the demand for money and saving function.

Thornton and Poudyal (1990)⁷³ test the complementarity hypothesis in the demand for money function and savings function on a data for Nepal for the

period 1974-75 to 1986-87 using two stage least square estimate. The results obtained showed strong support for McKinnon's complementarity hypothesis.

Saint Paul (1992)⁷⁴ explains the financial markets that allow riskier technologies and technological choice that affects the viability of financial markets. As a result multiple equilibria are possible, with the economy staying either at 'low' equilibrium with underdeveloped financial markets and little division of labour or a 'high' equilibrium with strong financial markets and an extensive division of labour. So the intensity of interaction between financial markets and technological choices will determine the growth rates between countries. The author suggests the role of government in order to foster financial markets, while the cost of operating financial market is exogenously traded and it is affected by government policy. By affecting this cost, the government has influence on the likelihood of the financial equilibrium. The author concludes that the interaction between technological choice and financial markets creates an externality that can lead to multiple equilibria. If financial markets are developed, technology will be more specialised and risky, thereby creating the need for financial markets. An economy with highly developed financial markets will be able to achieve a higher level of development because of greater division of labour and superior technology.

King and Levine (1993)⁷⁵ study the relationship between financial development and long run output growth by conducting a cross country analysis using data on 80 countries arranged over 1960 to 1989 period and a pooled cross country time series study using data averaged over the 1960s, 1970s and 1980s, so that each country had three observations. In their study, the empirical relationships between four financial indicators were analysed. The four financial indicators were; a) ratio of the size of the formal financial intermediary sector to GDP, b) importance of banks relative to central bank, c) the percentage of credit allocated to private firms, and d) the ratio of credit issued to private firms to GDP. The economic growth indicators used were; a) real per capital GDP

growth, b) the rate of physical capital accumulation, c) the ratio of domestic investment to GDP and d) a residual measure of improvements in the efficiency of physical capital accumulation. By using simple correlation measures, the authors observed that each financial indicator was positively and significantly correlated with each of the growth indicators. Further cross country regressions which were run by King and Levine to gauge the strength of partial correlation between financial development and growth indicators showed that all financial indicators were strongly associated with growth indicators. It was also noteworthy that the sensitivity checks conducted by them on account of different factors like terms of trade, political stability index; population growth etc., did not affect the results.

Pagano (1993)⁷⁶ analyses certain models and provides some impetus to empirical research. This paper reviews some theoretical and empirical tools to some unresolved issues in financial intermediation. Cross country studies show that there is some predicted correlation present and the author is doubtful about how development of different markets affects economic growth. He concludes that financial development is too generic term, to gauge impact on growth one must specify the particular financial markets concerned. To capture the potential effects of financial development on growth, the author has used the endogenous growth model-The AK model.

Atje and Jovanovic (1993)⁷⁷ explain that because more productive investments are illiquid and riskier, participating investors must rely on financial intermediaries' ability to dispense risk and supply liquidity. They add that because financial institutions and markets can dedicate themselves to determine the potential of an investment, they can guide investors to the best investments either through research reports which they publish or by denying or limiting credit to entrepreneurs, who they believe do not have viable investment plans.

The information advantages that financial institutions possess should diminish the harmful consequences of adverse selection, whereby asymmetric

information cause the least worthy entrepreneurs to receive funding because they are most likely to need and apply for investment capital. In addition, if the investment banks are able to closely track the companies in which they invest or even maintain some, say in how the business is run, then financial development should limit moral hazard worries that company will not behave in the interest of the investors. The authors conclude that the stock market on their own can raise typical developing countries economic growth by an outstanding 2.5 per cent per annum.

Kirakul et al (1993)⁷⁸ analyse the role of financial deepening on economic growth in Thailand. They conducted empirical analysis using direct Granger's, Sim's and Geweke-Meese-Dent tests to understand the relative importance of supply leading and demand following explanations in the case of Thailand for the period 1980 to 1990 using quarterly data. The ratios of M2 to GDP and the private bank's credit to GDP were used as measures of financial deepening. Real GDP was used as the measure of economic development. The data was tested for two different periods viz., a) 1982-1985, and b) 1986-1990 to detect whether there was any significant change in causality as a result of financial liberalisation in the second period. For the sub period analysis, only direct Granger test was carried out. The results of the analysis by using full period data showed that real economic growth preceded and induced financial development. However, they concluded from the test conducted by using data for two separate periods that the financial liberalisation process in the second period helped increase the relationship between financial sector and real economic sector.

Murinde and Eng (1994)⁷⁹ investigate the causal relationship between financial and economic growth in Singapore by applying Granger's causality test for the period 1970-1990 using quarterly data. They used monetary aggregates, currency ratio and monetisation variable as proxy for financial growth uncovered evidence to support the supply leading hypothesis. For the post liberalisation period 1984-1990 evidence obtained by them strongly supported the supply

leading hypothesis but only when narrow money and monetisation variable used as proxies for financial growth. From the results obtained, they concluded that supply leading hypothesis was true in the case of Singapore's case.

Obstfeld (1994)⁸⁰ argues that financial openness and access to international security markets are beneficial to all parties involved. The study suggests that financial openness allows investors to share the risk among more parties, encouraging investors to fund riskier and less liquid, but more productive schemes. By correlating risk with expected return, Obstfeld shows that, provided risky returns are imperfectly correlated across countries and provided some risk free assets are intelligently held, a small rise in diversification opportunities always raises expected growth as well as national welfare.

In a paper by Bencivenga et al (1995)⁸¹, argue that industries which require longer gestation periods for their new technologies to be implemented are comparatively better served by developments in the financial services industries. The authors fairly state that various market participants do not always have equal access to capital through financial institutions. Citing J.R. Hicks (1969), a theory of economic history, the authors explain that the industrial revolution, a period spurred the maturation of manufacturing and textile industries could not have occurred without financial regulations.

Gregario and Guidotti (1995)⁸² examine the empirical relationship between financial development and economic growth by using the ratio of bank credit to the private sector to GDP (CREDIT) as a proxy for financial development. The investigation was carried out by using two different data sets. Firstly they extended Barro's (1991) cross country growth regressions for a sample of 98 countries for the period 1960 to 1985 by including CREDIT as a proxy for financial development as an additional variable. Secondly, they used Gregario's (1992) panel data set for 12 Latin American countries for the period 1950 to 1985. They found that the proxy used (CREDIT) was positively correlated with the growth in the large cross country sample, but its impact

change across countries and was negative in the panel data for Latin America. They argued that the later finding was the result of financial liberalisation in a poor regulatory environment.

The most authentic and authoritative study on the relationship between stock market and economic growth came from the World Bank Research Group. The study came in the form of six research papers in a symposium issue on stock market and economic development (1996). The research papers focussed on and studied the following five issues.

Firstly, it constructs more measures of stock market development than any previous study (Robert. A. Korajczyk, 1996)⁸³. Further it compared liquidity, concentration, volatility, institution development and international integration across 24 industrial and developing countries from 1976 to 1993. The data produced are voluminous in nature and suggestions are highly valuable.

Secondly, the study investigates the relationships between stock markets and financial intermediaries (Demirguic-Kunt and Levine, 1996)⁸⁴. They opine that in the long run stock market volatility is lower in countries with more open capital markets. Producing evidence to effect the stock market development led to better development of banks and non banking intermediaries, the study dispels the fear that stock market development steals the business of the banks. According to them, the policy makers should remove all impediments of the stock market, such as legal and regulatory barriers. They concluded that as countries grow and reach middle income (about \$2000 per capita in 1990), the level of stock market development is positively correlated with the development of financial intermediaries. Thus stock markets and financial institutions are complementary; they grow simultaneously. For their study they have taken into account 44 developed and developing countries.

Thirdly, the study analyses the relationship between stock market development and long run economic growth (Levine and Zervos, 1996)⁸⁵. The

authors have focussed on two measures of liquidity, the value trade ratio and the turnover ratio, for a broad cross-country study of 49 countries over the period 1976 to 1993 with the objective to measure the desire to which the agents can cheaply and quickly and confidently trade ownership claims of large percentage of economies production technologies. The researchers then analyse the strength of empirical relationship among each liquidity measures and the three growth indicators - economic growth, capital accumulation and productivity. The results are consistent with view that the liquidity services providing the stock markets are independently important for long term growth and the stock market and financial intermediaries are complementary to one another and not substitutes. The research also shows that liberalisation of cash flows opening to foreign investment enhances stock market development and liquidity.

Fourthly, the Research Group studies the relationship between stock market development and financing choice of firms (Asli Demirguc–Kunt and Vojislav Maksimovic, 1996)⁸⁶. By using aggregated firm - level data for a sample of 30 industrial and developing economies for the period 1980 to 1991, they observe that the effect of the stock market development on firms' debt equity ratios depends on the initial level of stock market development. Improvements in the functioning of stock markets produce a higher debt-equity ratio in firms. Thus, stock market development, while encouraging greater use of equity markets in raising capital, also encourages greater use of bank finance. Stock market development therefore increases the quantum of bank loans.

Finally, a theoretical framework is developed (Boyd and Smith, 1996)⁸⁷. This article characterises financial innovation as a dynamic process that both influences and is influenced by the development of the real sector. A model is constructed in which firms' finance capital accumulation externally through a combination of debt and equity markets interacts with physical capital investment decisions. The above five research papers boost the World Bank symposium issue, considerably enhances the knowledge of relationship between

stock market development and economic development. A major deficiency is that the research papers do not take into consideration of individual countries. Moreover this research does not shed any light on, when the countries are ready for stock market development.

Fry (1997)⁸⁸ opines that financial repression reduces economic growth. Abandoning financial repression as a cost reducing device for the government, deficit may result in extra ordinary high real interest rates that can be dangerous. According to the author, in order to become successful, financial liberalisation must be accompanied by financial reforms aimed at ensuring that government debt will not explode in the aftermath of liberalisation and at the same time, there must be sound and prudential supervision and regulation of the banking system is inevitable. When many economies are switching over from financial repression to financial liberalisation, according to the author the economic profession has failed to produce adequate blue prints to this transition.

Arestis and Demetriads (1997)⁸⁹ opine that the cross country studies done to find out the relationship between financial development and economic growth are producing over simplified results and this may not reflect the cases of country-specific studies. The econometric studies using time series analysis for individual countries exhibit substantial variation across countries. Comparisons made between Germany and United States reveal important differences in the linkages between finance and growth. Since there is limited faith in the results from cross-country regressions, the authors suggest that there is still room for further research. Such work must go for time series analysis in which institutional and policy considerations must be given importance. The empirical links between stock market development and economic growth warrant further investigation.

Singh (1997)⁹⁰ concentrates his research on the stock exchanges of developing countries between 1982 and 1992 and found that the total market capitalisation of companies quoted on stock exchanges increased by a factor of

20, thereby highlighting the importance of the issue of financing through stock markets.

Rajan and Zingales (1998)⁹¹ investigate whether financial sector development has an influence on industrial growth. In order to examine this, authors have checked whether the financial development reduces the cost of external finance of firms. According to them financial development is a leading indicator rather than a causal factor. Cross country methodology has been employed for the study.

The authors have come out with three conclusions viz., (1) they suggest that financial development has substantial support on rate of economic growth and this works at partly by reducing cost of external finance to financially dependent firms, (2) in the context of literature on financial constraints this study provides fresh evidence that financial market imperfections have an impact on investment and growth, (3) the existence of a well developed market in a certain country represents source of comparative advantage for that country, in industries that are more dependent on external finance.

Friberg and Nydah (1999)⁹² examine the relationship between the valuation of the stock market and trade weighted exchange rate index of 11 industrialised countries is examined. Monthly data for the period 1973-1996 are used. A more open economy shows stronger relationship between return on stock market and exchange rate changes. The more open the economy, the larger the share of international trading companies on the national stock market. The study concludes that the more open the economy, the stronger is the relationship between stock market and exchange rate.

Henry (2000)⁹³ opines that stock market liberalisation is a decision by a country's government to allow foreigners to purchase shares in that country's stock market. The country's aggregate cost of equity capital will fall when it opens its stock market to foreigners. Twelve emerging countries are taken as

sample for the study. The author has taken two empirical implications for those emerging countries that liberalise their stock markets in the late 1980s and early nineties. Stock market liberalisation reduces host country's cost of capital and observes an increase in equity price index when market leaves that the stock market liberalisation is going to occur. At the same time there is an increase in physical investment following stock market liberalisation. Here the fall in cost of equity capital will transform some investment projects that lead a negative net present value (NPV) before liberalisation in the positive endeavours after liberalisation.

On an average a country's aggregate equity price index experiences abnormal return of 3.3 per cent per month in real dollar terms during an 8 month leading up to the implementation of its stock market liberalisation. An event study approach is used to assess whether the stock market liberalisation is associated with a revaluation of equity prices and the fall in the cost of equity capital. The result is consistent with the prediction of standard international asset pricing models that stock market liberalisation may reduce liberalising country's cost of capital by allowing for risk sharing between domestic and foreign agents.

Stiglitz (2000)⁹⁴ reviews the arguments for capital market liberalisation and identifies the theoretical and empirical weakness. The major thrust on the discussion is the intermediation of short-term capital flows. Like China, other countries also intervene the short-term flows and at the same time make a hospitable environment for foreign direct investment. Since the devastating effects are huge outflows since developing countries are not having adequate safety nets. Once the economy liberalises its capital account, they must do it with sufficient caution. The author is suggesting three ways with which interventions can be implemented viz., (1) capital inflows, (2) capital outflows, and (3) regulating banking capital flows through the banking system. According to the author short-term capital flows are very risky and handle it with extreme care.

Chiang and Kuo Esq (2004)⁹⁵ investigate the price effects of futures market liberalisation in Taiwan. The authors examine the impact of the opening up of with Taiwan futures market to well informed foreign investors (QFIIs) on the price discovery function and volatility of local future markets when other markets are controlled. The result of co-integration analysis shows that Taiwan stock index futures and spot are co-integrated for both pre and post liberalisation periods, but the openness for QFII may make the co integration relation more stable. The information transmission process is examined by using error correction model and the result find that for the pre-liberalisation period, the spot price leads the future price; whereas the post-liberalisation, the future price leads to spot price. The result suggests that the number of informed trades increases and this may lead to higher level of price discovery function of Taiwan futures market following futures market liberalisation.

In the case of futures market volatility, the level of futures price volatility increases in the post liberalisation period suggesting that more information is transmitted to the local futures market and enhance information flows. Moreover the asymmetric effect is statistically significant for both pre and post liberalisation period in Taiwan futures market. The results support that the introduction of informed QFIIs reduces the asymmetries by noise traders. Overall the empirical evidence indicates that the introduction of well informed QFIIs has a positive impact on the local future market to improve market efficiency. The results are also consistent with theories stating that well informed foreign capital enhance the rate of information flow, improve the quality of reliability of information and hence reduce the impact of noise traders on price volatility. Thus the authors suggest that the liberalisation and deregulations in Taiwan were appropriate.

Osinubi (2004)⁹⁶ studies the linkages between stock market development and economic growth. The author has used Nigeria; a country specific study is done for the period 1980 to 2000. Ordinary Least Square (OLS) technique was

employed. He has used growth rate of GDP as dependent variable to analyse the economic growth. Independent variables viz., growth rate of per capita income, openness, export-GDP ratio, growth rate of public capital expenditure, growth rate of GDP, debt-export ratio, gross capital formation and other stock market development ratios were also applied. By the use of some notable stock market development indicators, the relationship between stock market development and economic growth was found to be positive. The author has used stationarity tests since the study uses time series data. Unit root test was also employed.

Thangavelu et al (2004)⁹⁷ examine the dynamic relationship between financial development and economic growth in Australia in terms of bank based and market based financial structure. A time series approach using VAR model is used to provide evidence for dynamic relationship. The span of the study covers from 1960 to 1999. Three variables are used to construct the models, namely economic growth financial development and interest rates. Six models have been employed. The authors have come to the conclusion that financial indicators related to financial market i.e., the stock market support the hypothesis that financial development causes out put growth. The paper provides empirical evidence on the causal impact of financial market on the economic growth of Australian economy.

Dritsaki (2005)⁹⁸ empirically examines the existence of a long run relationship between Greek Stock Market Index (GEN) and its fundamentals, namely industrial production, inflation and interest rates. This study also tests the existence of co-integration by Johansen's procedure and applies Granger causality tests analysing the casual relationship between these variables. In order to investigate the influence of some macro- economic variables, the author employs a multivariate VAR model. The quarterly data from 1988 M9 to 2003 M6 for all examined variables of the model viz. Athens Stock Exchange Index, in logs (LGN), industrial production index of Greece in logs (LIPI), inflation rate of Greece (INF) and short-run interest rates offered by 1 year bonds in

percentage (RFR). Since the data is non stationary, the author has used co-integration analysis. VAR model and error correction mechanism is also applied. The author has applied diagnostic test which is inclusive of Chow's first and second test to check the model's predictive ability. In order to get the deeper insight of the interrelations among the variables, the author has used a Granger causality test also. The author concludes that macro-economic variables have significant influence on Athen's stock market.

Outreville (2005)⁹⁹ explains the empirical relationship between financial development and socio-economic variables in relation to economic development. The empirical results based on cross-section analysis of 57 developing countries indicate that human capital and socio-political stability are the important factors explaining the financial development of these markets. The view that the human resources development can be promoted only at the expense of economic growth possesses false trade off. According to the author, financial system is shaped by non-financial development. Changes in technology, fiscal policy, legal system, political changes and human resource development may impact on the relationship between financial development and economic development. Skilled and well educated people have generally better access to information and likely to take more risks. So, higher education leads to lower risk aversion and higher savings.

From the foregoing discussion, it is clear that financial development received very little attention as an instrument in promoting economic growth till the 1950s. The early contributors in this field were Gurley and Shaw. Financial policy issues and its bearing on economic development was brought to the fore by contributors in the 1970s (McKinnon and Shaw). Initial studies used simple tools of analysis and identified strong relationship between financial development and economic development. Empirical investigations on the issues of causal relationship between financial development and economic development have got much momentum in the 1980s due to Granger's major

contribution on causality theory and techniques (1969). For the purpose of causality test, majority of the researchers have used either Granger or Sims/Modified Sims test procedures. The study reveals that, generally GDP or per capita income has been considered as a measure for real sector development. For financial development, different financial ratios viz., Financial Ratio, Financial Intermediation Ratio, and Monetisation Ratio have been made use of.

Most of the studies have used pooled cross-section and time series data for a group of countries. Cross country studies are rather easy and country specific studies are quite rare. Only very few studies are done in India. Let us now discuss India specific studies.

INDIA SPECIFIC STUDIES - STOCK MARKET AND ECONOMIC GROWTH

In India, the novel area of capital market and economic growth has become an interesting debate and economic literature is gradually increasing. Two schools of thought emerge, one advocating capital market reforms and development and the other is sceptical about the same. The first group, supporting the capital market reforms and recognising their positive effect on corporate and economic growth. They are supporting World Bank's views. Prominent representatives of this group are Ajay Shah and Susan Thomas. The second group, who is sceptical of stock market development, raised some serious issues regarding the not so positive and at times negative effects of capital market development on savings, investment and economic growth in Indian context. Nagaraj and Ajit Singh are the prominent representatives of this group. The works of these two prominent representative groups are examined in nutshell along with other related works in India.

Shah and Thomas (1996)¹⁰⁰ are strong and prominent advocates of stock market reform and development. By studying the stock market reform and the banking sector Ajay Shah and Susan Thomas reached the following conclusions.

- 1) The banking system and the stock market compete in two dimensions: to minimize the quality of the information processing and minimise the transaction cost that they impose upon households. In the Indian context the stock market is more efficient than the banking system in both dimensions. The stock market's superiority in the quality of information processing arises out of its freedom, relative to the banking sector, which is subject to a number of controls and constraints. Government controls like direct government ownership, entry barriers, high reserve ratio and directives on credit allocation adversely affected the banking systems ability to process information.
- 2) The stock market development plays a key role in strongly assisting reforms in the banking system.
- 3) Efficient stock market would contribute to long term growth in the real economy through efficient allocation of scarce savings and improving utilisation of funds.
- 4) Foreign capital flows have a positive impact on the real economy via. lowering the cost of capital and the assets effect.

Shah and Thomas conclude that banking system has been suffering from high transaction costs due to labour problems, low level of technology and lack of competition. On the other hand, the transaction costs in the stock market have declined considerably due to the introduction of online trading system, dematerialisation of securities, etc.

Nagaraj (1996)¹⁰¹ examines the long term trends in India's capital markets and the structural changes that have taken place in the country's saving pattern. By examining the important indicators like the amount of capital raised, share of equity in total capital mobilised, share of financial savings in Gross Domestic Savings, Gross Fixed Capital Formation, Corporate Gross Fixed Capital

Formation as a percentage of GDCF, corporate profitability, etc., Nagaraj brings the following conclusions.

1. In India, the growth of capital market was dis-intermediation which involves portfolio substitution by households and institutions from bank deposits to stock market instruments.
2. There are no correlation between growth rate of capital mobilisation and aggregate saving rate, and corporate physical investment and value added.
3. The positive correlation between the annual growth rate of capital raised externally and the corporate fixed capital formation which existed previously has become statistically insignificant in the 1980s.
4. There is a long term decline in the contribution of internal finance to corporate fixed investment, despite a fall in the ratio of corporate acts to gross profit.
5. The growth rate of real value added in the corporate manufacturing sector in the 1980s was lower than that of registered manufacturing sector as a whole suggesting that the small corporate firms, which did not have access to stock market funds, were able to grow at a faster rate than the larger corporate firms.

Nagaraj's findings regarding corporate GFCF as a percentage of GFCF and corporate GFCF as a percentage of GDP are statistically insignificant but actually not as insignificant as he suggests. Both these indicators as percentages, more than doubled in the 1980s and early 1990s when compared to 1960s and 1970s. Furthermore, if a spurt in capital mobilisation through capital market instruments due to portfolio substitution of bank deposits and corporate securities, then there should have been decline in the growth of bank deposit. So there is no evidence to this effect in Nagaraj's findings.

Samal (1997)¹⁰² examines the relationships between stock market growth and liquidity in India for the period 1992-93 to 1995-96. He has used GDP and GDP per capita as dependent variables and M1 and term deposits as explanatory variables. He has come to the conclusion that in Indian stock market liquidity development in India is negatively correlated with Gross Domestic Product (GDP) and GDP per capita. He concludes that stock market liquidity development is neither a sufficient nor a necessary condition for economic growth of an emerging economy like India.

Singh (1998)¹⁰³ examines the growth and evolution of stock market in India during 1990s, which, according to him is largely due to internal and external liberalisation measures and the global liberal economic ethos created by the reforms. Singh argues that despite corporate sector considerably benefited by the boom in the stock market by raising huge amount of risk capital and foreign exchange from the market, the net result is that the aggregate real economy did not benefit from this. At least in the 1980s, there was no increase in savings rate in the economy, despite the boom in the stock market. According to Singh, a portfolio substitution by households and institutions from bank deposits to financial corporate securities had happened. Singh also argues that it is problematic to attract variations in corporate investments to variations in resources raised from stock markets, because the resources raised from the market essentially replaced the internal resources of the corporations. Also, Singh does not see any increased productive use of investment resources.

Nevertheless, Singh complements the government for its prudent handling of portfolio capital inflows and ensuring that no loss was suffered on that account to the economy, in spite of large inflows. Singh's conclusion is that despite all the extra ordinary growth achieved by the stock market, as far as the economy was concerned it has just been a side show. In conclusion, Singh warns that as the market for corporate control develops with mergers, take overs, acquisitions and disinvestments becoming common place, the situation will worsen and the

real economy will hit or hammered by these developments. According to Singh, the market for corporate control is a 'bridge too far' at the present level of the Indian economy.

Pethe and Karnik (2000)¹⁰⁴ deal with interrelationships between stock prices and important macro-economic variables. Macro-economic variables considered are exchange rate of rupee, vis-à-vis the dollar, prime lending rate, narrow money supply, broad money supply and index of industrial production. Econometric analysis such as unit root testing, co-integration and error correction models were applied. The data extends from April, 1992 to December, 1997. The authors have come to the conclusion that Indian economy has still not matured enough to take the impulse of real growth from the financial sector in general and stock market in particular. According to the authors, along with institutional reforms, legal framework must support efficient operation of securities market. This will ultimately increase the investor confidence and leads to economic growth.

Biswal and Kamaiah (2001)¹⁰⁵ examine the changes and developments which has taken place after liberalisation. The objective of the study is to examine the stock market development in India within the framework of trend breaks in the context of financial liberalisation under the New Economic Policy (NEP). In order to address the issue, three measures of stock market development in India viz., market size, liquidity, and volatility have tested to check if these indicators have exhibited any trend breaks over time in response to various stock market regulations. Dickey Fuller (DF), Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) tests have been applied. The findings of the study suggest that the stock market has become large and more liquid in the post liberalisation period. The findings of the study is in line with findings of 16-country study of Levine and Zervos (1998b) which reported significant change in liquidity and market size after liberalisation. The implication of the findings of the study is that, more liberalised measures, both at domestic and

international level, must be undertaken so as to ensure more liquidity in the stock market in India.

Biswal and Kamaiah (2001)¹⁰⁶ examine the role of stock markets and banks in promoting economic growth in India. To investigate the empirical relationship, six variables were used viz., market capitalisation ratio (MCR), value traded ratio (VTR), turnover ratio (TOR), volatility (VOLT), bank credit ratio (BCR) and industrial production (IP). Granger causality test and co-integration technique of Johnston are applied to show the long-run relationship. In order to establish the order of integration, the authors have carried out unit root tests of Dickey Fuller (DF), Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) test both without and with trend.

By using stock market development indicators viz. market size, liquidity and volatility along with bank credit to GDP as an indicator of banking sector development and industrial production (IP) as a proxy for GDP, the authors came to the conclusion that it is not the banking development, but stock market growth, which shares a relationship with economic growth in India during the period 1991 to 2000.

Biswal and Veerasharappa (2002)¹⁰⁷ analyse the theoretical and empirical evidence on the relationship between stock market development and economic growth. They have taken the data for the period 1991 - 1998. IIP is taken as dependent variable, monthly data is used. Market Capitalisation Ratio, Value Traded Ratio and Turnover Ratio are used as independent variables.

Correlation and multiple regression tools are used. In correlation technique, stock market size and liquidity are positively and significantly correlated. By using multiple regressions, only one variable is used at a time due to spurious regression. The results showed that there is a strong relationship between stock market development and economic growth in India and its role in the economic growth process.

Agarwal (2003)¹⁰⁸ tries to analyse three most important and dynamic relationships viz., the relationship between stock market and financial intermediaries, stock market development and financial behaviour of the private corporate sector and finally the relationship between stock market development and economic growth. The author uses three sets of data. First set consists of 60 observations on monthly data for the Indian economy for the period April 1994 to March 1999. Second set contains 12 observations on the quarterly data for the period April 1996 to March 1998. The third set has annual data for the period 1980-81 to 1998-99. In order to evaluate the impact of financial sector reforms and financial globalisation, two dummy variables also have been applied. The author has used correlation as well as regression analysis. Financial sector indicators and capital market indicators also have been applied. His study is in line with Levine and Zervos argument that well developed stock markets may be able to offer different kinds of financial services than the banking system and it provides extra imputes to economic activity that leads to further economic growth. The study has also inferred that the right variable to be a proxy for the expansion of economic activity is the totality of funds mobilized by the corporate sector from the alternative sources and not merely the credit by the commercial banks which has been assumed in early studies. Development financial institutions and capital markets also play an important role in funds mobilisation.

Mittal (2003)¹⁰⁹ tries to analyse the economic reforms and capital market in India for the period from 1990-1991 to 1999-2000. The most important objective of the study was to examine critically the qualitative and quantitative changes in India's capital market in the post reform era. The hypothesis that the economic reform programmes have been instrumental in overall improvements and development of India's capital market proved to be correct. Three capital market development indices have been constructed. They are Sindex, Anandex and Qualidex.

The independent variables used are the Index of Industrial Production (IIP), bank rates as a proxy for interest rates, cash reserve ratio (CRR), gross domestic product (GDP), cumulative net foreign institutional investment, cumulative GDRs + ECBs + ADRs, cumulative public sector disinvestment, financial depth, inflation rate, movement of sensex, gross domestic saving ratio, the rupee dollar exchange rate have been applied. Since the time series data is used, in order to check the stationarity of different dependent and explanatory variables have been used by applying Dickey-Fuller unit root test and Phillips-Perron unit root test. Simple OLS is used to run the regressions and to find out the significance. The qualitative indices on various independent macro-economic variables are first regressed separately and the highest co-efficient of determination is chosen and the next added and so on.

The author concludes that reforms have been successful so far and adequate qualitative changes were there in the capital market during the period of time. There were quantitative changes also. Economic reform programmes, macro-economic changes, institutional changes and regulation of securities market have been instrumental in overall improvements and development of Indian capital markets.

Pentacost (2006)¹¹⁰ tests McKinnon's complementarity hypothesis for India over the second half of twentieth century using multivariate econometric techniques and found strong support for the hypothesis. Research shows that the financial liberalisation policies may be effective as a mechanism to increase the rate of capital formation in India. By rejecting the hypothesis that the money demand and investment ratio equation show a structural break between 1985 and 1995, the results suggest that the financial liberalisation of the early 1990s still has some way to go in that, still India is characterised by financial repression. The author concludes that the Reserve Bank of India should continue to pursue a policy aimed at changing negative real interest rate to positive levels of India is

to secure greater levels of investment and more rapid and sustained economic growth in the twenty first century.

From the foregoing analyses, we can conclude that there is a close, if imperfect, relationship between the effectiveness of an economy's financial system and the level of its economic growth. Many of the above studies have employed cross-section regression methodology to draw causal inferences. Moreover, their findings demonstrate that causality patterns vary across countries. Therefore, statistical inference based on cross section studies which implicitly treat different economies as homogeneous entities may not always be true. In view of the above, empirical studies of individual countries are needed and in the case of India, only very few studies have been done so far. So this clearly warrants the need for a fresh study to throw light to the intricacies of this unexplored area of stock market development and its contribution to the Indian economy. This is the justification for taking up the present study.

References:

1. Schumpeter, J.A. *Theorie der Wirtschaftlichen Entwicklung* (German Version) (1911): *The Theory of Economic Development* (English Version) (1934): U.S.A.
2. Fischer, Irving (1933): "The Debt Inflation Theory of Great Depressions", *Econometrica*. Vol. 1 No. 4, October, pp. 337-350.
3. Keynes. J Maynard (1936): *The General Theory of Employment, Interest and Money*, Macmillan Press Ltd., London.
4. Gurley, John G and E S Shaw (1955): "Financial Aspects of Economic Development", *American Economic Review*, Vol. 45, pp.515-538.
5. Patinkin, Don (1965): *Money, Interest and Prices, Second Edition*, Harper & Row, New York.
6. Gurley, John G (1967): "Financial Structures in Developing Economies" in David Krivine, Ed., *Fiscal and Monetary Problems in Developing Countries*, New York, pp. 99-120.
7. Patrick Hugh T (1966): Financial Development and Economic Growth in Underdeveloped Countries, *Economic Development and Cultural Change*, Vol. 14, No. 2, January, pp. 174-189.
8. Goldsmith, Raymond W, (1969): *Financial Structure and Development*, Yale University Press, New Haven.
9. Gerschenkron, Alexander (1962): *Economic Backwardness in Historical Perspective*, Harvard University Press, Cambridge.
10. Cameron, Rondo (1967): *Banking in the Early Stages of Industrialization*, Oxford University Press, New York.

11. Shaw, Edward S (1973): *Financial Deepening in Economic Development*, Oxford University Press, New York.
12. McKinnon, Ronald I (1973): *Money and Capital in Economic Development*, Brookings Institution, Washington DC.
13. Kapur, Basant (1976): "Alternative Stabilization Policies for Less Developed Economies", *Journal of Political Economy*, Vol. 84, No. 4, pp. 777-795.
14. Matheison, D.J (1980): "Financial Reform and Stabilisation Policy in a Developing Economy", *Journal of Development Economics*, Vol. 7, No. 3, pp. 359-395.
15. Fry, Maxwell. J (1978): "Money and Capital or Financial Deepening in Economic Development" *Journal of Money, Credit and Banking*, Vol. 10, No. 4, November, pp. 464-475.
16. Galbis, Vicente (1977): "Financial Intermediation and Economic Growth in Less Developed Countries: A Theoretical Approach", *Journal of Development Studies*, Vol. 13, No. 2, January, pp. 58-72.
17. Kindleberger, Charles P (1976): "International Financial Intermediation for Developing Countries", in McKinnon Ronald I (ed). *Money & Finance in Economic Growth and Development*, Marcel Dekker Inc., New York, pp.127-137.
18. Greenwood, Jeremy and Boyan Javanovic (1990): "Financial Development, Growth and the Distribution of Income", *Journal of Political Economy*, Vol. 98, No. 5, pp. 1076-1107.
19. Jaffee, D M and Russel (1976): "Imperfect Information, Uncertainty and Credit Rationing", *Quarterly Journal of Economics*, Vol. 90, No. 4, pp. 651-666.

20. Stiglitz J.E and A. Weiss (1981): "Credit Rationing in Market with Imperfect Information", *American Economic Review*, Vol. 71, No. 3, pp. 393-410.
21. Heather D. Gibson and Euclid Tsakalotos, (1994): "The Scope and Limits of Financial Liberalisation in Developing Countries: A Critical Survey", *The Journal of Development Studies*, Vol. 30, No.3, April, pp. 578-628.
22. Baumol, William, J (1965): *The Stock Market and Economic Efficiency*, Fordhan University Press, New York,
23. Gupta, Umarao Lal (1972): *Working of Stock Exchanges in India*, New Delhi, Thomson Press (India) Limited
24. Khan. M.Y (1980): *Indian Financial System, Theory and Practice*, Vikas Publishing House Pvt. Ltd., New Delhi.
25. Panda. J (1980): "Changing Pattern of Business Finance in India – A Study of the Role of Stock Exchanges", *The Indian Journal of Commerce*, Vol. XXXIII, Part IV, No. 125, pp. 121-122.
26. Chitale. V.P (1983): *Risk Capital for Industry*, Economic and Scientific Research Foundation, Allied Publishers pvt. Ltd., New Delhi.
27. Gupta. L.C (1987): *Shareholders' Survey, Geographic Distribution*, Manas Publication, 18-D, Kamala Nagar, Delhi – 110007.
28. Narayana Rao and Bhole. L.M (1990): "Inflation and Equity Returns", *Economic and Political Weekly*, May 26.
29. Gupta L.C (1991): *Indian Share Owners – A Survey* Society for Capital Market Research and Development, New Delhi.
30. Gupta. L.C (1992): *Stock Exchange Trading in India. Agenda for Reform*, Society for Capital Market Research and Development, New Delhi.

31. Gupta L.C et al (1994): Shareowner's Geographic Distribution: City-wise Urban-Rural and Statewise, Society for Capital Market Research and Development, New Delhi.
32. Malhotra, Sagar Vijay (1994): *Determination of Share Prices in India*, Kanishka Publishers, Distributors, Delhi.
33. Singh Pyarelal (1994): *Indian capital Market – A Functional Analysis –* Kanishka Publishers, Delhi.
34. Vinayakam. N (1994): *Case for Separate Legislation on Investors Protection* in (Vinayakam N. (Ed.). Kanishka Publishers, New Delhi, pp. 85-95.
35. Bhole. L.M (1995): "The Capital Market at Crossroads", *Vikalpa*, Vol. 20, No. 2, April-June.
36. Feldman Robert, A and Kumar Manmohan, S (1995): "Emerging Equity Markets: Growth, Benefits and Policy Concerns", *The World Bank Research Observer*, Vol. 10, No. 2, pp. 181-200.
37. Vinayakam. N and Charumathy. B (1995): "Globalisation of Emerging Equity Markets", *Finance India*, Vol. IX, No. 3, September, pp. 655-666.
38. Claessens, Stijin (1995): "The Emergence of Equity Investment in Developing Countries: Overview", *The World Bank Economic Review*, Vol. 9, No. 1 pp. 1-17.
39. Maday. K. Roy and Madusudanan Karmakar (1995): "Stock Market Volatility: Roots and Results", *Vikalpa*, Vol. 20, No. 1, Jan-Mar, pp. 37-48.
40. Cherian Samuel (1996): "The Stock Market as a Source of Finance, A Comparison of US and Indian Firms", *Policy Research Working Paper*, No. 1592, Washington. D.C, The World Bank.

41. Agrawal. R.N (1997): “Foreign Portfolio Investment in Some Developing Countries: A Study of Determinants and Macro-Economic Impact”, *Indian Economic Review*, Vol. XXXIII, No. 2, pp. 217-229.
42. Gupta L. C (1997) : India’s Stock Market Crisis, Research Monograph , No. 5, Society for Capital Market Research and Development, New Delhi.
43. Misra, B.M (1997): “Fifty Years of The Indian Capital Market: 1947-97”, *Reserve Bank of India, Occasional Papers*, Vol. 18, Nos. 2 and 3, (Special Issue) June and September.
44. Mohanthy Basudev (1997): “Slump in the Securities Market – Problems and Strategies for its Sustainable Growth”, *Economic and Political Weekly*, Vol. XXXII, No. 42, October 18, pp. 2733 – 46.
45. Crockett Andrew (1998): *Capital Market Innovations: Opportunities and Challenges*, in (Raj Kapila) and Uma Kapila (Ed.), pp. 19-33
46. Gupta L.C et al (1998): *Indian stock market P/E Ratios*. Delhi Society for Capital Market Research and Development.
47. Parthapratim Pal (1998): “Foreign Portfolio Investment in Indian Equity Markets, Has the Economy Benefited?”, *Economic and Political Weekly*, vol. XXXIII, No. 11, pp. 589-598.
48. Rangarajan” C (1998): *The Indian Capital Market, Problems, Prospects, and Agenda for Reforms* in (Raj Kapila and Uma Kapila (Ed.) pp. 97-103.
49. Indian Securities Markets (1998): – SEBI Discussion paper in (Raj Kapila and Uma Kapila (Ed/) pp. 104-141.
50. Nagaishi Makoto (1999): “Stock Market Development and Economic Growth, Dubious Relationships”, *Economic and Political Weekly*, Vol. XXXIV, vol. 29, July 17, pp. 2004-2011.

51. Desai Ashok. V (2000): *Capital Markets in India, Issues and Agenda for Reforms* in (Raj Kapila and Uma Kapila (Ed.), Monthly update – Vol. 16, pp. 35-59.
52. Patil. R.H (2000): “The Capital Market in 21st Century” *Economic and Political weekly*, Vol. XXXV, No. 45, November 18, pp. 4097-4102.
53. Pratip Kar et al (2000): “*Survey of Indian Investors*”, Securities and Exchange Board of India Mumbai.
54. Roy. M.K (2001): “Stock Market in a Liberalized Economy”, *Economic and Political Weekly*, Vol. XXXIV, No. 4, January 27, pp. 367-376.
55. Alimov A. Azizjon, Debasish Chakraborty, Raymond A. K. Cox and Adiswar K. Jain. (2004): “The Random Walk Hypothesis on Bombay Stock Exchange”, *Finance India*, Vol. XVIII, No. 13, September, pp. 1251-1258.
56. Joydeep Biswas (2005): “Foreign Portfolio Investments and Stock Market Behaviour in a Liberalised Economy: An Indian Experience”, *Asian Economic Review*, Vol. 47, No. 2, August, pp. 221-231.
57. Suyash Goswami and Golaka Nath (2005): “Market Efficiency and Linkages of Indian Stock Market”, *ICFAI Journal of Applied Finance*, January.
58. Madusudanan Karmakar (2006): “Stock Market Volatility in the Long Run, 1961-2005”, *Economic and Political weekly*, May, pp. 1796 -1802.
59. John. G Gurley and E.W. Shaw (1967): “Financial Structure and Economic Development”, *Economic Development and Cultural Change*, Vol. 15, No. 3, April, pp. 257-268.
60. Gurley, John. G (1967): Financial Structure in Developing Countries in Krivine David, Ed., *Fiscal and Monetary Problems in Developing Countries*, New York, Praeger, pp. 99-120.

61. Goldsmith, Raymond W (1969): *Financial Structure and Development*, Yale University Press, New Haven.
62. Hicks A John (1969): *A Theory of Economic History*, Oxford, UK, Clarendon Press.
63. Bhatia, Rattan and Deena Khatkhate (1975): "Financial Intermediation, Savings Mobilisation and Entrepreneurial Development: The African Experience", *IMF Staff Papers*, Vol. XXII, No. 1 March, pp. 130-158.
64. Jao Y.C (1976): "Financial Deepening and Economic Growth: A Cross Section Analysis", *Malayan Economic Review*, Vol. 21, No. 1 April, 1976, pp 47-58.
65. Fry Maxwell J (1978): "Money and Capital or Financial Deepening in Economic Development", *Journal of Money, Credit and Banking*, Vol. 10, No. 4, November, pp. 464-475.
66. Gupta K.L (1984): *Finance and Economic Growth in Developing Countries*, Croom Helm Ltd., Kent. UK.
67. Cho Y.J (1986) : Inefficiencies from Financial Market the Absence of Well Functioning Equity Markets, *Journal of Money Credit and Banking*, May.
68. Jung W.S (1986): "Financial Development and Economic Growth: International Evidence", *Economic Development and Cultural Change*, Vol. 34, No. 2, pp. 333-346.
69. Sulaiman Jasser Muhammad (1986): *The Role of Financial Development in Economic Development: The case of Saudi Arabia*, UMI Dissertation Services, Michigan.

70. Gupta. K.L (1987): “Aggregate Savings, Financial Intermediation and Interest Rate”, *Review of Economics and Statistics*, Vol. 69, No. 2, pp. 303-311.
71. Fry, Maxwell. J (1988): *Money, Interest and Banking in Economic Development*, The John Hopkins University Press, London.
72. Thronton, John (1990): “The Demand for Money in India: A Test of McKinnon’s Complementarity Hypothesis”, *Savings and Development*, Vol. 14, No. 2, pp. 153-157.
73. Thronton, John and Shri Ram Poudyal (1990): “Money and Capital in Economic Development: A Test of the McKinnon Hypothesis for Nepal”, *Journal of Money, Credit and Banking*, Vol. 22, No. 3, August, pp. 395-399.
74. Gilles, Saint Paul (1992): “Technological Choice, Financial Markets and Economic Development”, *European Economic Review*, 36, pp. 763-781.
75. King, Robert G and Ross Levine (1993): “Finance and Growth: Schumpeter Might be Right”, *The Quarterly Journal of Economics*, Vol. 108, No. 3, pp. 717-737.
76. Pagano Marco (1993): “Financial Markets and Growth: An Overview”, *European Economic Review*, No. 37, pp. 613-622.
77. Raymond Atje and B Jovanovic (1993): “Stock Market and Development”, *European Economic Review*, 37, pp. 632-640.
78. Kirakul, S, J Jantarangs and P Chantanahom (1993): “Economic Development and the role of Financial Deepening in Thailand”, *Papers in Policy Analysis and Assessment*, Economic Research Department, Bank of Thailand pp. 39-51.

79. Murinde V and Eng F. S. H (1994): “Financial Restructuring and Economic Growth in Singapore”, *Savings and Development*, Quarterly Review, Vol. XVIII, No. 2, pp. 225-245.
80. Obstfeld Maurice (1994): “Risk Taking, Global Diversification and Growth”, *American Economic Review*, 85, December, pp. 1310-1329.
81. Valerie R. Bencivenga, Bruce D Smith and Ross M Starr (1995): “Transaction Costs, Technological Choices and Endogenous Growth”, *Journal of Economic Theory*, Vol. 67, pp. 153-177
82. De Gregario Jose and Pablo E. Guidotti (1995): “Financial Development and Economic Growth”, *World Development*, Vol. 23, No. 3, pp. 433-448.
83. Robert. A Korajczyk (1996): “A Measure of Stock Market Integration for Developed and Emerging Markets”, *The World Bank Economic Review*, May, pp. 267-290.
84. Asli Demerguc-Kunt and Levine Ross (1996): “Stock Market Development and Financial Intermediaries: Stylized Facts”, *The World Bank Economic Review*, May, pp. 291-322.
85. Ross Levine and Sara Zervos (1996): “Stock Market Development and Long Run Growth”, *The World Bank Economic Review*, May, Vol. 10, No. 2, pp. 323-340.
86. Asli Demirguc-Kunt and Vojislav Maksimovic (1996): “Stock market Development and Financing Choice of Firms”, *The World Bank Economic Review*, May, Vol. 10, No.2, pp. 341-370.
87. John Boyd and Bruce Smith (1996): “The Co-Evolution of the Real and Financial Sectors in the Growth Process”, *The World Bank Economic Review*, May, Vol. 10, No.2, pp. 371-396.

88. Maxwell. J. Fry (1997): "In Favour of Financial Liberalisation", *The Economic Journal*, Vol. 107, May, pp. 754-770.
89. Philip Arestis and Panicos Demetriads (1997): "Financial Development and Economic Growth: Assessing the Evidence", *The Economic Journal*, Royal Economic Society, May, Vol. 107, pp.783-799.
90. Singh, Ajith (1997): "Financial Liberlisation, Stock Markets, and Economic Development", *The Economic Journal*, Vol. 107, pp. 771-782.
91. Raghuram. G. Rajan and Luigi Zingales (1998): "Financial Dependence and Growth", *American Economic Review*, June, Vol. 88, No. 3, pp. 559-586.
92. Richard Friberg and Stefan Nydah (1999): "Openness and the Exchange Rates Exposure of National Stock Markets", *International Journal of Finance and Economics*, Vol. 4, pp. 55-62.
93. Peter Blair Henry (2000): "Stock Market Liberalisation, Economic Reform and Emerging Equity Prices", *Journal of Finance*, Vol. LV, No. 2, April, pp. 529-564.
94. Joseph. E. Stiglitz (2000): "Capital Market Liberalisation, Economic Growth and Instability", *World Development Report*, Vol. 28, No. 6, June, pp. 1075-1086.
95. Minhsien Chiang and Wen-Hsiu Kuo Esq (2004): "Impact of Opening up of The Taiwan Futures Market to Foreign Investors: Price Effects of Foreign Investment Liberalisation: Empirical Ananalysis", *Journal of Financial Management and Analysis*, Vol. 17, No. 2, pp. 1-11.
96. Osinubi Tokunbo Simbowale (2004): "Stock Market and Economic Growth in Nigeria", *The ICFAI Journal of Applied Finance*, Vol. 10, No. 3, March.

97. Shandre M. Thangavelu, Ang Bng Jaiunn, James (2005): "Financial Development and Economic Growth in Australia: An Empirical Analysis" *Empirical Economics*, Vol.29 No. 2, June pp. 239-259.
98. Melina Dritsaki (2005): "Linkages Between Stock Market and Macro-Economic Fundamentals: Case Study of Athens Stock Exchange", *Journal of Financial Management and Analysis*, Vol. 18, No. 1, pp. 38-47.
99. Francois Outreville J (2005): "Financial Development, Human Capital and Political Instability", *Finance India*, Vol. XIX, No. 2, June, pp. 481-492.
100. Ajay Shah and Susan Thomas (1996): "Securities Market Towards Greater Efficiency" *India Development Report*, Oxford University Press, pp. 167-178.
101. R. Nagaraj (1996): "India's Capital Market Growth: Trends, Explanations and Evidences", *Economic and Political Weekly*, Vol. XXXI, Nos. 35, 36, 37, special number, September, pp. 2553-2561.
102. Kishore C. Samal (1997): "Do Emerging Stock Markets Affect Economic Growth Through Creation of Liquidity, The Case of India", Occasional Paper, No. 34, Nabakrushna Chowdhury Centre for Development Studies, Orissa.
103. Singh Ajit (1998): Liberalisation, The Stock Market and The Market for Corporate Control: A Bridge too far for the Indian Economy in I.J. Ahluvalia and I.M.D. Little (eds), *India's Economic Reforms and Development*, Oxford University Press, pp. 169-191.
104. Abhay Pethe and Ajit Karnik (2000): "Do Indian Stock Markets Matter! Stock Market Indices and Macro-Economic Variables", *Economic and Political Weekly*, January 29.

105. Pratap Chandra Biswal, B. Kamaiah (2001): "Stock Market Development in India, Is There Any Trend Break" *Economic and Political Weekly*, January, pp. 377-384.
106. Pratap Chandra Biswal, B. Kamaiah (2001): "On Stock Market Development, Banks and Economic Growth in India", *Journal of Social and Economic Development*, Vol. III, No. 1, pp. 40-55.
107. Pratap Chandra Biswal and Veera Sharappa (2002): "Stock Market Development and Economic Growth in India", *Indian Journal of Economics*, No. 327, Vol. LXXXII, pp. 459-464.
108. Agrawal R. N (2003): "Capital Market Development, Corporate Financing Pattern and Economic Growth in India", *Asian Economic Review*, Vol. 45, No. 1, pp.22-33.
109. Anand Mittal (2003): *Economic Reforms and Capital Market in India*, Galgotia Publishing Company, Karolbagh, New Delhi.
110. Eric J. Pentacost (2006): "Financial Liberalisation in India and a New Test of Complementarity Hypothesis", *Economic Development and Cultural Change*, Vol. 54, No. 2, pp. 487-501.

CHAPTER 3

CAPITAL MARKETS

THEORETICAL FRAME WORK

Introduction:

Investing in securities such as shares, debentures and bonds is profitable as well as rewarding. It is indeed rewarding but involves a great deal of risk and calls for scientific knowledge. Investing in financial securities is now considered to be one of the best avenues for investing one's savings, while it is acknowledged to be one of the most risky avenues of investments. An investor who understands the fundamental principles and analytical aspects of portfolio management has a better chance of success. This chapter deals with all the important aspects of technical analysis, random walk theory, and portfolio theories.

TECHNICAL ANALYSIS

Technical analysts believe that share prices are determined by demand and supply forces operating in the market. These demand and supply forces in turn are influenced by a number of fundamental factors as well as certain psychological or emotional factors. The combined impact of all these factors is reflected in the share price movement. According to the technical analysts, by using past data, future share prices can be accurately predicted. Technical analysis is the name given to forecasting techniques that utilize historical share price data. The technical analysts are also known as chartists and they study the price and volume movements in the market and try to find patterns in them. Based on these trends, future trends are predicted.

The rationale behind technical analysis is that share price behaviour repeats itself over time and an analyst attempt to derive methods to predict the

repetitions. Along with the past data, technical analysts look at current price data to see if there is any established pattern applicable and if so, extrapolations can be made to predict the future price movements. Along with past data, other statistics such as volume of trading and stock market indices are also utilised to some extent. In brief, Technical Analysis is a study of past or historical price and volume movements so as to predict the future stock price behaviour.

Basic principles of Technical Analysis

The basic principles of Technical Analysis are as follows:

1. The market value of a security is related to demand and supply factors operating in the market.
2. There are both rational and irrational factors which surround the supply and demand factors of a security.
3. Security prices behave in a manner that their movement is continuous in a particular direction for some length of time.
4. Trends in the stock prices have been seen to change when there is a shift in the demand and supply factors.
5. The shifts in the demand and supply can be detected through charts prepared specially to show market action.
6. Patterns which are projected by charts, record price movements and this recorded pattern are used by analysts to make forecast about the movement of prices in future.

Dow Theory

Dow Theory was formulated by Charles. H. Dow who was the editor of the Wall Street Journal in the USA. The theory was presented in a series of editorials in the Wall Street Journal during 1900 - 1902. When Dow died in 1902 these principles were compiled into Dow Theory.

Charles Dow formulated a hypothesis that the stock market does not move on a random basis, but is influenced by the cyclical trends that guide its direction. According to Dow Theory, the market has three movements and these movements are simultaneous in nature. These movements are primary movements, secondary reactions and minor movements. By following the trends, the general market direction can be predicted.

Basic Tenants of the Dow Theory

Basic tenants of the Dow Theory are the following:

- 1. Averages discount everything:** All averages like the prices and volumes are the result of actions of all market players, including experts who know everything about fundamentals. Therefore, averages discount every known and foreseeable factor.
- 2. Market swing in trends:** The market moves in three trends viz., primary trends, secondary trends and minor trends. Primary trend is a long range cycle that carries the entire market up or down. This is the long term trend in the market. They normally last for a year and bring about appreciation or depreciation of about 20 per cent in prices. Secondary trends are interruptions in the primary trend which bring about opposite movements. They take the form of reaction from an upward movement during a bull phase or recovery from downward movement during a bear phase. Secondary trends normally last for three weeks to three months retracing one third to two third of gains or losses. Minor trends are day to day fluctuations in the market lasting for few days. A series of minor trends make up a short term trend. The three movements of market have been compared to the tides, the waves and the ripples in the ocean.
- 3. Volume goes with the trend:** According to Dow Theory the trading volume moves with the trend. This means volume increases with price increase and decreases with price decrease.

4. Line chart: According to Dow Theory, the price movements in the market can be identified by the mean of a line chart. In the chart, closing prices of shares or the closing value of index may be plotted against the corresponding trading days. This chart would help in identifying the prices and secondary movements.

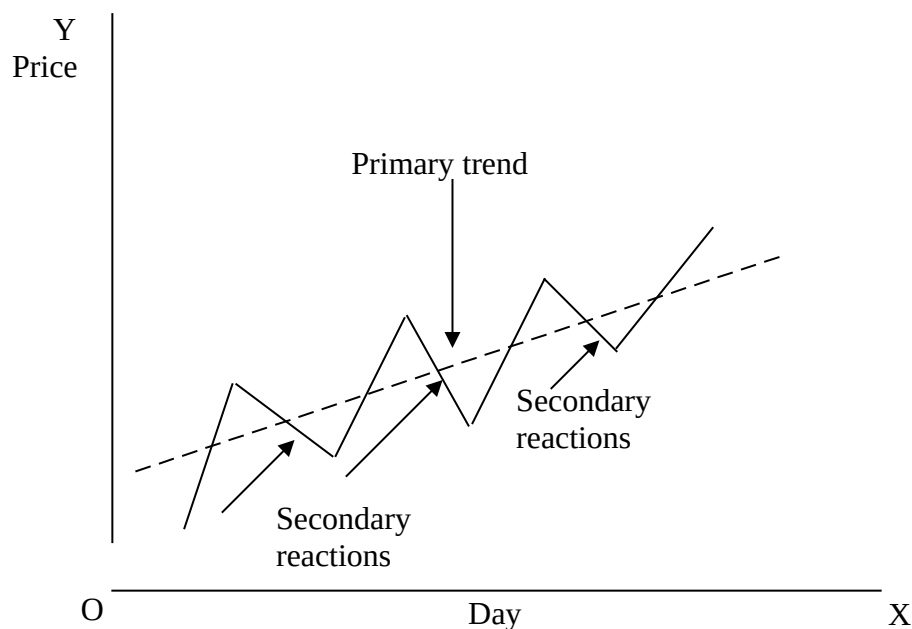


Figure. 3.1: **Primary trend and secondary reactions**

The Figure 3.1 shows a line chart of closing values of the market index. The price trend of the market is upwards, but there are secondary reactions in the opposite directions. Among the three movements in the market the primary movement is considered to be the most important.

Bullish Trend

During a bull market (upward moving market), in the first phase the price would advance with the revival of confidence in the future of business. The future prospects of business in general would be perceived to be promising and attractive. This will induce investors to buy shares of companies. During the second phase, prices would advance due to improvements in corporate earnings. In the third phase, prices advance due to inflation and heavy speculation. Thus

during bull market, the line chart would display the formation of three peaks. Each peak would be followed by a bottom formed by secondary reaction. Each peak would be higher than the previous peak, each successive bottom would be higher than the previous bottom. According to Dow Theory, the formation of higher bottom and higher tops indicate a bullish trend. These three phases of bull market are depicted in Figure 3.2.

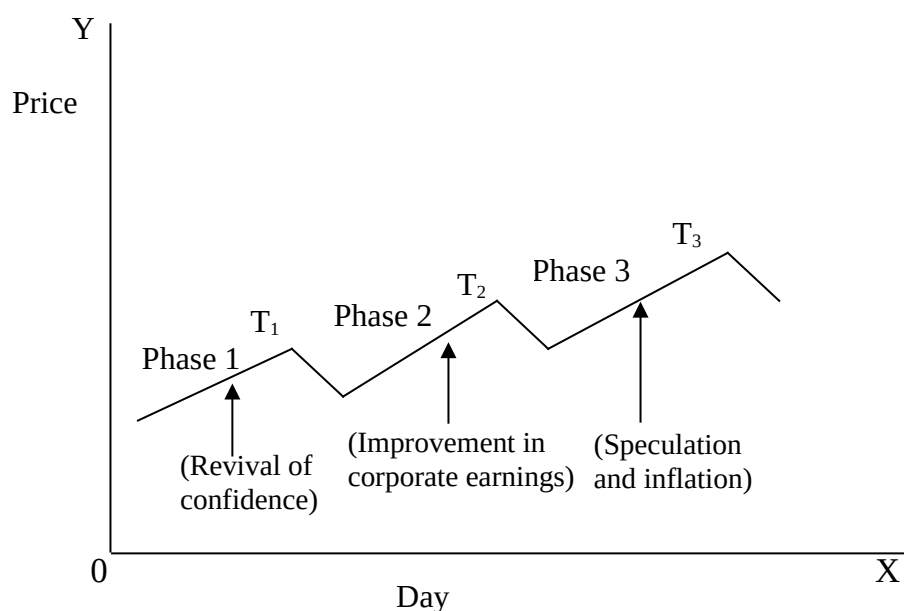


Figure 3.2: **Three faces of a bull market**

Bearish Trend

The bear market is also characterised by three phases. In the first phase, prices begin to fall due to abandonment of hopes. Investors begin to sell their shares. In the second phase, companies start reporting lower profits and lower dividends. This will lead to further fall in prices due to increased selling pressure. In the final phase, prices fall still further due to panic selling. A bearish market would be indicated by the formation of lower top and lower bottom. This is depicted in the Fig. 3.3.

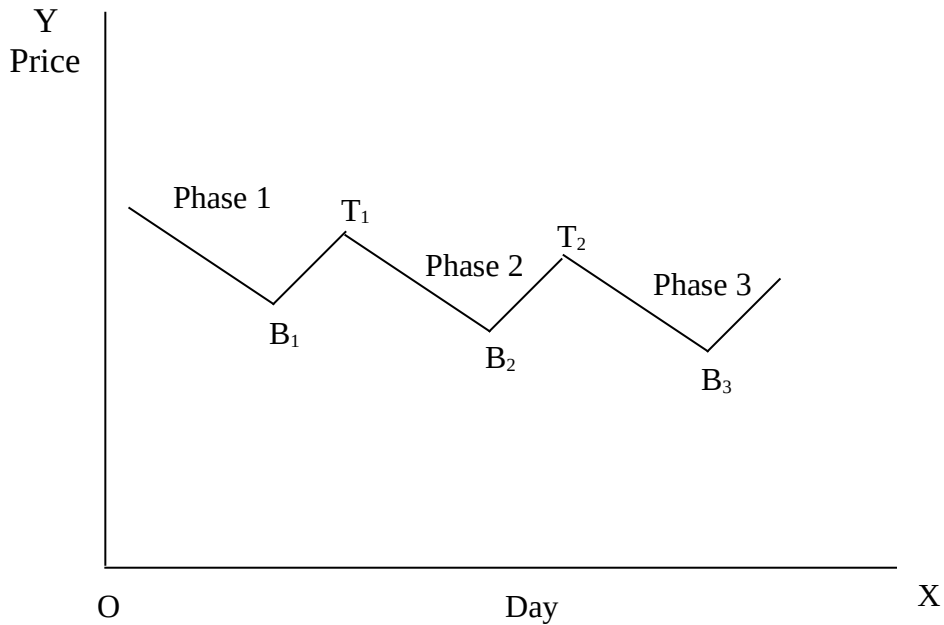


Figure 3.3: **Three phases of a bear market**

PRICE CHARTS

In technical analysis, charting is the key activity. This is because graphical representation is the very basis of technical analysis. It is the security prices that are charted. Shares are traded in the market at different prices during the same day and four prices are important on each day's trading viz., highest price of the day, the lowest price of the day, the opening price and the closing price. Out of the four prices in a day, the closing price is the most important price of the day because it is being used in most share price analysis.

Technical analysts make use of price chart to study the share price movement. The prices are quoted on an XY graph where X axis represents the trading days and Y axis denotes the prices. Three types of price charts are used by technical analysts. They are: a) Line chart or Closing price charts b) The bar chart and c) the Japanese candle stick chart.

(a) Line chart

Line chart is the simplest form of price chart. The closing price of a share is plotted on XY graph on a day to day basis. The closing price of each day is plotted on the graph and these points are connected by a straight line which would indicate the trend of the market. The line chart has already illustrated.

(b) Bar chart

Bar Chart is the most popular chart used by technical analysts. In this chart the highest price, the lowest price and the closing price of each day are plotted on a day to day basis. A bar is formed and top of the bar represents the highest price of the day and bottom of the bar represents lowest price of the day and a small horizontal hash on the right side of the bar is used to represent the closing price of the day. At times, the opening price of the day is marked as a hash on the left side of the bar.

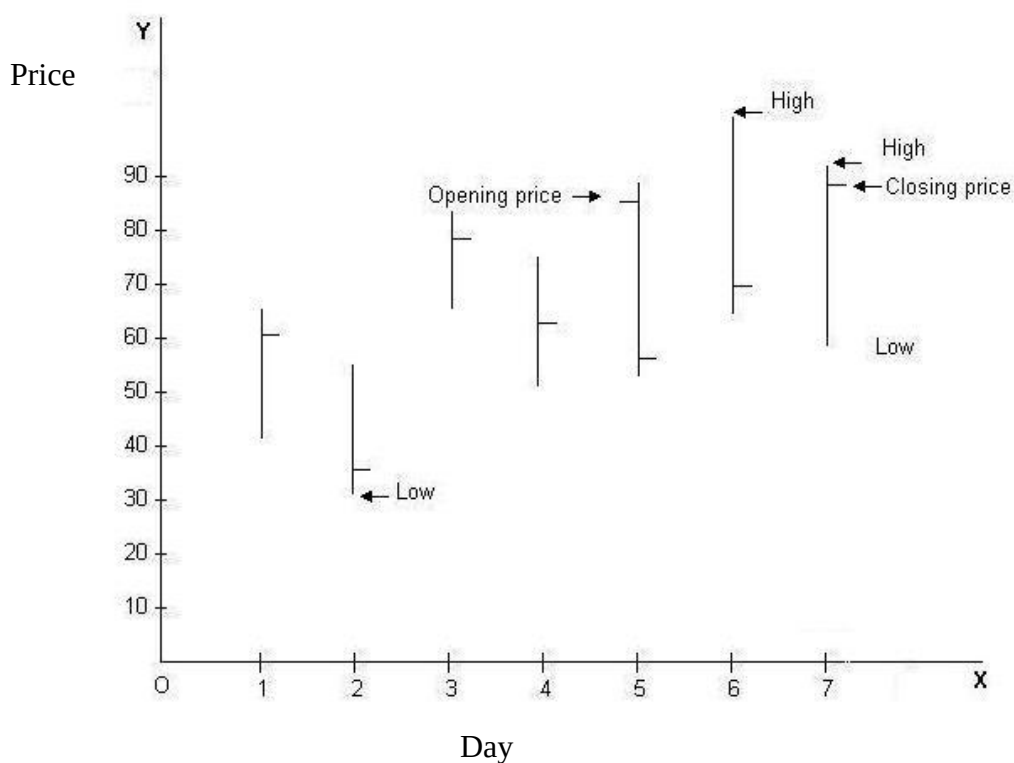


Figure 3.4: Price bar chart

(c) Japanese Candle Charts

The highest price, the lowest price, the opening price and the closing price of shares on a day to day basis is taken into consideration in the case of Japanese candle stick charts. The highest price and the lowest price of a day are joined by vertical bar. The opening price and closing price of the day which would fall between the highest and lowest prices would be represented by a rectangle so that the price of a chart looks like a candle stick. Thus, each day's activity is represented by a candle stick.

There are mainly three types of candle sticks viz., the white, the black and the doji or neutral candle stick. A white candle stick is used to represent bullish trend. Here closing price of the day is higher than the opening price. A black candle stick shows the bearish trend and is used when closing price of the day is lower than the opening price. Doji is a neutral candle stick in which opening price and closing price of the day are the same. Japanese candle stick is illustrated in the Fig.3.4

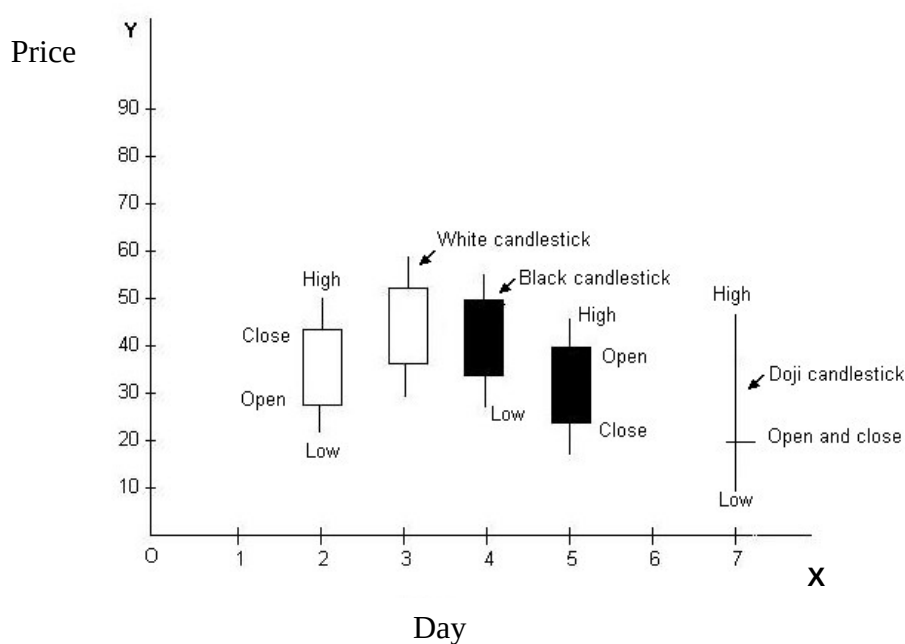


Figure 3.5: Japanese candle sticks.

TREND AND TREND REVERSALS

Trend is the direction of movement of share prices in the market. Trend could be a rising trend, a falling trend and a flat trend. Share prices seldom move in a straight line. The main trend is interrupted by short term counter movements known as secondary reactions. The result is a zig zag movement giving rise to alternative tops and bottoms. Only when market trend fluctuates, investors and speculators gain. The formation of higher bottoms and higher tops indicate a rising trend while formation of lower bottom indicates a falling trend.

The change in the direction of the trend is referred to as a trend reversal. A share that exhibits a rising trend may start to move narrowly or fall after sometime. This change in the direction of movement represents a trend reversal. The reversal from a rising trend to a falling trend is marked by the formation of lower tops and lower bottoms. The reversal from a falling trend to a rising trend is characterised by the formation of a higher bottom and higher top.

Here comes the importance of technical analysts. It tries to identify the reversal at an early stage so as to trade profitably in the market. When the trend reverses and begins to rise, the technical analyst would recommend a purchase of share and when the trend begins to fall, sale is indicated. During a flat trend investors are asked to stay away from market.

CHART PATTERNS

When the price bar charts of several days are drawn close together, certain patterns emerge. These patterns are used by the technical analysts to identify the trend reversal and predict the future movements of prices. It is classified into three categories. (i) Support and resistance patterns, (ii) Reversal patterns and (iii) Continuation patterns. Let us briefly discuss these concepts.

Support and resistance patterns: Support and resistance are price levels of which the downward and upward price movement is reversed. Support comes when the price is falling, but reverses its direction every time it reaches a particular level. When all these low points are connected by a horizontal line it forms the support line. To put it differently, support level is a price level at which sufficient buying pressure is exerted to hold the fall in prices. When share price moves upwards, resistance occurs. The price may bounce back every time it reaches a peak level. A horizontal line joining the tops forms the resistance level. So the resistance level is the price level where sufficient selling pressure is exerted to hold continuous rise in the price of a share.

Reversal patterns: Share price movements exhibit upward and downward. The trend reverses direction after a period of time. The reversal can be identified with the help of certain chart formations that occur during the trend reversals. Thus reversal patterns are chart formations that tend to signal a change in the direction of the early period.

Continuation patterns: There are certain patterns which tend to provide a breathing space to earlier sharp rise or fall after the completion of this pattern, the price tend to move along with the original trend. These patterns are formed during sideways movements of share prices and are called continuation patterns because they indicate continuation of the trend prevailing before the formation of the pattern. Flags, Triangles and Pennants are some of the continuation patterns.

(a) Triangles: Triangles are formed when price movements result in two or more consecutive descending tops or two or more consecutive ascending bottoms. The triangles become clear on the chart when the consecutive tops are joined by a straight line and consecutive bottoms are joined by another straight line. These two straight lines are upper trend line and lower trend line. In either of the bull phase or a bear phase the triangle formation can occur. In both cases it is an indication of a continuation of the trend. Generally the volume

diminishes during the movement within the triangle pattern. The breakout from the pattern is usually accompanied by increasing volume.

(b) Flags and Pennants: Flags and Pennants are reliable continuation patterns. These flags and pennants show a brief pose in a fast moving market. They generally occur midway between a sharp rise in price and a steep fall in price. The flag formation resembles like a parallelogram with the two trend lines forming two parallel lines. During the formation of the flag, the volume is expected to fall and will pick up on a breaking out from the pattern. The Figure 3.6 illustrates the flag formation.

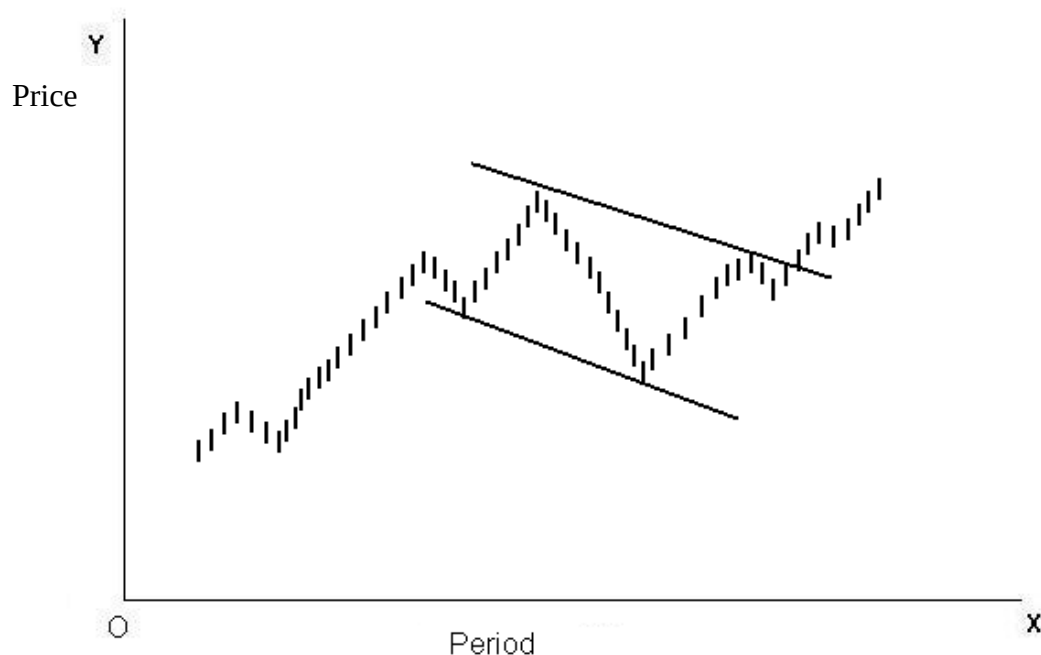


Figure 3.6 : **Flag formation**

(c) Pennants: The pennant formation looks like a symmetrical triangle. The upper trend line formed by connecting the stoops downwards, whereas the lower trend line formed by connecting the bottom rises upwards. Normally the pennant is formed midway between either a bullish trend or a bearish trend and signals the continuation of the same period. The breakout of this pattern is followed by increased volume of trading. The Figure 3.7 illustrates the pennant formation.

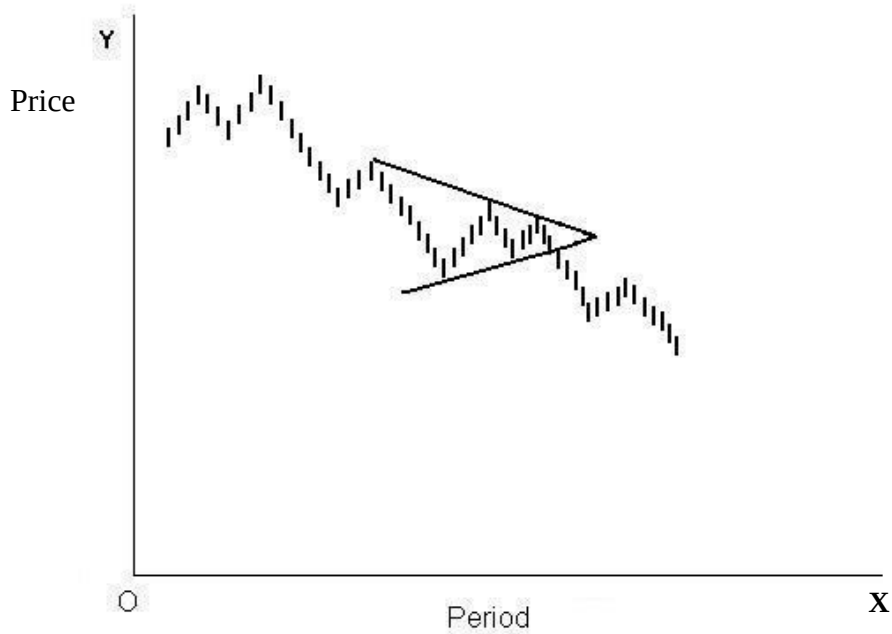


Figure 3.7 : **Pennant formation**

ELLIOT WAVE THEORY

Elliot wave theory explains the behaviour of the stock market. This theory was formulated by Ralph Elliot in 1934. After studying 75 years of stock price movements and charts, Elliot made his theory. He concluded that market movement was quite orderly and followed a pattern of waves. A wave is a movement of the market price from change in one direction to the next change in the same direction. The waves are the result of buying and selling impulses emerging from the demand and supply pressures on the market. Depending on the demand and supply pressures waves are generated in the process.

As per this theory, the market moves in waves. A movement in a particular direction can be represented by five distinct waves which are in the direction of movement known as impulse waves. Two waves against the direction of the movement are termed as corrective waves or reaction waves. Waves 1, 3 and 5 are the impulse waves and waves 2 and 4 are the corrective waves. The Figure 3.8 illustrates the Elliot wave theory.

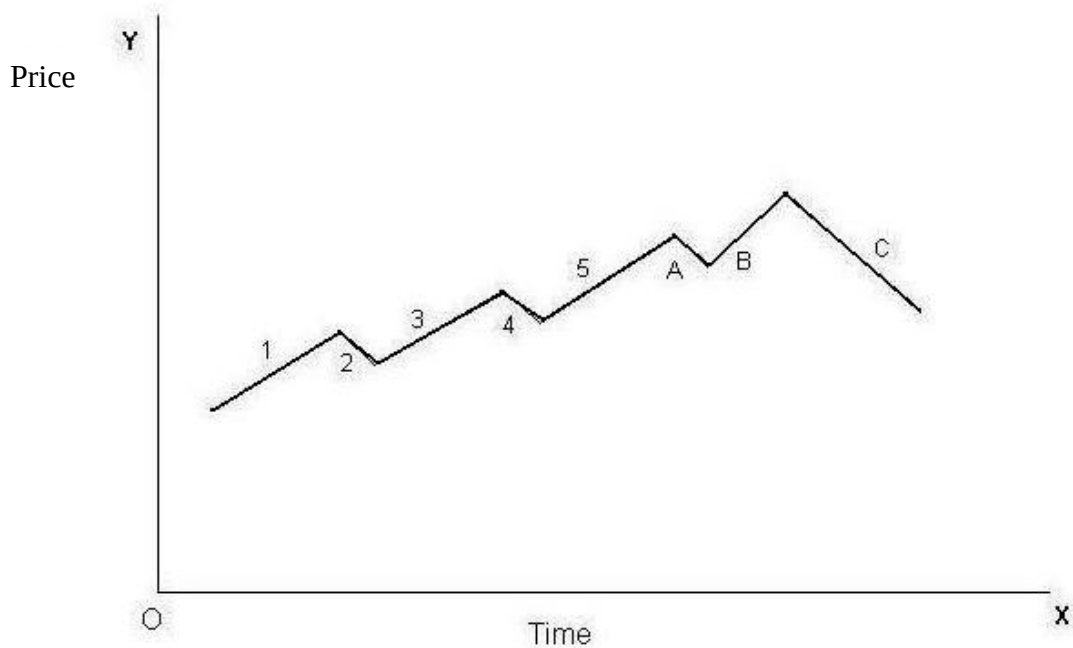


Figure 3.8 : **Representation of Elliot Wave Theory**

In Fig. 3.8, wave 1 is upwards and 2 corrects the wave. Similarly 3 and 5 are those with an upward impulse and wave 4 corrects the wave 3.

Corrections involve correcting earlier rise in prices. Here wave 2 would correct the rise of wave 1 and wave 4 would correct the rise of wave 3 and after the completion of wave 5, there would come a correction which would be labeled ABC. A and C are corrective waves and B is the impulse wave. This ABC correction following the fifth wave would correct the entire rise from the start of wave 1 to the end of the fifth wave. In other words, this correction would be greater in dimension than the earlier ones.

Once complete cycle consists of waves made up of 2 distinct phases; bullish and bearish. Once the full cycle of waves is completed after the termination of 8 wave movements, there will be a fresh cycle starting with similar impulses arising out of market trading.

Though the Elliot wave theory is not perfect, it is accepted as an important tool in technical analysis. It is based on the principle that the action is

followed by reaction. This theory is used for predicting the future price changes and deciding the timing of the investment.

MATHEMATICAL INDICATORS

Share price movements are erratic. It does not rise or fall in straight line. So this makes the analysts to gauge the underlying trend. Analysts can use mathematical tool of moving averages to smoothen out the apparent erratic movements of share prices and highlight the underlying trend.

Moving Averages

There are two types of moving averages commonly used by analysts. They are simple moving average and the exponential moving average. Closing prices of shares are generally used for the calculation of moving averages. A 50 day average would indicate the medium term trend and a 200 day average would represent the long term trend.

Oscillators

Oscillators are the mathematical indicators calculated to identify overbought and oversold conditions and also the possibility of trend reversal. These indicators are called oscillators because they move across a reference point.

Rate of Change Indicators (ROC)

This is a very popular oscillator which measures the rate of change of current price as compared to a price, a certain number of days or weeks back. To calculate a 7 day rate of change, each day's price is divided by the price which prevailed 7 days ago and one is subtracted from this ratio.

$$\text{ROC} = \frac{\text{Current price}}{\text{Price 'n' period ago}} - 1$$

ROC values may be positive, negative or zero. The ROC values oscillate across the zero line. When ROC values are positive, it is above zero line and when

ROC values are negative it is below zero line. When ROC line is above the zero line, the price is rising and when it is below zero line price is falling. Upside crossing (from below to above its zero line) indicates a buying opportunity while downside crossing (from above to below zero line) indicates selling opportunity.

Investors should buy a share that is oversold and sell a share that is overbought. In ROC chart, the overbought zone is above the zero line and oversold zone is below the zero line. Zero line is the crux in ROC and many analysts identify it as buying and selling opportunity.

Relative Strength Index (RSI)

RSI was first introduced by Walls Wilder in the commodities (known as futures) magazine in June 1978. Subsequently calculation and interpretations of the RSI were presented in his book 'New Concepts in Technical Trading Sessions'.

The RSI is a powerful indicator that signals buying and selling opportunities ahead of the market. The RSI is a price following oscillator which ranges between 0 and 100. It measures the internal strength of a share by monitoring changes in its closing price. The RSI usually tops above 70 and bottoms below 30. A popular method of analysing the RSI is to look for divergence in which security is making new high, but the RSI is failing to surpass its previous high. This divergence is an indication of impending reversal. When RSI turns down and falls below its most recent trough, is said to have completed a 'failure swing' and is considered as a confirmation of the impending reversal.

Divergence occurs when the price makes a new high (or low) but this is not confirmed by a new high (or low) in the RSI. Price usually corrects and moves in the direction of the RSI. The most important signal is generalised as 'bullish' or 'bearish' divergence between the RSI and the price of the share.

The RSI for a share is calculated by using the following formula

$$RSI = 100 - [100 / (1 + RS)]$$

where

$$RS = \frac{\text{Average gain per day}}{\text{Average loss per day}}$$

The most commonly used time period for the calculation is 14 days. For the calculation of 14 days RSI, the gain per day or the loss per day is arrived at by comparing the closing price of the day with that of the previous day for a period of 14 days. The gains are added up and divided by 14 to get the average gain per day. Similarly the losses are added up and divided by 14 to get the average loss per day. The average gain per day and the average loss per day are used for calculating the RSI for a day. The RSI values above 70 are supposed to show overbought position and value below 30 are considered to denote oversold position. When the RSI has crossed 30 from the below to above and is rising, a buying opportunity is indicated, and when it crosses 70 line from the above, a sell signal is indicated.

MARKET INDICATORS

Technical analysts take into consideration the general trend of market also. Two most important market indicators are breadth of the market and mutual fund cash ratio.

(a) Breadth of the market

By comparing the number of shares which advanced and the number of shares that declined during a period, trend of the market can be ascertained. The difference between the advances and declines is called the breadth of the market. The breadth is calculated by taking the daily net difference between the number of shares that have advanced and the number of shares that have declined. Each day's difference is added to the next day's difference to form a continuous cumulative index.

This breadth or cumulative index is plotted as a line graph and compared with market index. Normally breadth and market index move in unison. When they diverge, a key signal occurs. In the case of divergence, the breadth line shows the true direction of the market. For example, during a bull market if breadth declines to a new low, while the market index makes new high a peak is suggested followed by a down turn in stock prices. Breadth may also signal recovery. It happens when the breadth line begins to rise even as the market index is reading new lows.

(b) Mutual Fund Cash Ratio

Mutual funds are institutional investors in the market. Mutual fund's cash, as a percentage of their net assets on a daily basis or weekly or monthly basis, is taken into consideration. Mutual fund schemes keep cash to take advantage of favourable market opportunities. The essence of the theory is that, low cash ratio, say about five per cent, would indicate a reasonably fully invested position leaving only negligible buying power in their hands. Low cash ratios are equated with market high, indicating market is about to decline. At the bottom stage of the market the cash ratio would be high. This is an indication of potential purchasing power which can propel a rise in prices. So a high mutual fund cash ratio signals a rise in price of shares.

EFFICIENT MARKET THEORY

Fundamental analysis and technical analysis help the investor in evaluating securities individually and select them for suitable investment decisions. Fundamental analysts seek to evaluate the intrinsic value of securities by studying the fundamental factors affecting the performance of the economy, industry and companies. Technical analysts believe that the past behaviour to stock prices gives an indication of the future behaviour. Hence the market price of securities can said to be determined by several other factors besides the demand and supply forces. The perpetual inference of information available in

the market, if quantified accurately, should help in predicting the expected price of securities in the market. This has been advocated through the informational market efficiency theory. Stock market depends on information both external and internal in determining the values of securities that are traded on a day to day basis. The market can be said to be informationally efficient, if it does not let any one player in the capital market to earn abnormal profit from each information.

RANDOM WALK THEORY (EFFICIENT MARKET THEORY)

Harry Roberts and Eugene Fama have been credited with the development of the efficient market theory. An (informationally) efficient market is one where market price is an unbiased estimate of true value of the investment. In an efficient market, the current price of a security fully reflects all available information and price will get adjusted to that. As new information becomes available, the market assimilates the information by adjusting the security's price up (buying) and down (selling). In an efficient market, such deviations above and below the fair value are possible, but these deviations are considered to show randomness in the long run, price should accurately reflect fair value with all available information.

Further the efficient market theory asserts that if the markets are efficient, then it should be virtually impossible for an investor to out-perform the market on a sustained basis. Even if the deviations will occur, there will be periods where securities are over priced and under priced, these anomalies are expected to disappear as quickly as they appeared and this will make it impossible to earn profit from them consistently.

The random walk theory presupposes that the stock markets are so efficient and competitive that there are immediate price adjustments. This is possible through the result of good communication system through which information can be spread almost anywhere in the country instantaneously. The

random walk theory is based on the hypothesis that stock markets are efficient. Later on, this theory is known as Efficient Market Hypothesis (EMH) or the Efficient Market Model (EMM).

Efficient Market Hypothesis

EMH believes in the principle that the capital market is efficient in processing information. An efficient capital market is one in which security prices are equal to their intrinsic values at all times, and where most securities are correctly priced. The concept of an efficient capital market has been one of the dominant themes in academic literature since 1960s. According to Elton and Gruber (1994)¹ “when someone refers to efficient capital markets, they mean that security prices fully reflect all available information”. According Eugene Fama, in an efficient market, prices fully reflect all available information. The price of securities observed at any time is based on correct evaluation of all information available at that time.

The efficient market model is concerned with which information is incorporated in security prices. The technical analysts believe that past price sequence contains information about the future price movements because they believe that information is slowly incorporated in security prices. This gives them an opportunity to earn excess returns by analysing the pattern in the price movements and trading accordingly. Fundamentalists believe that it may take several days or weeks before investors can fully access the impact of new information. As a result of that price may be volatile for a number of days before it adjusts to new level. Hence an opportunity is received by analysts who have superior analytical skills to earn excess returns. The efficient market theory holds the view that in an efficient market, new information is processed and evaluated as it arrives and prices instantaneously adjust to new and correct levels. Consequently an investor cannot consistently earn excess returns by employing fundamental analysis and / or technical analysis.

FORM OF MARKET EFFICIENCY

The Efficient Market Hypothesis (EMH) has been divided into three forms viz., weak form, semi - strong form and strong form. The weak form deals with the information regarding the past sequence of security price movements. The semi-strong form deals with publicly available information, while strong form deals with all information both public and private (inside).

The different forms of EMH have been tested through several empirical studies. The test of weak form of hypothesis essentially is that whether all information contained in historical prices of securities is fully reflected in current prices. Semi - strong form test of efficient market hypothesis tests whether publicly available information is fully reflected in current stock prices. Lastly, strong form test of efficient market hypothesis tests whether all information, both public and private (or inside), is fully reflected in security prices and whether any type of investor is able to earn excess returns. Let us examine these tests in detail.

Market Efficiency - Strong form

The strong form of Market Efficiency theories holds the view that the current price reflects all the information available. It does not matter if this information is available to the public or to top management. Since all possible information is already reflected in the price, investors and traders will not be able to find or exploit inefficiencies based on fundamental information. Market Efficiency in the strong form also presumes that management insider information is not the privilege of a few to gain from the market.

Strong form of Market Efficiency tests the trading of specialists such as FIIs, mutual fund managers and investment consultants. The superior performance of funds is a random trading strategy proves that the market is inefficient in the strong form. This proves the hypothesis that the specialists have superior information that is used to gain superior returns from the trading in the market.

Yet another form of testing the strong form of market efficiency is testing the insider trading prevalent in the markets. Though insider trading is illegal, superior profits from such deals suggest that the market is capable of distributing information to a few insiders first and they are able to gain from the market, mispricing leading to informationally inefficient market in the strong form.

According to this theory, no available information, public or inside, can be used to earn constantly superior returns. The general efficient market model recognises market imperfections caused by transaction costs, information costs, delays in getting information to all market place etc. However these imperfections will not be adequate enough to yield superior returns to analysts who develop trading strategies to exploit this information.

The strong form hypothesis represents the extreme case of market efficiency. The strong form of efficient market hypothesis asserts that the current security prices reflect all information both publicly available information and private or inside information. The crux of the theory is that no information, whether public or inside can be used to earn superior returns consistently.

The top management and directors of companies have access to much information that is not available to the general public. This is known as insider information. Mutual funds and other professionalists who have large research facilities may gather enough private information regarding different stocks on thereon. This private information is not available to investing public at large.

The strong form of efficiency test involves two types of tests. The first type attempts to find whether those who have access to the said information have been able to utilise this information to earn super normal profits. Second type of tests examine the performance of mutual funds and the recommendations of investment analysts to check if these have succeeded in achieving superior returns with the use of private information generated by them.

Many researches have been carried out in this field (EMH) and the outcomes of the studies are; **(i)** inside information can be used to earn above average returns **(ii)** mutual funds and investment analysts have not been able to earn superior returns by using their private information.

To conclude, it may be stated that the strong form hypothesis is invalid as regards inside information but valid as regards private information other than inside information.

Market Efficiency: Semi-strong form

The semi strong form of EMH which theorises the current prices of stocks, not only reflect all informational content to historical prices but also reflect all publicly available information about the company being studied. The theory also says that attempts to acquire and analyse public information like corporate reports, company announcements, press releases, announcement of forthcoming dividends, stock splits etc. will not yield any superior returns to investors and analysts. The basic logic is that as soon as the information becomes publicly available it is absorbed and reflected in stock prices. In a semi-strong efficient market, prices reflect public information and it is virtually impossible to profit from the information.

Many academicians have argued that the price movements are largely random and are only influenced by the introduction of new information. Many academicians do acknowledge that some drifts exist in security prices, but there is no definite trend.

Many researchers have used event study methodology to establish or refute the semi-strong form of market efficiency. Information such as dividend announcement, earning announcement etc. were used by researchers to examine the market efficiency in the strong form. Event study is used to find out if there are abnormal returns surrounding the announcement period or event. Based on this information investors could prove that the fundamental analysis of securities

are good predictor of security prices, if they are able to gain abnormal returns. An informationally efficient market in the semi-strong form does not provide any scope to investors to make any abnormal profits during such events.

Market Efficiency - Weak Form

The weak form of market efficiency theorises that, the current prices of stocks fully reflect all information that is contained in the historical sequence of prices. Further more, the future price cannot be determined using past or current prices. The new price movements are completely random. They are produced by new pieces of information and are not related or dependent on past price movements. The weak form of market efficiency asserts that, there is no benefit in studying the historical sequence of prices to gain abnormal returns from trading securities.

Technical analysts presume the existence of weak form of market inefficiency and believe that the true value of a security can be ascertained through financial models, using readily available information. The current price will not always reflect fair value and these models will help to identify anomalies. This implies that the technical analysis which depends on charts of price movements in the past is not a meaningful analysis for making abnormal trading profits. Therefore, there is no benefit in analysing the historical sequences of prices. Thus the weak form of efficient market hypothesis is a direct repudiation of technical analysis. But weak form of inefficient market will give investors an opportunity to make profits by studying historical and current price behaviour.

Several tools are available to test the weak form of market efficiency. They are simulation tests, serial correlation tests, run tests, filter tests and spectral analysis.

1. Simulation test

Simulation test can generate random series of numbers as returns and compares them with the actual price changes in the market. The similarity between the two, established the relevance of technical analysis as a stock price predictor since random numbers can be generated to know the future movement of prices.

2. Serial correlation test

Since the weak form of EMH postulates independence between successive price changes, such independence or randomness in stock price movements can be tested by calculating the correlation between price changes in one period and changes for the same stock in another period. This means that two price series data are formed with a lag of t-period and they are tested for dependence using the correlation coefficient. Highly correlated coefficients indicate dependence on past data and suggest that data can be used to predict the future price behaviour of securities.

3. Run test

The run test is used to test the direction or randomness in stock price movement of security prices and not the quantum of movement in security prices. In this test, the absolute values of price changes are ignored and only the direction of the change is considered. In a run test, the actual number of runs observed in a series of stock price movements is compared with the number of run tests in a randomly generated number series. If no significant differences are found, then security price changes are considered to be random in nature.

4. Filter test

If stock prices are random in nature, it would be extremely difficult to develop successful mechanical trading systems. Filter tests have been developed as direct test of specific mechanical trading strategies to examine their validity and usefulness.

If news is received favourably, the price of the stock will increase to a new equilibrium. On the contrary, if the news is unfavourable the price of the stock will decline to lower equilibrium level. If the investor sells the stock as it breaks the lower barrier they will avoid much of decline. Or in other words, they will go for stop loss. Technical analysts set up trading strategies based on such pattern to earn excess return. This strategy is called a filter rule. The filter rule works in the following way: purchase a stock when it rises by x per cent from the previous low and sell it when it declines by x per cent from the subsequent high. The range of filter may be 1 to 50 per cent or more. The alternative to this trading strategy is, passive buy and hold strategy.

The profit generated by trading according to filter rule is compared with the profits earned by an investor following the buy and hold strategy. If the trading with filter shows normal returns, that would suggest the existence of pattern in price movements and the market players can make abnormal profits from such trading strategies.

5. Spectral Analysis

Spectral Analysis decomposes the time series data into component parts that are associated with frequency rather than time. The spectrum of the first differences in prices can be tested for their flatness, to assert that the security prices need not move in tandem with past patterns.

Efficient market hypothesis – Information sets and classification of market efficiency

The efficiency of the market depends on the information available in the market. Roberts (1967) initially distinguished three levels of market efficiency by considering three sets of information reflected in the prices. Later, Fama (1970)² reconstructed the framework by creating the famous Efficient Market Hypothesis (EHM). Firstly: weak form efficiency, which implies that the information contained in the past prices of stocks is fully reflected in the current

prices of stocks. Secondly: semi-strong form efficiency, which implies that all publicly available information is fully reflected in the current prices of stocks. Thirdly: strong form efficiency, which implies that all information including historical, public and private are fully reflected in the current market prices of stocks.

The information of each successive set is nested cumulatively. Thus, the first set of information includes all the historical information of prices. The second set of information includes all the historical information and all the current public available information. The third set of information includes all the historical information, all the current public information and all privately held information. Thus, if the market is semi-strong form efficient, it must also be weak form efficient. Furthermore, if the market is strong form efficient, it must be weak form efficient and semi-strong form efficient. The graphical association of the three sets of information and three classifications of market efficiency are illustrated in Figure 3.9.

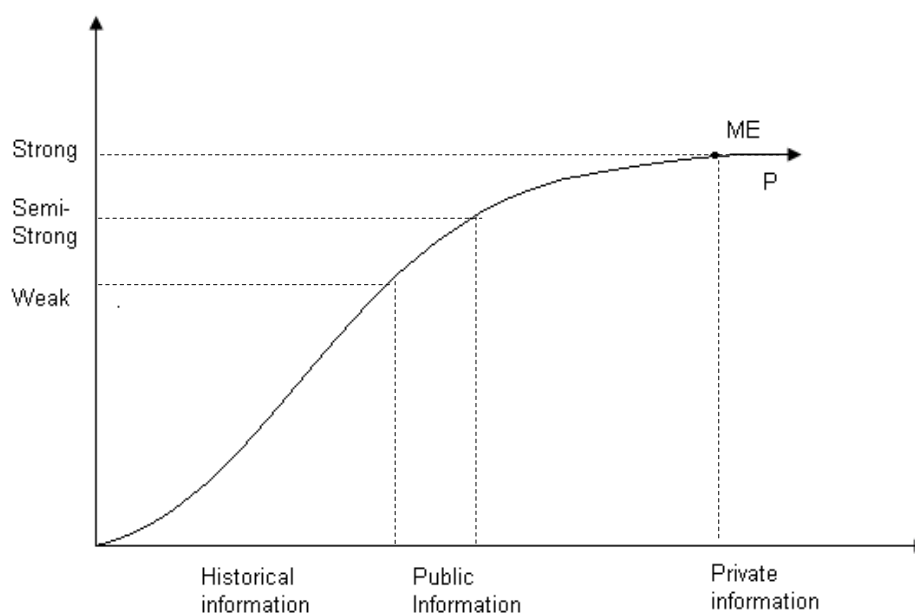


Figure 3.9: **The Classifications of market efficiency in EMH**

From the trace of market efficient curve ME, it can be seen that a market is a weak form efficient, only when all historical information is available in the market. When all historical and current public information is available in the market, the efficiency of the market crosses into the second level, semi-strong form efficiency. The third level, i.e., the strong form efficient market occurs when all the information such as historical, current public and private information, are available in the market. Conversely, if a market is not weak form efficient, it should be neither semi-strong form nor strong form efficient, due to the relevant set of information not being fully available in the market. Moreover, if a market is not a semi-strong form efficient, it should not be strong form efficient, as only the historical information is fully available in the market.

PORTFOLIO THEORIES

A portfolio is a package of securities. The risk diversification is the idea behind building a portfolio of securities. It is better to put eggs in different baskets, is the idea of diversified investment. This is to spread the risk and enhance the revenue. Different sectors are identified and instead of investing in one stock it is advisable to invest in different sectors like Information Technology, manufacturing, FMCG, construction, banks, etc. So diversification is the method adopted for reducing risk. The proper goal of portfolio construction would be to generate a portfolio that generates the highest return and lowest risk. Such a portfolio is known as optimal portfolio and the process of finding the optimal portfolio is described as portfolio selection. There are different theories developed by financial economists known as portfolio theories.

The Markovitz Model

The conceptual framework and analytical tool for determining the optimal portfolio in a disciplined, and objective manner have been provided by Harry Markovitz in his pioneering work on portfolio analysis described in his article in 'Journal of Finance' in 1952 and his famous book "Portfolio Selection : Efficient Diversification of Investments" (1959) . His method of portfolio selection has come to be known as Markovitz Model.

Markovitz came up with the idea of optimal portfolios based on risk return relationship. Rational investor will always prefer to invest in the efficient portfolios. The particular portfolio that an individual investor will select from the efficient frontier will depend on that investor's degree of aversion to risk. A highly risk averse investor will hold a portfolio on the left hand side of the frontier, while an investor who is not too risk averse will hold one on the upper portion of the efficient frontier.

An investor can have any number of portfolios with various risk return mixes. Each portfolio can be described in terms of its expected rate of return and standard deviation of the expected rate of return. When plotted in a two dimensional graph, the collection of all portfolios represent the feasible region. The optimal portfolio for an investor would be one at the top of the tangency between efficient frontier and his risk - return utility or indifference curve. The Markovitz model is illustrated in Fig. 3.10

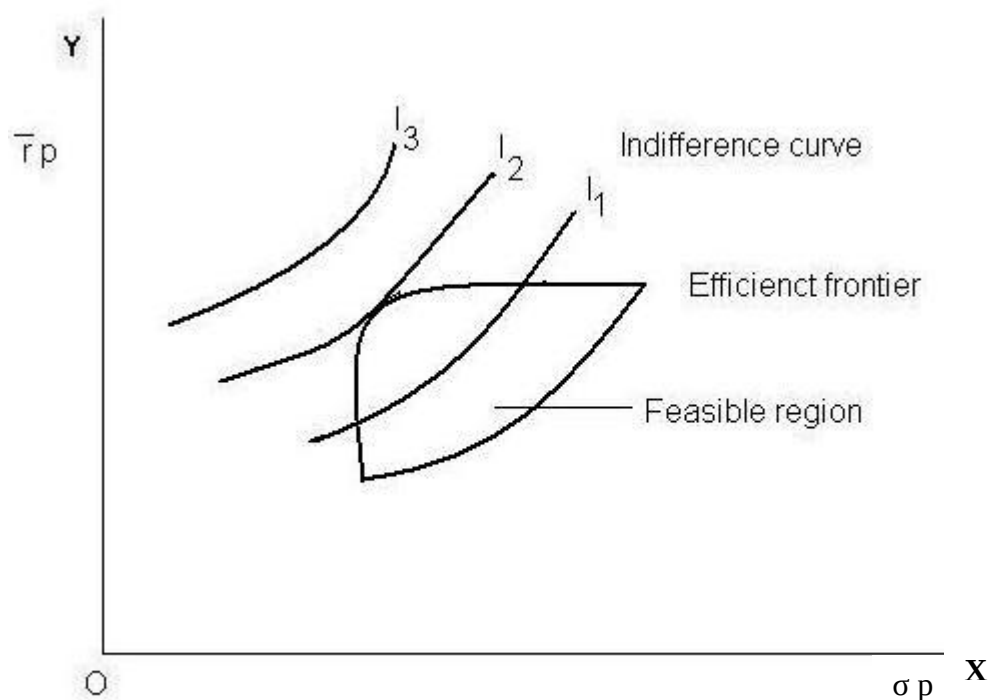


Figure 3.10 : Optimal Portfolio

Markovitz portfolio is based on some assumptions. They are (i) investors are risk averse, (ii) investors are utility maximisers than return maximisers, and (iii) all investors have the same period as the investment horizon.

The major limitations of the theory are:

(i) large number of input data required for calculation and (ii) the computation required are numerous and complex in nature.

The Sharp Index

Sharp W.E. developed simple variant of Markovitz model. Sharp tried to simplify the process of data inputs and data tabulation which is required for the Markovitz model of portfolio analysis. The Sharp model assumes that the fluctuation in the value of stock relative to that of another do not depend on the characteristics of those two securities alone. The two securities might reflect general business conditions. Relationship between securities occurs through the individual relationship with some index of business activity. The reduction in the number of covariant estimates needed.

Sharp suggested that the satisfactory simplification would be, to abandon the covariance of each security with each other security. This should be substituted with information on the relationship of each security to the market. Thus, it would be possible to consider the return for each security is represented by the following equation.

$$R_i = a_i + B_i I + e_i$$

where,

R_i = expected return on security i

a_i = intercept of a straight line or alpha coefficient

B_i = slope of a straight line or Beta coefficient

I = expected return on index

e_i = error term with mean of zero and standard deviation which is constant

CAPM : The Capital Asset Pricing Model

The CAPM has two parts **(1)** Capital market line and **(2)** Securities market line. Capital market line describes the risk return relationship for efficient portfolios. The Securities Market Line (SML) describes about the risk return relationship for all portfolios as well as individual securities. CML is the basis of capital market theory and SML is the basis of capital asset pricing model. The CAPM postulates that every security is expected to earn a return commensurate with its risk as measured by Beta. CAPM establishes a higher relationship between the expected return and the systematic risk for all assets. This relation can be used to evaluate the pricing of assets.

The CAPM has its base in the portfolio theory of Markowitz. H.M (1952)³. Sharpe W.F. (1964)⁴, Lintner. J (1965)⁵ and Mossin. J (1966)⁶ have given the CAPM its present structure. The assumptions of the model are; **(i)** investors are risk averse, **(ii)** investors are utility maximisers rather than return maximisers, **(iii)** all investors have the same time period as the investment horizon, **(iv)** investors can borrow and lend without any limit at a risk free rate of return, **(v)** investors have homogeneous expectations regarding the means, variances and covariances of security returns, **(vi)** no taxes and no transaction costs exist in the market.

When we introduce the assumption that individuals can lend and borrow at risk less rate, the efficient frontier is transferred into a straight line. The return on profit will be given by the equation,

$$R_f = WR_m + (1 - w) R_t$$

where,

R_f = Expected return on the combined portfolio

W = Proportion of funds invested in risky portfolios

$(1 - w)$ = Proportion of funds invested in risk less asset

R_m = Expected return on risky portfolio

R_t = Rate of return on risk less asset

Arbitrage Pricing Theory

The Arbitrage pricing theory of Ross (1976)⁷ recognises the fact that security returns are affected by several systematic returns. According to Ross, the returns on individual stock will depend on a variety of anticipated and unanticipated events. Investors factor the anticipated events into their expectations of returns. Therefore anticipated events will be incorporated in the market prices. Most of the realised returns come from unanticipated events. Even though change itself is anticipated, we do not know the direction or magnitude of changes. We only know the sensitivity of returns to changes. Major sources of risk in portfolio returns are systematic factors. Since different portfolios have different sensitivity to systematic risk, their market performance also varies. Since the systematic factors are primary sources of risks, they primarily determine the expected as well as the real return on portfolios. The actual return 'R' of a security or portfolio has three constituents and is expressed as

$$\mathbf{R = E + bf + e}$$

where,

E = Expected return on security

b = Security's sensitivity to changes in the systematic factor

f = the actual return on the systematic factor

e = return on the unsystematic, idiosyncratic factor

The crux of the equation is that the actual return equals the expected return plus factor sensitivity times factor movement, plus residual risk. This model is based on the following assumptions. **(i)** investors prefer more returns to fewer returns, **(ii)** investors are risk averse, **(iii)** investors have homogeneous

risk expectations, and **(iv)** capital markets do not have any transaction cost and there are no taxes.

Conclusion:

The study reveals the potential aspects of investment in financial securities. The trend towards liberalisation and globalisation of the economy has promoted free flow of capital across international borders. Portfolios now include domestic as well as international securities. Diversification of securities is the best way to reduce risk and optimize returns. Investment is no longer a simple process. It requires scientific knowledge, systematic approach and also professional expertise. Portfolio management which combines all these elements is the method of achieving efficiency in investment. The golden rules for investors are given in Appendix 4.

References:

1. Edwina J. Elton and Martin J. Gruber (1994): *Modern Portfolio Theory and Investment Analysis*, 4th Edition, John Wiley & Sons Inc. Singapore, p. 399.
2. Fama E.F (1970): “Efficient Capital Market: A Review of Theory and Empirical Work”, *Journal of Finance*, Vol.25, No.2, pp.383-417.
3. Markovitz H.M (1952): “Portfolio Selection”, *Journal of Finance*, March, Vol. 7, pp. 77-91.
4. Sharp W.F (1964): “Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk” *Journal of Finance*, September, pp. 425 – 442.
5. Linter J (1965): “The Valuation Of Risk Assets And Selection Of Risky Investments In Stock Portfolios And Capital Budgets”, *Review of Economics and Statistics*, February Vol. 47, pp. 13-37.
6. Mossin J (1966): “Equilibrium in a Capital Asset Market”, *Econometrica*, October, Vol. 34, pp. 768 – 783.
7. Ross S.A (1976): “The Arbitrage Theory of Capital Asset Pricing”, *Journal of Economic Theory*, December, Vol. 13, pp. 341-360.

CHAPTER 4

INDIAN FINANCIAL SECTOR REFORMS AND RESOURCE ALLOCATION

Introduction

Financial sector reforms consequently lead to changes in the rate of savings, capital formation and ultimately investment. Saving investment equality is associated to other macro variables. In other words, without a review of national income accounting framework, the impact of reforms on financial variables cannot be examined. Hence the following paragraphs, a consolidation of national income accounting framework, is presented followed by analysis.

MACRO-ECONOMIC ANALYTICAL FRAMEWORK

In order to understand the role of financial system in the economy the main tools used are explained here.

a) NATIONAL INCOME ACCOUNTS

National income accounts extend the accounting concept to the economy as a whole. The national income accounts of the sector-of-origin reveal the contribution made by different sectors of the economy and the portion of national income they consume. National income accounts are the best known system of macro-economic flow-statistics. This system is used to measure the production in the economy and earnings derived from it. The data furnished can be put to a variety of uses. The annual series on the economy's national income by industry-of-origin provide useful information about the structure of the economy.

In India, the task of national income estimation is entrusted to the Central Statistical Organisation (CSO). There was a marked difference in the sectoral composition of growth within the industrial sector. The major impetus to growth

came from manufacturing while services sector experienced higher growth in sectors such as trade, hotels, restaurants and financing, insurance, real estate and business services. This indicates an increase in the finance related activities and financial intermediation.

b) FLOW OF FUNDS ACCOUNTS

The savings and the investment process create a flow of funds among sectors. Moreover many transactions in the economy that are not included in the national income accounts are also included in this. Flow of funds brings about patterns of financing, economic activities and the financial relations among various sectors of the economy. The national income accounts are combined with flow of funds account into a framework for describing the transfer of funds and supply and demand in the securities market. The flow of funds accounts reflects the diversified savings and investment flows from the broad sectors of an economy through various credit and capital market instruments. This fund flow accounts brings about the pattern of financing economic activities and the financial inter-relation among various sectors of the economy.

The flow of funds accounts is having prime importance for any comprehensive analysis of financial market behaviour. They help identifying the role of finance in the generation of income, savings and expenditure. They also identify the influence of economic activities of financial markets. A temporal and cross-section comparison of these accounts provides an insight into the changing pattern and degree of development in the process of intermediation. The channel through which savings find a way into the investment sectors is highlighted in these accounts. The volume of financial flows with respect to the index of economic activities say GNP, NNP or capital formation, provide a reliable indicator of growing use of financial instruments. The flow of funds accounts are also used as an important tool for financial planning and forecasting.

Flow of Funds-Based Indicators of Financial Development

The role of the Indian financial system in capital accumulation and capital formation can be gauged by certain finance-deepening ratio. The financial development of a country is studied by examining the changes in the following ratios developed by Goldsmith (1969)¹.

1. Finance Ratio (FR): It depicts the process of financial deepening in the economy. It is an indicator of the role of financial development in relation to economic growth. It is the ratio of total issues of primary and secondary claims in relation to national income.

$$\text{Finance Ratio (FR)} = \frac{\text{Total financial claims}}{\text{National income}}$$

2. Financial Inter-relations Ratio (FIR): It reflects the portion of financial issues with respect to net capital formation in the economy. It reflects the relationship between the financial structure and the real asset structure of an economy. In other words the relationship between financial development and capital formation is explained by this ratio.

$$\text{Financial Inter-relations Ratio (FIR)} = \frac{\text{Financial assets}}{\text{Physical assets}}$$

3. New Issue Ratio (NIR): It is the ratio of primary issues to net domestic capital formation. It measures the portion of primary claims issued by non-financial institutions to net capital formation. It indicates how far the investment has been financed by direct issues to the savers by investing sectors.

$$\text{New Issue Ratio (NIR)} = \frac{\text{Primary issues}}{\text{Net physical investment}}$$

4. Intermediation Ratio (IR): It is the ratio of secondary issues to primary issues and indicates the importance of financial intermediaries in channelising financial resources. It depicts the institutionalisation of financing in the economy.

$$\text{Intermediation Ratio (IR)} = \frac{\text{Total secondary issues}}{\text{Total primary issues}}$$

The extent and process of the evolution of financial development in the Indian context can be gauged from the flow of accounts of the Indian economy (Table 4.1) which is available up to 1995-96.

Table 4.1
Flow of funds based indicators of financial development in India

Year	Finance Ratio	Financial Inter-relations Ratio	New Issue Ratio	Intermediation Ratio
1970-70 to 1974-75	0.17	1.38	0.79	0.77
1975-76 to 1979-80	0.27	1.82	1.04	0.74
1980-81 to 1984-85	0.34	2.42	1.43	0.69
1985-86 to 1989-90	0.40	2.40	1.40	0.72
1990-91	0.40	1.75	1.01	0.74
1991-92	0.50	2.92	1.62	0.81
1992-93	0.38	2.18	1.19	0.84
1993-94	0.47	2.83	1.49	0.90
1994-95	0.52	2.43	1.16	0.91
1995-96	0.49	2.26	1.33	0.70

Source: Flow of funds accounts of the Indian economy, RBI 2000 August.

All the four ratios significantly increased from 1970-71 to 1995-96. The finance ratio showed a steady increase from 0.17 to 0.49. This indicates a

deepening of the financial markets leading to a marked rise in the institutionalisation of financing investment.

The Financial Inter-relations Ratio reflects the relation between financial asset and real asset structure has average around 2.4 since 1991 though it has exhibited year to year fluctuation. This indicates that the financial structure in India grew more rapidly than national income. The New Issue Ratio, the ratio of primary issues to net domestic capital formation, which was at a high of 1.62 in 1991-92 declined to 1.16 in 1994-95, before increasing to 1.33 in 1995-96. A downward movement in the ratio (from 1992-93 to 1995-96) would reflect the continued role of financial intermediation in capital formation, because this ratio is indicative of the extent of dependence of non-financial sector on its own funds in financing the capital formation. The Intermediation Ratio touched a high of 0.91 in 1994-95 but declined to 0.70 in 1995-96. This ratio also reflects the importance of banks and other financial institutions in financing activities.

All the four ratios exhibited the growing importance of financial intermediation in the economy and growth and financial flows in relation to economic activity, both in the form of direct and indirect finance. This growth indicates that there is a great deepening and widening of Indian financial system.

Other Indicators of Financial Development

1. The ratio of money to national income: the higher the ratio, the greater the financial development because it indicates the extent of monetisation and the size of exchange in the country.
2. The portion of current account deficit which is financed by market related flows: the higher the ratio, the greater the financial development. The reliance on official economic assistance for financing current account deficit denotes financial underdevelopment.

3. Developed financial sector is fully integrated domestically as well as internationally.
4. In a developed financial system, private banking and not public sector banking is predominant, there is no government intervention in credit allocation and concentration of banking is absent.
5. The lower the transaction cost and information cost, higher the financial development.
6. In a well developed financial sector, there is a strong and effective system of supervision, inspection, auditing and regulation and regular collection of prudential information, and financial organisations follow international standards with regard to capital adequacy, non performing loans, etc.
7. A developed financial structure is characterised by the presence of strong, active, large sized non-bank financial sector comprising of stock market, debt market, insurance companies, pension funds and mutual funds, etc.
8. The greater the financial development, the greater the openness of the economy, reflected in a high level of current and capital account openness / convertibility, minimum restrictions on foreign ownership of assets and repatriation of earnings and the absence of parallel foreign exchange market.
9. In a developed financial market, there is effective and quick enforcement of financial contracts, recovery of loans and property rights.
10. A full fledged, fully integrated and well developed secondary market in all financial securities is mandatory for a developed financial system.
11. In a developed financial system, indirect rather than direct techniques of monetary policy are used in a frequent manner and at the same time the interest rates are market determined.

Patterns of Relationship between Financial and Economic Development

There are three arguments that are possible for the relationship between economic development and financial development.

1) Economic progress induces an expansion of the financial system; per capita income rises, investors demand for diversified financial assets increase. At the low levels of income, there is lack of demand for varied financial services. As the real economy grows, there is more and more demand for such services, which is met by financial system rather passively. This is known as 'demand following' financial development or a 'passive' financial development in the literature.

2) The financial development precedes economic development, and is brought out by a conscious and deliberate policy by the authorities. Newer and more financial institutions are established and promoted, new financial instruments and services are introduced by the authorities. This helps to accelerate the rate of real growth. This is known as 'supply leading' financial development.

3) The direction of causality between economic development and financial development does not remain the same in all stages of development. In the beginning of development process, the financial development may be undertaken by the authorities which may induce innovations, capital formation and growth, but as growth proceeds, this 'supply-leading' financial development may be reinforced by 'demand following' development. It is difficult to establish precisely the sequence of economic development and financial development. It is difficult to disentangle their cause and effect relationship; while the financial system accelerates growth, it itself grows with economic advancement. Therefore, it is more realistic and accurate to say that the relationship between economic development and financial development is symbiotic, mutually reinforcing and intertwined.

According to Schumpeter (1934)² "the money market is alwaysthe head quarters of the capitalist system, from which orders go out to its individual

divisions, and that which is debated and decided there is always in essence the settlement of plans for further development. All kinds of credit requirements come into this market; all kinds of economic projects are first brought into relation with each other and contend for their realization in it; all kinds of purchasing power flow to it to be solved. This gives rise to a number of arbitrage operations and intermediate manoeuvres which may easily veil the fundamental thing. ...Thus, the main function of the money or capital market is trading in credit for the purpose of financial development. Development creates and nourishes this market. In the course of development, it becomes the market for sources of income themselves."

c) TRENDS IN SAVING AND INVESTMENT

Financial development on growth is thoroughly based on saving and investment rate. One of the main roles of financial system is to augment and channelising of savings into productive avenues for economic growth. The two most important concepts in Economics and Finance are saving and investment. Economic objectives like price stability, maintaining high level of income and employment and high rates of economic growth have close relationship with the concepts of saving and investment.

Saving is income minus expenditure. In other words, savings is the income that exceeds consumption. Investment involves the sacrifice of current consumption and the production of investment goods which are used to produce commodities. Accumulation of inventories is also included in this. Investment refers to the investment in real assets and includes investment in expenditure for plant and equipment, residential and other construction and addition to inventories. To put it differently, investment is capital formation, which is one of the most important factors that determine the rate of growth of a country. Capital formation is the net investment in fixed assets. In the national income accounts, investment is the sum of Gross Fixed Capital Formation and the physical change in stocks and work in progress. Gross Fixed Capital Formation includes depreciation and net capital formation excludes depreciation.

The concept of saving and investment help to analyse some important aspects of macro-economics such as fluctuations in economic activity between prosperity and recession, the process of economic growth and the method of financing Gross Domestic Capital Formation.

In order to estimate the domestic savings, three sectors have been formed viz., (i) household sector, (ii) private corporate sector, and (iii) public sector. The savings of the household sector constitute a major component of the aggregate savings which is measured as (i) the total of financial savings and (ii) savings in the form of physical assets. Financial savings involves possession of currency, net deposits, investment in the form of share and debentures, net claims on government in the form of Central and State Government securities and small savings, net increase in the claims of life insurance and provident funds. Physical assets include construction, machinery and equipments and stocks held by individuals, firms and other institutions constituting the household sector. Table 4.2 reveals the trends in Gross Domestic Savings.

Table 4.2
Trends in Gross Domestic Saving
(As per cent of GDP at current market prices)

Items	1970-71 to 1974-75	1975-76 to 1979-80	1980-81 to 1984-85	1985-86 to 1992-93	1993-94 to 1998-99	1999-00 to 2002-03*
1. Household Sector	12.0	15.2	14.1	17.1	18.6	21.9
a. Financial Saving	4.0	5.7	6.7	8.4	10.6	10.45
b. Saving in Physical Assets	8.0	9.5	7.4	8.8	8.0	11.45
2. Private Corporate Sector	1.7	1.5	1.6	2.4	4.1	4.1
3. Public Sector	3.0	4.5	3.7	2.0	1.2	2.7
4. Gross Domestic Saving	16.6	21.2	19.4	21.5	23.9	24.6

Source: RBI, Report on Currency and Finance, various years.

*New series

Note: Data for the period 1970-71 to 1992-93 are based on 1980-81 series and data for the period 1993-94 to 1998-99 are based on 1993-94 series.

Household sector savings have increased from 12 per cent in 1970s to 18.6 per cent in 1990s. The physical savings which had an uptrend was outstripped by financial savings after the globalisation period. Though the Gross Domestic Savings increased, the share of public sector has come down drastically. Table 4.3 reveals the savings and investments as a percentage of GDP at current market prices.

Table 4.3
Saving and Investment
(As per cent of GDP at current market price) [1993-94 series]

Items	1994-95	1995-96	1996-97	1997-98	1998-99	1999-2000	2000-01
Gross Domestic Saving	24.8	25.1	23.2	23.1	21.7	23.2	23.4
Public	1.7	2.0	1.7	1.3	-1.0	-0.9	-1.7
Private	23.2	23.1	21.5	21.8	22.7	24.1	25.1
- Household	19.7	18.2	17.0	17.6	18.9	20.3	20.9
- Financial	11.9	8.9	10.4	9.6	10.5	10.8	11.0
- Physical	7.8	9.3	6.7	8.0	8.4	9.6	9.9
- Private Corporate	3.5	4.9	4.5	4.2	3.7	3.7	4.2
Gross Domestic Investment*	26.0	26.9	24.5	24.6	22.7	24.3	24.0
- Public	8.7	7.7	7.0	6.6	6.6	7.1	7.1
- Private	14.7	18.9	14.7	16.0	14.8	16.1	15.8
Saving Investment Gap @	-1.2	-1.7	-1.3	-1.5	-1.0	-1.1	-0.6
Public	-7.0	-5.6	-5.4	-5.3	-7.6	-8.0	-8.7
Private	8.5	4.2	6.8	5.8	7.9	7.9	9.2

Source: Central Statistical Organisation (as reported in Indian Economic Survey, 2001-02, p.7)

Note: Gross domestic investment denotes Gross Domestic Capital Formation

@ refers to the difference between the rates of saving and investment

Figures may not add up due to rounding off

* Adjusted for errors and omissions

The trend in saving and investment reveals the following features:

1. The Gross Domestic Saving (GDS) rose as a portion of GDP from 16.6 per cent in 1970s to 23.9 per cent in the 1990s. During the same period, there was a simultaneous increase in the rate of financial savings of the household sector and private corporate sector.
2. The GDS increased to 24.6 per cent during the period 1999-00 to 2002-03.
3. In India, the bulk of the savings is sourced from the household sector and it accounted for more than three quarters of the total savings in India.
4. The greater preference of the household sector for financial assets as against physical assets was due to the removal of wealth tax on various financial assets in the Union budget 1992-93.
5. The saving rates of the private corporate sector exceeded that of the public sector in the 1990s. The improved investment rate in the 1990s could be attributed to the liberalisation measures introduced in the Indian economy and consequent imputes given to the private sector in the successive budgets in the 1990s.
6. Gross Domestic Capital Formation rates have been higher than Gross Domestic Savings. The saving-investment gap was the contribution of foreign saving.

During the post reform period, the trend growth rate of 6.9 per cent was distinctly higher. The Gross Domestic Savings (GDS) as a percentage of GDP rose substantially in the 1990s on an average of 23.9 per cent. The household sector savings had been generally in favour of financial assets as compared to physical assets. The average investment (Gross Domestic Capital Formation) rate of 25 per cent of GDP was achieved in 1990s. After the changes in economic policies and the globalisation, the private corporate sector investment

responded enthusiastically. The Gross Domestic Savings has reached nearly 30 per cent and there is enough room to enhance it.

The post reform performance was in the midst of domestic and international uncertainties such as, South-East Asian crisis, uncertainties of the economic prospects of Japan and economies of Europe, political uncertainty, economic sanctions imposed by several industrial countries following India's nuclear test, suspension of multilateral lending (except for some sectors), downgrading by international rating agencies, and reduction in investment by foreign institutional investors. India was in a position to withstand all the above said uncertainties only with the help of domestic savings. Ragnar Nurkse, the Columbia University economist rightly said "capital is made at home".

A sustained annual growth rate of 9 to 10 per cent can be achieved with the right policies aimed at increasing the domestic savings on the one hand and attracting large flow of foreign capital from abroad on the other. In the case of domestic savings, public sector needs to generate positive savings. Foreign savings can be attracted only when macro-economic fundamentals are strong and there is well developed and sound financial system. A well developed financial system is a prerequisite for mobilising higher domestic and foreign savings and allocating them efficiently for economic growth. The following chart explains the relationship between the financial system and economic growth.

Relationship between Financial System and Economic Growth



Source: Levine Ross (1997)

The extent of resource mobilisation by financial institutions give another indicator of the financial development of India (Table 4.4). Huge disbursement of financial institutions and mutual fund mobilisation as a percentage of GDP supports the strong indicators of financial development of India. As a percentage of GDP, disbursement by development financial institutions rose from a low level of 0.5 per cent in the first half of 1970s to 1.4 per cent in the first half of 1980s. The ratio further increased to 2.9 per cent in the first half of 1990s and stood at 3.3 per cent in the second half.

Table 4.4
Disbursement of Financial Institutions

Period	Total disbursement as a percentage of GDP
1970-71 to 1974-75	0.5
1975-76 to 1979-80	0.8
1980-81 to 1984-85	1.4
1985-86 to 1989-90	1.9
1990-91 to 1994-95	2.9
1995-96 to 1999-00	3.3

Source: RBI, 1999-2000 p III. 7

Resource mobilized by mutual funds which was just about 0.04 per cent of GDP at current market price increased to 1.59 per cent during 1990-91 to 1992-93, though it showed some variations after that, it stood at 1.13 per cent during 1999-2000 (Table 4.5).

Table 4.5
Resource mobilised by mutual funds as a percentage of GDP

Period	Total resources (Percentage of GDP)
1970-71 to 1974-75	0.04
1975-76 to 1979-80	0.06
1980-81 to 1984-85	0.13
1985-86 to 1989-90	0.75
1990-91 to 1992-93	1.59
1993-94	1.31
1994-95	1.12
1995-96	-0.49
1996-97	-0.15
1997-98	0.27
1998-99	0.20
1999-00	1.13

Source: RBI, 1999-2000 P III 7

Many reform measures have been implemented for the development of stock markets in India. Hence, stock market development indicators (market capitalisation ratio, value traded ratio and turnover ratio) provide yet another evidence for the extent of financial development in India. This is discussed at length in Chapter 6.

REFORMS IN THE FINANCIAL SYSTEM

The period from mid 1960s to the early 1990s was considered as the pre-reform period. It was characterised by administrated interest rates, industrial licensing and controls, dominant public sector, and limited competitions. This led to the emergence of an economy characterised by uneconomic and inefficient production system with high costs. This has resulted in inefficient allocation and use of resources and led to high capital output ratios. Though the saving rate was high, there was greater dependence on foreign assistance to meet urgent situations. India's growth rate averaged less than 4 per cent per annum since independence. Countries like Japan and East Asian countries were able to catch up with the industrial countries of the West by implementing market oriented pattern of industrialisation.

The Government of India initiated deregulation in the 1980s by relaxing entry barriers, removing restrictive clauses in the Monopolies and Restrictive Trade Practices (MRTP) Act, allowing expansion of capacities, encouraging modernisation of industries, reducing import restrictions, raising yield on long term government securities and taking measures to improve the growth of money market. The above said measures resulted in a relatively high growth in the second half of 1980s, but we could not sustain the speed of the liberalisation.

In the beginning of 1990s, an increase in the world oil prices due to Gulf war depleted the remittance of migrant workers in the Gulf, created a foreign exchange crisis in India. This crisis led to macro-economic imbalances in India. Now the task before the government was to restore macro-economic stability by

reducing the fiscal as well as balance of payment deficit and to complete the process of economic reforms which have been initiated in the 1980s. The government started economic reforms in June 1991 to provide an environment of sustainable growth with stability. Economic reforms were undertaken with a view of two broad objectives, viz., (i) reorientation of the economy from state dominated and highly controlled economy to a market friendly economy. To achieve this target government has decided to reduce direct control, physical planning and trade barriers. (ii) Macro-economic stability by substantially reducing fiscal deficits and the government's draft on society's savings.

The stabilisation and Structural Adjustment Programme needed liberalisation and globalisation as the principal instruments for achieving these goals. The government therefore, adopted a phased approach to liberalise the various sectors of the economy. The reform package included the liberalisation of domestic investment, opening up of key infrastructure areas for private sector participation, opening the economy to foreign competition by reducing protective barriers such as import controls and high tariffs, deregulation of interest rates, encouraging direct foreign investment as a source of technology upgradation and non-debt finance for investment, reform of public sector to increase greater efficiency, disinvestment of Public Sector Undertakings (PSUs), and reform of tax system to create a broader base of taxation by implementing moderate tax rates to receive maximum tax revenue.

The deregulation of industry, liberalisation of foreign exchange markets and convertibility of currency required an efficient and proactive financial system. In order to achieve this target, financial system was given an integral part of the economic reforms in 1991. The improved financial system is expected to increase the efficiency of resource mobilisation and allocation in the real economy which in turn would induce a higher rate of economic growth. In addition to that, the soundness of the financial system is the key fundamentals for judging the health of the economy and these measures will impart the health as well as strength.

In August 1991, the Government of India appointed a high level committee under the chairmanship of Narasimham, former Governor of Reserve Bank of India, to look into all aspects of financial systems and to make comprehensive recommendations to reform it. The committee submitted its report in November 1991 recommending reforms in both banking sector and in the financial markets. These recommendations were implemented in the beginning of 1992.

Indian Financial System in the Pre-reforms Period

After independence, India adopted a state dominated development strategy where in all allocation decisions were made by the government and its agencies. Accelerated capital accumulation by increasing domestic savings was considered as the key to development. An increase in domestic savings was achieved by levying high taxes, suppressing consumptions and appropriating profits through ownership of commercial enterprises. The role of the financial system was limited in the state dominated environment. Banks were the dominant financial institutions for accumulation of savings and financing of trade and industrial activities. The financial system had a very limited role in capital accumulation, since it could not provide incentives for higher savings, as interest rate was controlled and repressed. At the same time, government pre-empted household savings through high level of statutory and cash reserve requirements. Banks and financial institutions were acted as deposit agencies.

The resource allocation in the primary capital market was also subject to several controls and the price discovery was not done in a scientific manner. The financial institutions directed credits to priority sectors at subsidised rates, decided by the government. The interest rate controls and high regulations inhibited proper pricing of resources and the limited allocative efficiency. Thus, the Indian financial system till the early 1990s was a closed, restricted, highly regulated and segmented.

The paradigm shift has happened in the development of India in the 1990s from state dominated to a market determined strategy. This shift was a result of the government failure in achieving a higher rate of growth. The failure of government's restrictive and regulating policies and the need to adopt a market determined strategy of development were the causes for the undertaking reforms in the financial system, aimed at improving its operational and allocative efficiency.

The role of the financial system in the development process has changed not only in the developing countries but the world as a whole. The emphasis was given to the financial system in the growth process has moved to channelise the resources to the most efficient credit allocation which is largely determined by market forces. The South East Asian crisis was a lesson for the rest of the world and now the financial stability occupies the prime place in the system. In the era of globalisation and intense competition, a continuous flow of funds is needed from within the country and abroad. To attract this flow of funds, a highly developed financial system is a prerequisite. Financial liberalisation is not an act, but it is a process.

OBJECTIVES OF FINANCIAL SYSTEM REFORMS

Reforms in the financial system aimed at increasing competitive efficiency in the operation of the system, making it healthy and profitable and imparting it to an operational flexibility and autonomy for working efficiently. These would result in giving the saver a wide choice with regard to instruments and institutions and enhance his confidence in the system. This would enhance the accumulation of capital.

The basic priority in the early reforms period was to remove structural rigidities and inefficiencies in the financial system. The reforms primarily aimed at structural transformation in the financial system to improve efficiency, stability and integration of various components of the financial system. Some of

the structural changes initiated are free pricing of financial assets, relaxation of qualitative restrictions, removal of barriers to entry, new methods and instruments of trading and greater participation and improvements in clearing settlement and disclosure practices.

In India, structural transformation process is now almost complete. In the second phase, reforms aim at attaining the balance between the goals of financial stability and integrated and efficient markets.

Financial Efficiency, Stability and Integration

In order to consider the efficiency level of a financial system, four parameters can be taken into consideration. They are:

1. Information arbitrage efficiency, that is, whether market prices reflect all the available information.
2. Fundamental valuation efficiency, that is, whether company valuations are reflected in the stock prices.
3. Full insurance efficiency, that is, whether economic agents are insured against all future contingencies.
4. Financial efficiency, that is, if saving is allocated to the most efficient manner.

Financial markets and financial institutions are the two components of a financial system. Financial system's efficiency is reflected in the efficiency of both financial markets and financial institutions. Many development strategies have been undertaken to improve the deficiency for financial institutions and markets. Liberalisation of interest rates, reduction in reserve requirements, increasing competition by allowing new private sector players, advances in technology, introduction of prudential norms such as income recognition, provisioning and capital adequacy and laying down of standards for corporate governance, are some of the steps undertaken to improve the efficiency of banking sector.

In the case of financial market, abolition of the Capital Issues (Control) Act, 1947, free pricing, rationalisation of the process of price discovery in the form of book building and auctions, enhancing transparency throughout strict disclosure norms, improved trading and settlement practices, enlarging the number of participants, introduction of transparent takeover code, and encouraging growth of funds both at home and abroad, are some of the measures which have helped in improving information efficiency and bring down transaction cost.

Financial stability is crucial in this era of globalisation, which has increased mobility of international capital flows and the risk of contagion of financial crisis among countries. In order to ensure financial stability, the government has adopted a three-fold strategy. They are: (i) strengthening linkages across institutions and markets, (ii) promoting soundness of financial institutions through prudential regulation and supervision, and (iii) ensuring overall macro-economic balance.

The operation of a financial system is influenced by overall economic activity and macro-economic changes. Therefore, assessment of financial soundness and stability requires the development of micro-prudential indicators. These indicators are qualitative variables, which comprise both micro-prudential indicators of the health of individual financial institutions and macro-economic variables related with financial system soundness. Macro-prudential indicators can help a country to assess its banking systems vulnerability to crisis and this crisis can be extended to financial market also. The Reserve Bank monitors macro prudential indicators and makes them publicly available through its reports to enhance the disclosure of key financial information to markets. The macro-economic indicators include a set of indicators on the real economy, like trends in balance-of-payments, level and volatility of inflation, interest and exchange rates, growth of credit, correlation among financial markets, trades spillovers and contagion from investment behaviour.

Micro-prudential indicators include indicators on capital adequacy, asset quality of lending and borrowing entities, management soundness, liquidity, sensitivity to market risk and some market based indicators such as market prices, ratings of financial instruments, financial institutions and so on. To ensure financial stability, the government replaced the adhoc treasury bills with the system of ways and means advances to raise funds.

Integrated markets are unified markets wherein participants in one market have unrestricted access to other markets. This brings about an overall equality of returns over markets. The money market, the capital market and the foreign exchange market remain segmented till the early 1990s due to high level of regulation and restrictions by the government. An integration of the market is therefore necessary for effective transmission and implementation of policies and for better functioning of markets. To enable integration, interest rates were freed, and foreign capital flows and foreign participants were allowed to operate in different markets simultaneously. The integration of the domestic financial markets within themselves and with the foreign exchange market is reflected in trends in turnover and prices of securities in financial market. In addition, an analysis of transmission of volatility in one market to other markets also help in knowing the extent of integration of financial markets. The linkages between call money market and foreign exchange market are found during the time of volatility in foreign exchange market, since commercial banks have a dominant presence in both the markets. An increase in foreign investment flows increases cross border financial integration. The domestic integration of various segments of financial markets has been facilitated by expansion of the online operations of two major stock exchanges, BSE and NSE. The regional stock exchanges have been integrated with Interconnected Stock Exchange of India (ISE). In addition, many regional stock exchanges have become members of BSE and NSE. Since interconnected stock exchanges did not perform well, Government of India is planning to make all regional stock exchanges under one ambit called

‘Indonext Exchange of India’ on par with Euronext Stock Exchange of UK. This will make a balanced equity market development in the country.

FINANCIAL SECTOR REFORMS IN INDIA

A wave of financial sector reforms has swept over much of the developing world since 1980s. The Indian financial system has undergone a remarkable transformation over the last four decades and now comprises an impressive network of financial institutions, financial markets and wide range of financial instruments. The financial development of India can be divided into three phases, viz.,

1. First two decades of 1950s and 1960s representing a foundation phase.
2. A decade and half after 1969 marked by rapid expansion.
3. The period since the middle of 1980s characterised by consolidation, diversification and liberalisation.

Foundation Phase

The foundation phase is characterised by the extensive powers for supervision and control of banks vested in RBI, particularly under the Banking Companies Act, 1949. On the recommendations of the rural credit survey committee, the Imperial Bank of India was converted into SBI in 1955. New institutions like Agricultural Refinance and Development Corporation (ARDC), the Industrial Development Bank of India (IDBI), the SFCs and UTI were established. The importance of banking system was recognised and government wanted to control it for the welfare of all the citizens. The need to give banking system a new sense of direction was recognised and it was decided in 1967 to introduce what come to be known as ‘social control’ over the issues relating to the development of credit. This led to nationalisation of commercial banks in 1969.

Expansion Phase

The major objectives of bank nationalisation were: (i) reorientation of credit flows so as to benefit priority sectors, (ii) branch expansion particularly in rural and semi urban areas, and (iii) greater saving mobilisation through bank deposits.

The massive expansion of banking sector was free from negative points with wider geographical coverage, lines of supervision and control have lengthened rapid growth of staff and accelerated promotions have posed major managerial problems (Malhotra, 1990). However the need for social control of banking sector provided initial rationale for financial repression policies, through subsequent intensification of these policies in 1970s and 1980s, due to the increasing need of government to use banking sector to finance its deficits. As a result of financial repression policies, the markets were heavily segmented and the underdeveloped nature of secondary market inhibited competitive pricing of assets (Rangarajan, 1994), credit was inefficiently used by non-price allocation mechanisms, banks profitability was negatively affected due to the restriction of bank entry and dominance of public sector banks greatly inhibited competition and efficiency in the banking sector (Sen and Vaidya, 1996). It was in response to these developments that in the middle of 1980s, the system entered its latest phase of consolidation, diversification and liberalisation.

Phase of Consolidation, Diversification and Liberalisation

The key ingredients of the phases of consolidation were:

- A significant slow down in branch expansion while emphasising coverage of spatial gaps in rural areas.
- Comprehensive action plans of individual banks covering organisations and structural training, housekeeping, customer service, credit

management, recovery of dues, staff productivity, profitability and phased introduction of modern technology in banking operations.

- Relieving policy related constraints on bank profitability. At the same time, a series of policy measures have been taken to bring about greater flexibility of operations and more competitive environment which has necessitated the element of deregulation.
- The effect of financial repression policies had a negative impact on financial sector which led to the gradual process of financial liberalisation.

The impetus to financial sector reforms came with the submission of three influential reports by Chakrabarty Committee in 1985, the Vagul Committee in 1987 and Narasimham Committee in 1991. The first committee suggested ways of activating the treasury bills market so that open market operations could gradually become the dominant instrument of monetary policy. The Vagul committee recommended a phased decontrol and development of money markets and gradual integration of these markets with other key short term markets such as the treasury bills market. The recommendations of Narasimham Committee provided the blue prints of the reforms that followed in the post 1991 period especially with regard to banks and other financial institutions. The main reforms based on the recommendations of Chakrabarty Committee and Vagul committee were:

- The rising of maximum coupon rate from 6.5 per cent to 11.5 per cent in 1985-86.
- Lifting of restrictions of money market rates.
- Allowing non-bank institutions to participate as lenders in the money market.
- Introduction of new instruments in the money market.

- Introduction of new instruments like 182 day treasury bills, certificates of deposits, commercial paper and inter-bank participation and the initiative of RBI.
- Setting up of Discount Finance House of India.
- Rationalisation of term structure of interest rates.

In 1991, Indian Government initiated a comprehensive market oriented programme; one of which was phased deregulation of financial sector along with reforms of trade and industrial policies. The reforms were undertaken at a time when the economy was in the midst of severe macro-economic crisis. The initial condition present was the presence of a diversified financial sector with institutions having a long history in the intermediation of funds and the real sector had already begun well before the financial sector reforms. As a result the market mechanism had a significant role to play in the resource allocation across various industries. The main elements of financial sector reforms were:

- Substantial reduction of government intervention in credit allocation.
- Changes in the structure of financial sector including the lifting of several interest rate ceilings in credit and bond markets in order to encourage competition on one hand and to ensure greater transparency in the operation and accounting practices of financial institutions on the other hand.
- Policies that increased the degree of financial openness i.e., the easiness with which residents can acquire assets and liabilities denominated in foreign currencies and non-residents can operate in national financial market.

The main reform measures after 1991 on the basis of the recommendations of the Narasimham Committee report were:

- The substantial reduction in SLR.

- Introduction of a 364 day treasury bill as auction basis in April 1992.
- The functioning of 364 day treasury bills and 91 day auction bills effected in 1993-94, converting these into dated securities of the two year maturity.
- Better alignment of the ceiling on interest rates on government securities and minimum lending rate of banks.
- Creation of an International Debt Management Cell in October 1992.
- Replacing open market transactions by RBI.
- An autonomous board of financial supervision under the control of RBI.
- Efficient electronic clearing settlement and depository system in respect of government securities.

In addition to these reforms, the capital market in India which was lying as a dormant segment of the financial system has undergone metamorphic transformation since the mid 1980s, involving multidimensional growth.

Having gone through the reforms in the financial system and financial sector in India, it is meaningful to examine the trend of resource mobilisation by financial institutions and private corporate sector. Since equity finance has become cheaper, the corporate sector is now focussing on private placement which is the easiest method of procuring the desired capital without much delay and cost. This transition is a part of globalisation and liberalization in the country.

RESOURCE ALLOCATION - INDIAN EXPERIENCE

In India after Independence, banking system was dominant for nearly four decades. The 'commanding heights principle' of economic growth, the socialist bias in economic policy, and low savings rate and resource constraints experienced by the private corporate sector in the early years following

independence, made an environment in which the government owned and controlled banking system, dominated the entire market. Corporate sector had to depend on financial institutions for their resource mobilisation. This is evident in the Table 4.6.

Table 4.6
Assistance sanctioned by all financial institutions

Year	Amount disbursed (Rs. Crs.)	Growth in percentage	Year	Amount disbursed (Rs. Crs.)	Growth in percentage
1970-71	159.9	-	1987-88	7061.1	23.68
1971-72	191.4	19.69	1988-89	7700.8	9.06
1972-73	218.8	14.32	1989-90	9639.7	25.17
1973-74	301.6	37.84	1990-91	12810.1	32.89
1974-75	425.0	40.91	1991-92	16260.0	26.93
1975-76	435.2	2.40	1992-93	23050.3	42.38
1976-77	602.0	38.32	1993-94	26624.3	15.01
1977-78	713.0	18.43	1994-95	33568.1	26.08
1978-79	947.5	32.89	1995-96	38649.5	15.14
1979-80	1352.2	42.71	1996-97	42656.5	10.37
1980-81	1847.9	36.66	1997-98	53647.9	25.77
1981-82	2352.0	27.28	1998-99	58329.5	-14.8
1982-83	2468.5	4.95	1999-00	68594.2	17.6
1983-84	3138.4	27.13	2000-01	75363.6	9.9
1984-85	3627.9	15.6	2001-02	58734.7	-22.1
1985-86	4940.0	36.17	2002-03	26704.6	-54.5
1986-87	5709.1	15.37	2003-04	30172.7	13.0

Source: RBI Hand-book, 2006

The Table 4.6 shows that the grow rate declined in 1991-2004 period. Though the CGR was 21.10 and AAGR was 18.55 for the whole period, during the post globalisation period, CGR and AAGR reduced to 6.55 and 8.52

respectively. The liberalisation era started in the eighties and gathered momentum in the nineties, shifted focus on the entire resource mobilisation from banking sector to capital market. Capital market started growing rapidly from 1990s (when Indian economy was liberalised and FIIs were invited to invest in India) became a preferred source for capital mobilisation by corporate sector because of very low cost of capital. This shift was a landmark in the case of Indian economy and became more market oriented. This is evident from Table 4.7.

Table 4.7
Capital issues by public limited companies

Year	No. of issues	Amount raised (Rs. Crs.)	Year	No. of issues	Amount raised (Rs. Crs.)
1970	113	66.4	1987-88	225	1787.7
1971	100	43.4	1988-89	341	3224.8
1972	141	92.9	1989-90	407	6509.9
1973	190	74.4	1990-91	364	4312.2
1974	173	56.3	1991-92	514	6193.1
1975	170	97.9	1992-93	1040	19803.4
1976	140	68.6	1993-94	1133	19330.3
1977	152	103.4	1994-95	1678	26416.7
1978	165	100.5	1995-96	1663	15997.6
1979	189	180.0	1996-97	838	10409.5
1980	237	163.9	1997-98	102	3138.3
1981-82	435	598.4	1998-99	48	5013.1
1982-83	644	706.0	1999-00	79	5153.3
1983-84	794	837.5	2000-01	151	6108
1984-85	471	1056.4	2001-02	35	7543
1985-86	850	1745.3	2002-03	26	4070
1986-87	521	2581.4	2003-04	57	23272

Source: RBI Handbook, 2000 and SEBI Securities Market (annual series) 2005.

The Table 4.7 shows that the resource mobilisation by public limited companies. It witnessed speedy growth during eighties and it continued up to the middle of nineties. From 1995, the resource mobilisation through capital issues declined till 2000. i.e., it had fallen down from a peak of Rs. 26416.7 crores in 1994-95 to Rs. 5153.3 crores, again increased to Rs. 23272 crores in 2003-04. The number of issues and the amount raised showed negative growth in 1991-2004 as per CGR, as the values showed a fluctuating trend with a decline. But, a paradoxical change has happened during this period. The focus of corporate sector has been shifted to a novel idea called 'private placement'. During this period, resource mobilisation through primary market continued to increase. During 1993-94 resource mobilisation through private placement was Rs. 7466 crores and it reached to Rs. 84052 crores in 2004-05. This paradox witnessed in the Indian economy, because of structural changes in the mode of resource mobilisation from public issue to private placement. This is evident from Table 4.8.

Table 4.8**Resource mobilisation through private placement**

(Rs. in Crores)

Year	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Issues												
Corporate securities	44498	48084	36689	37147	42125	60192	72450	78395	74403	75241	74850	109297
Domestic issues	37044	41974	36193	33872	37783	59044	68963	74199	72061	71815	71752	105944
Non-Government public companies	19830	26417	16075	10410	3138	5013	5153	4890	5692	1878	3675	13482
Private placement	7466	11174	13361	15066	30099	49671	61259	67836	64950	66948	63901	84052

Source: *Indian Securities Market – A Review, NSE 2005.*

Efficiency in Resource Allocation in India

Efficiency of resource allocation depends on transaction costs and the quality of information processing. The transaction costs of the banking system in the pre-reform period have been very high. This has largely due to government control over the banking system which pre-empted competition and discouraged attempts to reduce administrative expenses through trimming labour force and adoption of modern technology (Shah and Thomas, 1997)³.

The transaction cost of capital market is determined by factors such as brokerage, market impact cost, counter - party risk and back office expenses relating to transfer of shares etc. Along with the points discussed above, the monopoly of Bombay Stock Exchange, poor liquidity of securities, the archaic system of share transfer and absence of institutions guaranteeing in trades, avoiding counter party risks, bad delivery of shares, etc. contributed to have a very high transaction costs.

In terms of quality of information, the performance of banking system was also highly inadequate in the pre-reform period. Government control and ownership, branch licensing and entry barriers, pre-emption of major part of the bank funds through high SLR and CRR and directed lending policies and discriminatory interest rates limited the ability of banking system to process information. After the bank nationalisation in 1969 the idea of commercial banking shifted to social banking which adversely affected the ability of the banking system to process information based on economic criteria. After the Narasimham Committee report, the financial sector reforms boosted up thereby enhance the banking system, and the policy of its information has improved tremendously. The increasing competition, removal of entry barriers, introduction of new private sector banks, technological modernisation, low SLR and CRR have definitely improved the ability of the banking system to process information.

In the pre-reform period, the capital market was also regulated by the government. They need to get permission from the Controller of Capital Issues for raising capital, regulations of pricing of issues and capitalisation of reserves etc., constrained the efficiency of the capital market to a large extent.

Resource Allocation in the Pre-reform Period

From the inception of Bombay Stock Exchange in India, the stock market activities remained in a state of insignificant low profile, at least in the first three decades following independence. The adoption of the principle of 'commanding heights', the socialist bias in the economic policy and planning, lack of trust in markets and the strategy of 'state-led growth', created an economic and financial environment where the capital market is secondary, if not significant. The lengthening shadow of 'Control Raj' in the early seventies had its repercussions in the stock market too. The dividend freeze of 1974 led the market into a limbo culminating in its closure for three months. The total amount raised from the capital market by non-government public limited companies during the decade of seventies was a mere Rs. 883 crores, the annual average being 88.3 crores only. [RBI Handbook 2000.]⁴

The turnaround had taken place only after FERA dilution in 1973. All the multinational companies holding 100 per cent of their equity were forced to reduce it to 40 per cent. Indian citizens got a golden opportunity to procure the shares of blue chip companies of MNCs. Till the liberalisation of 1991, stock exchanges in India had only speculative nature of trading.

Consequent to the cumulative factors elaborated above, the banking system, particularly the Term-Lending Financial Institutions like the IDBI, IFCI and ICICI dominated the capital-market in capital mobilisation. The total amount mobilised by non-government companies through initial public offerings, rose only moderately from Rs. 66.4 crores in 1970 to Rs. 163.9 crores in 1980 (147 per cent increase), the financial assistance disbursed by all

financial institutions (banking system) increased by Rs. 159.9 crores in 1970-71 to Rs. 1847.9 crores in 1980-81. This quantum jump in activities increased 1056 per cent (Ibid).⁵

The sector-wise savings and intra-sectoral savings in the economy were undergoing major secular shifts during the period 1970-71 to 1998-99. The share of household savings and corporate savings, as percentage of gross domestic savings, steadily increased. But the public sector savings showed a declining trend. This is illustrated in Table 4.9.

Table 4.9
Sector-wise domestic savings (at current prices)
(Rs in crores)

Year	Household sector			Private Corporate sector	Public sector	Gross Domestic Savings
	Financial savings	Physical savings	Total			
1970-71	1371 (28.13)	3502 (71.88)	4873 (71.84)	657 (9.69)	1253 (18.47)	6783
1975-76	3918 [185.78]	6616 [88.92]	10534 [116.17]	1055	3339 [166.48]	14928 [120.08]
1980-81	8610 (39.41) [119.75]	13238 (60.59) [100.1]	21848 (75.90) [107.40]	2284 (7.93) [116.49]	4654 (16.17) [39.38]	28786 [92.83]
1985-86	18538 [115.31]	19620 [48.21]	38158 [74.65]	5318 [133.07]	8457 [81.71]	51933 [80.41]
1990-91	49700 (45.34) [168.1]	59923 (54.66) [205.42]	109623 (84.33) [187.29]	14940 (11.45) [180.93]	5436 (4.18) [-37.72]	129999 [150.32]
1995-96	95715 [92.59]	114702 [91.42]	210417 [91.95]	47391 217.21	25195 [363.48]	283003 [117.70]
1998-99	192621 (59.07) [101.24]	133195 (40.93) [16.12]	325456 (82.68) [54.67]	67573 (17.16) [42.59]	572 (0.15) [-97.73]	393601 [39.08]

Source: Central Statistical Organisation

Note: (i) Data from 1970-71 to 1995-96 are from old base (1980-81) and data of 1998-99 figures are from new series. (Base 1993-94).

(ii) Figures in the parentheses indicate percentages and the square parenthesis show growth rates.

Table 4.9 reveals major structural changes in the composition of gross domestic savings. The share of household sector in Gross Domestic Savings has shown a secular upward trend, rising from 71.84 per cent in 1970-71 to 82.68 per cent in 1998-99. At the same time, within the household sector, the share of physical savings declined from 71.88 per cent in 1970-71 to 40.93 per cent in 1998-99. Correspondingly, the share of financial savings increased from 28.13 per cent to 59.07 per cent during the same period. The growth rate of private corporate sector savings in 1970-71 was 9.69 per cent, which increased to 17.16 per cent in 1998-99. A negative trend can be seen in the share of public sector savings which decreased from 18.47 per cent in 1970-71 to 0.15 per cent in 1998-99. When we analyse the trends and structural changes in Gross Domestic Savings, there is steady increase in the household and private corporate savings, but deterioration has taken place in public sector savings. In the case of composition of gross domestic capital formation also, the structural shifts have occurred. This is evident from Table 4.10.

During 1980s, India witnessed partial liberalisation of the economy. The pro-capital market policies along with partial liberalisation, the composition of resource mobilisation started to change. During the period of time, many restrictions on private sector were removed such as amendment to MRTP Act, reduction in corporate tax, removal of price control in certain industries (for eg. steel decontrol), partial delicensing etc. This gave a fillip to investment and consequently, corporate gross capital formation increased tremendously.

Table 4.10**Sector-wise gross capital formation**

(Rs in crores)

Year	Household sector	Private corporate sector	Public sector	Gross capital formation
1970-71	3541 (47.99)	1030 (13.96)	2808 (38.05)	7379
1975-76	6684 (40.74) [88.76]	2139 (13.03) [107.67]	7583 (46.22) [170.05]	16406 [122.33]
1980-81	13238 (46.53) [98.06]	3448 (12.12) [61.20]	11767 (41.36) [55.18]	28453 [73.43]
1985-86	19620 (30.92) [48.21]	14405 (22.70) [317.78]	29417 (46.36) [150.0]	63442 [122.97]
1990-91	59923 (44.34) [205.42]	23082 (17.08) [60.24]	52151 (38.59) [77.28]	135156 [113.04]
1995-96	114702 (37.60) [91.42]	101801 (33.37) [341.04]	88477 (29.01) [69.66]	304980 [125.65]
1998-99	133195 (34.64) [16.12]	135161 (35.15) [32.77]	11612 (30.21) [31.29]	384518 [26.08]

Source: Central Statistical Organisation

Note: Figures in the parentheses show the percentage share and in square parenthesis show growth rates.

IMPACT OF REFORMS AND EMERGING TRENDS

So far, we have discussed about the reforms in the Indian capital market after globalisation. These reforms have transferred Indian capital market to an internationally well accepted and well integrated, and technologically advanced

stock market in the world. The contrast between the market design at the beginning of globalisation (1991) and at the end of the decade 2002 highlights how much Indian stock market has been sophisticated and how much development has taken place in this regard. This is analysed in Table 4.11.

The impact of reforms can be summarised as follows:

- Reduction in transaction costs.
- Improved price discovery, market determined to pricing - book building is the order of the day.
- Efficient electronic settlement, because of technological advancement.
- Better risk management, elimination of counter-party risk and trade guarantee by stock exchanges.
- Better possibility of hedging.
- Integration of markets within the country and removal of price discrepancies through arbitrage operations.
- Global integration of markets, Euro issues and overseas listing of Indian companies.
- Liquidity has improved substantially.
- Indian stock market has become more or less matured.
- Because of more FIIs are there in the Indian stock market, every news is reflected in the price instantaneously. This shows that everybody has equal opportunity to get profit.

Table 4.11**Market design in Indian securities market 1992 and 2002**

Feature	1992	2002
Regulator	No specific Regulator but Central Government oversight	A specialized regulator for securities market (SEBI) vested with powers to protect investors' interest and to develop and regulate securities market. SROs strengthened.
Intermediaries	Some of the intermediaries like stock brokers, authorized clerks etc regulated by the SROs	A variety of specialized intermediaries emerged. They are registered and regulated by SEBI (also by SROs). They as well as their employees are required to follow a code of conduct and are subject to a number of compliances.
Access to Market	Granted by Central Government	Eligible issuers access the market after complying with the issue requirements.
Pricing of securities	Determined by Central Government	Determined by market, either by the issuer through fixed price or by the investors through book building
Integration with International Market	No Access	Corporates allowed to issue ADRs/GDRs and raise ECBs. ADRs/GDRs have two-way fungibility. FIIs allowed to trade in Indian Market. MFs also allowed to invest overseas
Trading Mechanism	Open outcry. Available at the trading rings of the exchanges. Opaque, Auction/negotiated deals	Screen based trading system, Orders are matched on price-time priority, Transparent, Trading platform accessible from all over the country
Agreement order flow	Fragmented market through geographical distance. Order flow unobserved	Order flow observed. Exchanges have open electronic consolidated limit order book.
Anonymity in Trading	Absent	Complete
Settlement System	Bilateral	Clearing House of the Exchange or the Clearing Corporation is the central counter-party
Settlement Cycle	14 day account period settlement, but not adhered to always	Rolling settlement on T+3 basis
Counter party risk	Present	Absent
Form of Settlement	Physical	Mostly Electronic
Basis of Settlement	Bilateral Netting	Multilateral Netting
Transfer of Securities	Cumbersome. Transfer by endorsement on security and registration by issuer	Securities are freely transferable. Transfers are recorded electronically by Depositories
Risk Management	No focus on risk management	Comprehensive risk management system encompassing capital adequacy, limits on exposure and turnover, margining, on-line position monitoring etc.

Source. *Indian Securities Markets, a Review (2003)*

The above said reforms have transferred the Indian capital market from an oligopolistic, broker controlled, technologically weak, inefficient market to a sophisticated, technologically advanced, transparent market with high level of market efficiency which is on par with international standards. Now NSE is considered as the third best stock exchange in the world.

Conclusion

The real sector reforms of 1980s and the financial sector reforms of 1990s have transformed Indian capital market to an internationally well accepted and well integrated and technologically advanced stock market in the world. Foreign capital inflows and foreign exchange reserves have accumulated, but the actual absorption of foreign capital is low. The reduction in transaction costs in stock market was a landmark in the case of stock market development. If India plans to achieve double digit growth, the financial system must be freed from bureaucratisation and strategically linked to the real sector activities.

References:

1. Goldsmith, Raymond W (1969): *Financial Structure and Development*, Yale University Press, New Haven.
2. Schumpeter, J A (1934): *The Theory of Economic Development* Oxford University Press, London, pp. 126-127.
3. Ajay Shah and Susan Thomas (1997): “Securities Market: Towards Greater Efficiency”, India Development Report, Oxford University Press.
4. Reserve Bank of India, Handbook on Statistics on Indian Economy, 2000
5. Ibid, pp. 87 and 95.

CHAPTER 5

INDIAN CAPITAL MARKET

AN OVERVIEW

Introduction

The capital market is the medium through which savings of the people are channelised for industrial and commercial enterprises. Capital market is an important constituent of the financial system. Capital market facilitates economic growth by mobilizing the savings of the economic sectors and diverting the same towards channels of productive uses. It facilitates sustainable development of the economy by providing long term funds in exchange for financial assets to investors. Moreover, it is a perennial and cheap source of finance. This is facilitated through the following measures.

1. Issue of primary securities in the primary market, i.e., directing cash flow from the surplus sector to the deficit sectors such as government and corporate sector.
2. Issue of secondary securities in the primary market, i.e., directing the cash flow from surplus sector to financial intermediaries such as banking and non-banking financial institutions.
3. Secondary market transactions in outstanding securities which facilitates liquidity. The liquidity of the stock market is an important factor affecting economic growth. A well developed capital market provides liquidity, marketability and safety of investments to the investors.

Hence, the existence of an efficient capital market is inevitable for investment and growth. A well developed stock market can increase GDP to the tune of minimum 2.5 per cent (Atje and Jovanovic, 1993)¹.

HISTORY OF INDIAN CAPITAL MARKET

The history of capital market in India can be traced back to eighteenth century when East India Company securities were traded in the country. Until the end of nineteenth century securities' trading was highly unorganized and the important trading centres were Bombay and Calcutta. Bombay was the main trading centre where bank shares were the major trading stock. The outbreak of American civil war (1860 – 61) made share mania in India. During this period, Bombay was an important source of supply for cotton. This boom, the first time in the history of Indian capital market, lasted for a half of a decade. But, the civil war ended in 1865 when there was a tremendous slump in share prices. Trading during this period was limited to a dozen brokers and they assembled under a banyan tree in front of the Bombay Town Hall. By 1874, Dalal Street in Bombay became a prominent place of meeting of these brokers. These stock brokers organized an informal association in 1875, the Native Shares and Stock Brokers Association, Bombay. The Bombay stock exchange was recognised in May 1927 under the Bombay Securities Contract Act, 1925.

During the British rule, the capital market was not well organized. In the post independence period also, there were less activity in the capital market. During the first two Five Year Plans, government gave more thrust on agriculture sector and setting up of public sector undertakings. The public undertakings were performing better than the private undertakings in terms of paid up capital, but their shares were not listed on the stock exchanges.

In the 1950s, Century Textiles, Tata Steel, Bombay Dyeing, National Rayon and Kohinoor Mills were the most active scrips fancied by speculators. As speculation enhanced, the stock market came to be known as 'Satta Bazaar'. The government enacted the Securities Contracts (Regulation) Act in 1956. In the same year another enactment under the name, the Company Act, 1956 was also announced. This decade was characterized by the establishment of a network of financial institutions and state financial corporations.

War and drought disturbed the capital market response in 1960s. Badala system was banned which aggravated the situation. Financial institutions such as LIC and GIC helped to rejuvenate the sentiments. The Unit Trust of India (UTI) was formed in 1964 for providing facilities of equity investment for small investors. This was the first mutual fund in India. The Industrial Development Bank (IDBI) was also formed in 1964 to provide financial assistance to medium and large scale industries.

In 1970s, badala trading was resumed. This gave momentum in the capital market. But, another set back took place in July 6, 1974, viz., Dividend Restriction Ordinance, which restricts the payment of dividend by companies to 12 per cent of the face value or one third of its profits whichever is lower. This led to a big fall in the market capitalization. Buoyancy in the stock market took place only when the multinationals (MNCs) were forced to dilute their majority stock in the Indian venture in favour of the Indian public under the FERA Act, 1973. All the multinational companies holding 100 per cent of their equity were forced to reduce it to 40 per cent. Indian citizens got a golden opportunity to procure the shares of blue chip companies of MNCs. About 123 MNCs offered shares worth Rs. 150 crores creating 1.8 million shareholders within 4 years. For diluting their shareholdings multinational companies offered shares to public at attractive rates.

Since the dilution of MNCs got maximum response, many domestic companies also came out with public issues. Many investors were enthusiastic to invest in capital market as they found equity market investment as a hedge against inflation and a source of higher earnings compared to many other avenues of investments. Process of broadening of the capital market is said to have begun during this period.

The 1980s witnessed massive growth of the securities market in India. Initiation of liberalization process by the government started during this period. Convertible debenture emerged as a powerful device for mobilizing the funds in

the primary market. There was impressive growth in the secondary market as ten stock exchanges were started in the mid 1980s. A number of committees and working groups were constituted for the smooth functioning of capital market. Some prominent committees were Patel committee, 1986, for the organization and management of stock exchanges; Abid Hussain Committee in 1989, for the development of stock exchanges; Phervani Committee in 1991, for the establishment of stock exchanges and Nandakarni Committee in 1992 on trading in public sector bonds and units of Mutual Funds. Also, a number of financial intermediaries like merchant bankers, underwriters, mutual fund custodian services etc., came into existence during the period.

The liberalization and globalisation policies of the government of India during the 1990s fuelled the growth of equity cult in India. Major capital markets scam took place during this period. The euphoria in the capital market led stock market prices to skyrocketing levels. The rise in price was not corroborated by any macro-economic factors or change in fundamental aspects of corporate financing. The security scam was unearthed in June 1992. The scam revealed inadequacy of and inefficiencies in the financial system and it prompted a drastic reform of the equity market. Investors lost confidence and it made a paralyzing effect on the operation of stock exchanges. The Parliamentary Committee which probed into the scam recommended that SEBI should examine trading practices and systems in stock exchanges and make necessary changes. In addition, the Narasimham Committee and Estimates Committee of the Parliament underscored the urgency of sufficient legal and administrative safeguards to protect small and inexperienced investors so as to minimise the risk of exploitation by unscrupulous elements and fly-by-night operators. This necessitated a vigilant regulatory body to control the stock market. Consequently, SEBI which was formed in 1988 as a non-statutory body was endowed with statutory powers through the enactment of SEBI Act, 1992.

Since then, the Indian stock market witnessed a sea change in terms of technology and market practices. Technology made radical change in the trading mechanism. The Over the Counter Exchange of India (OTCEI) set up in 1992 and National Stock Exchange (NSE) was set up in 1994. The National Securities Clearing Corporation (NSCC) and National Securities Depository Ltd. (NSDL) were set up in April 1995 and November 1996 respectively. These two institutions were set up for improved clearing and settlement and dematerialized trading. The Securities Contracts (Regulation) Act, 1956 was amended in 1995-96 for the introduction of option trading. Rolling settlement was also introduced in January 1998.

In the 1990s, the Information Technology (IT) scrips were dominant in all Indian bourses. The scrips included were; Infosys, Wipro and Satyam. They were part of favourite scrips of the period and known as 'New Economy' scrips along with telecommunications and media scrips. The new economy companies are knowledge intensive unlike the old economic companies that were asset intensive.

The Indian capital market entered the 21st century with the Ketan Parekh scam. As a result of scam, badala was discontinued from July 2001 and rolling settlement was introduced in all scrips. Trading futures commenced from June 2000, and internet trading was permitted in February 2000. On July 2nd 2002, the Unit Trust of India announced suspension of the sale and purchases of its flagship US-64 scheme during the heavy redemption leading to panic on the bourses. The government decision to privatise PSUs in 2000 fuelled stock prices. One big disinvestment of international telephony major, VSNL, took place in the early February 2002. Foreign institutional investors were emerged as the largest and dominant players in the Indian bourses. NSE has an upper hand over its rival BSE in terms of volumes not only in equity market but in the case of derivative market also.

Bygone years were a long journey for the Indian capital market. Now, the capital market is well organized, fairly integrated, matured, more global and highly modernised. Indian capital market is one of the best in the world in terms of technology upgradation. Internet trading has become common and Indian stock market is getting integrated with global markets.

PRIMARY MARKET OPERATIONS

In order to facilitate the corporate sector in raising funds, they enter into primary market or new issue market and issue new securities to the investors who opt for it. Primary market is a market for new shares. Fresh funds are mobilized through this market. There are many types of securities viz., equity shares, preference shares and debentures. Equity shares have, all along, been the most preferred instrument for mobilizing resources by the public corporate sector (Misra, 1997)². Both the existing and new companies raise funds from the new issue market.

The primary market is made up of two components; (i) firms go public for the first time (through initial public offerings of IPOs), and (ii) firms which are already traded, raise additional capital (through seasoned equity offerings of SEOs), (Shah and Thomas, 1997)³. Once the new issue process is completed, the instruments are traded in the secondary market. It is the primary market which begins with collection of funds and issuance of securities to the general public.

There are various methods by which the companies can raise capital. They are: a) Issue through prospectus, b) Private placement and c) Right issues. Bonus shares are issued to the existing share holders. It does not bring any fresh capital for the company, but it helps to restructure its fresh capital. This is a way of converting retained earnings into capital.

Issues are offered to public through prospectus and public subscribes directly. Section 67 of the Companies (Amendment) Act 2000 provides that, where the offer or invitation to subscribe for shares or debentures is made to 50

or more persons, then such an offer or invitation shall be deemed to be a public offering and shall have to comply with all the provisions of the Act as well as the SEBI guidelines applicable to such public offerings. Wide publicity is needed. Earlier brokers were doing this and now merchant bankers are appointed for this purpose. Rights issue is the issue of new shares to the existing share holders on a pro-rata basis. The existing share holders have to pay for it or they can renounce it. Companies which issue right shares have to send a letter of offer to the existing share holders. Rights issue is another way of raising money from the market. Companies at times sell securities to select public or institutional investors, is called private placement. No prospectus is issued in this regard and it offers access to capital quickly than the public issue and less expensive too. This type of capital mobilization is 'in vogue'.

FREE PRICING REGIME

In order to effectively control the activities in the new issue market and also ensure that the investments in the country are made in a planned manner in accordance with the priorities laid down in the five year plans, the government has instituted the Controller of Capital Issues (CCI) under the Capital Issues (Control) Act, 1947. Companies had to obtain approval from the CCI for raising funds in the primary market. Since the CCI laid strict rules, most of the public issues were under priced.

Capital Issues (Control) Act was repealed and free pricing was introduced by SEBI in 1992 followed by a plethora of issues. There was no restriction of premiums. Heavy premiums were charged by the issuing companies and many fly-by-night companies accessed the capital market. Many of the issues were listed below their offer prices at the stock exchanges. Of the 4000 public issues which came into the market during the period 1992-96, more than 3000 companies quoted below their offer price. Many investors have lost money during this period. It is estimated that around 1000 companies which came out

with issues and collected about Rs. 3000 crores in 1995 and 1996 have disappeared completely (Bhole, 1999)⁴.

The advent of Public Sector Bonds and Partly Convertible Debentures in the 1980s played an important role in changing the debt equity mix to below 40 per cent on an average. The first half of 1990s witnessed the emergence of mega issues in the market with a bias for equity compared to earlier similar projects which had a bias for debt. As a consequence of liberalization many new instruments were introduced. Financial engineering is getting momentum today. The process of innovation involved creating new financial instruments and techniques. The new instruments include Secured Premium Notes with Detachable Warrants, Non-Convertible Debentures with detachable Equity Warrants, Zero Interest Fully Convertible Debentures, Equity Shares with Detachable warrants, Zero Interest Bonds, Deep Discount Bonds and Non Convertible Debentures with Detachable Warrants.

Book Building

In order to protect the interest of the investors, Malegam Committee recommended the introduction of book building as an alternative device to the existing systems of fixed pricing. SEBI adopted this new technique in 1996. Globally, book building is recognized as a mechanism for capital raising. The book building was built in the US during 1940s and 1950s. Book building helps to find a better price for an issue to be made.

The Book building has changed the free pricing era. People had burnt their fingers because of the free pricing of securities. The new system has helped for a better price discovery. In this method, the issuing company will mention an indicative price at which securities will be offered and gives the investors an opportunity to bid collectively. Then a common derived price will be arrived and the allotment will be finalised at the agreed price. The people who are involved in book building are issuing company, book running lead manager,

other syndicate members, underwriters, institutional and individual investors. The book building enables the issuers no devolvement, the cost and time for making public issue is lowered and the procedures are also simplified. Since the syndicate members have purchased shares at a premium, the issuer can trust the rate and, possibility of falling below par at distinct is remote.

Buy back of shares

Buy back of shares allowed to Indian companies through an amendment ordinance in 1998. But earlier it was prohibited in India by the Companies Act, 1956. Now Indian companies are free to buy its own shares and other securities up to 25 per cent of their net worth out of free reserves, or securities premium account or proceeds of an earlier issue other than a fresh issue made specifically for buy back purposes. By allowing buy back of shares, companies can arrest wide fluctuations in share prices and paves the way for efficient allocation of resources.

Trends in Resource Mobilisation in the Primary Market

Public sector undertakings, public limited companies, banks and financial institutions mobilise resources from the primary market. Moreover, large organizations mobilise funds from international capital markets. During 1992, after globalisation, government realized that the private sector would require large resources for which they allowed companies to raise funds from international markets. Domestic markets were not in a position to procure large amount. Hence, Indian companies were allowed to raise funds from global market through the issue of Global Depository Receipts (GDRs) and American Depository Receipts (ADRs). The overall picture of resource mobilisation in the primary market is shown in Table 5.1.

Table 5.1
Resource mobilisation from the primary market

(Rs. in crores)

Issues	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Non-Government public limited companies	19330 (43.4)	26417 (54.9)	16075 (43.8)	10410 (28.0)	3138 (7.4)	5013 (8.3)	5153 (7.1)	4890 (6.2)	5692 (7.7)	1878 (2.5)	3675 (4.9)	13482 (12.3)
PSU Bonds	5586 (12.6)	3070 (6.4)	2292 (6.2)	3394 (9.1)	2982 (7.1)	- -	- -	- -	- -	- -	- -	- -
Government companies	819 (1.8)	888 (1.8)	1000 (2.7)	650 (1.7)	43 (0.1)	- -	- -	- -	350 (0.5)	- -	100 (0.1)	2684 (2.5)
Banks and financial institutions	3843 (8.6)	425 (0.9)	3465 (9.4)	4352 (11.7)	1476 (3.5)	4352 (7.2)	2551 (3.5)	1472 (1.9)	1070 (1.4)	2989 (4.0)	4076 (5.4)	5726 (5.2)
Private placement	7466 (16.8)	11174 (23.2)	13361 (36.4)	15066 (40.6)	30099 (71.4)	49679 (82.5)	61259 (84.5)	678.36 (86.5)	64950 (87.3)	66948 (89.2)	63901 (85.4)	84052 (76.9)
Total domestic issues	37044 (83.2)	41974 (87.3)	36193 (98.6)	33872 (91.2)	37738 (89.6)	59044 (98.1)	68963 (95.2)	74198 (94.6)	72062 (96.9)	71815 (95.7)	71752 (95.9)	105944 (96.9)
Euro issues	7454 (16.8)	6110 (12.7)	496 (1.4)	3275 (8.8)	4387 (10.4)	1148 (1.9)	3487 (4.8)	4197 (5.4)	2342 (3.1)	3226 (4.3)	3098 (4.1)	3353 (3.1)
Total capital issues	44498 (100.0)	48084 (100.0)	36689 (100.0)	37147 (100.0)	42125 (100.0)	60192 (100.0)	72450 (100.0)	78395 (100.0)	74404 (100.0)	75041 (100.0)	74850 (100.0)	109297 (100.0)

(Note: Figures in parentheses are percentage of total)

Source: RBI Handbook of Statistics on Indian Economy, 2005.

The Table 5.1 reveals that the aggregate mobilization in the primary market since 1993-94 has been showing an increasing trend except in the initial years. The aggregate amount during 2004-2005 was Rs. 109297 crores. The Euro issues showed fluctuating trend. The total domestic issues aggregated Rs. 37044 crores in 1993-94 but it reached to Rs. 105944 crores in 2004-05. A major part of domestic capital issues was from non-government public limited companies. In 1993-94, it amounted to Rs. 19330 crores which increased from all time high of Rs. 26417 crores in 1994-95, but it declined gradually and reached to Rs.1878 crores in 2002-03 and increased to 13482 crores in 2004-05. The most important revelation of the analysis is that the share of private placement skyrocketed and registered a marked increase. In absolute terms, it rose from Rs. 7466 crores in 1993-94 to Rs. 84052 crores in 2004-05. The *raison d'tre* for the rapid increase in private placement is due to low cost, save time, and ease of structuring instruments complexed with strict stringent disclosure norms in public issues.

New Capital Issues by Non-Government Public Limited Companies (1993-94 to 2004-05)

Though the private placement section increased the mobilisation for their expansion, the trend was from general public since inception. Non-government companies used to approach the capital market for their major part of financial requirements. The companies used instruments like equity shares, preference shares, debentures and bonds for this purpose. The composition of new capital is shown in Table 5.2.

Table 5.2**New Capital issues by Non-Government Public Limited Companies**

(Rupees in crores)

Year	Ordinary shares		Preference shares		Debentures		Total	
	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount	No. of Issues	Amount
1993-94	983 (86.8)	9959.7 (51.5)	1 (0.1)	0.3 (0.0)	149 (13.1)	9370.3 (48.5)	1133 (100.0)	19330.3 (100.0)
1994-95	1548 (92.3)	17414.4 (65.9)	9 (0.5)	131.4 (0.5)	121 (7.2)	8870.9 (33.6)	1678 (100.0)	26416.7 (100.0)
1995-96	1592 (95.7)	11954.5 (74.4)	9 (0.5)	150.1 (0.9)	63 (3.8)	3970.1 (24.7)	1664 (100.0)	16074.7 (100.0)
1996-97	801 (95.6)	6101.4 (58.6)	5 (0.6)	74.9 (0.7)	32 (3.8)	4233.2 (40.7)	838 (100.0)	10409.5 (100.0)
1997-98	89 (87.3)	1162.4 (37.1)	1 (1.0)	4.3 (0.1)	12 (11.7)	1971.6 (62.8)	102 (100.0)	3138.3 (100.0)
1998-99	33 (68.7)	2562.7 (51.1)	3 (6.3)	59.7 (1.2)	12 (25.0)	2390.7 (47.7)	48 (100.0)	5013.1 (100.0)
1999-00	69 (87.3)	2752.5 (53.4)	-	-	10 (12.7)	2400.8 (46.6)	79 (100.0)	5153.3 (100.0)
2000-01	128 (92.1)	2607.6 (44.8)	2 (1.44)	142.2 (2.44)	9 (6.5)	3068.3 (52.7)	139 (100.0)	5818.1 (100.0)
2001-02	6 (31.6)	860.4 (15.1)	0	0	13 (68.4)	4832.0 (84.9)	19 (100.0)	5692.4 (100.0)
2002-03	5 (55.6)	460.2 (24.6)	0	0	4 (44.4)	1417.5 (75.4)	9 (100.0)	1877.7 (100.0)
2003-04	35 (92.1)	2670.9 (66.4)	0	0	3 (7.9)	1250.9 (33.6)	38 (100.0)	3721.8 (100.0)
2004-05	51 (94.4)	11451.8 (87.5)	0	0	3 (5.6)	1627.4 (12.4)	54 (100.0)	13079.2 (100.0)

*(Note: Figures in parentheses are percentage to total.)**Source: RBI, Handbook of Statistics on Indian Economy, 2006.*

Majority of the issues were equity shares. In 1993-94, Rs. 9960 crores were mobilized from 983 issues and it increased to Rs. 17414 crores in 1994 from 1548 capital issues. Thereafter, it decreased in terms of number and volume. Mobilisation through this route decreased to Rs. 2752.5 crores through 69 equity issues in 1999-2000. The trend of debenture also showed the same trend. The amount mobilised through issue of preference shares was insignificant during the reference period. The overall trend of capital issues made by non-government public companies showed an increasing trend up to 1994-95 both in volume and number and declined thereafter and showed a rising trend towards 2004-05.

There is a vast scope of mobilising adequate resources internally through different instruments. The use of such instruments makes fund mobilization cheaper and new issue market more sophisticated. Globalisation has made new issue market more competitive and new companies can procure huge amount from within the country and across the globe.

Resource Mobilization through Mutual Funds

Mutual funds are institutions for providing small investors with avenues of investment in the capital market. Many investors do not have the resources, knowledge, skill, experience and time for directly accessing the capital market. Mutual funds are financial intermediaries which collect the savings of the investors and invest them in a large and well diversified portfolio of securities such as money market instruments, corporate and government bonds and equity shares of joint stock companies (Machiraju, 1988)⁵. Mutual fund is the way of bringing more people into capital market indirectly. Mutual funds have a professional team having very high caliber and skill. These experts have the knowledge of selection and supervision of investment portfolios and they will select well balanced and well diversified portfolio of stocks, thereby reducing risk and earning higher rate of return on their investments.

Mutual funds are of two types. They are open-end funds and close-end funds. In the case of open-end mutual funds, the investors can buy or sell any number of units at any point of time with the prevailing net asset value (NAV) of the unit. But in the case of close-end funds, the corpus of the fund and its duration are determined in advance. At the time of maturity, the instruments are realized and proceeds are distributed among the unit holders in proportion to their holding. The characteristics of each of these vary according to the asset class in which it invests.

The UTI set up the first mutual fund in India in 1964 under an Act of Parliament to channel the savings of retail investors into productive assets and speed up the process of economic development. They introduced Unit Scheme-64 in 1964 which was the only mutual fund scheme available to investors until 1970. In 1987, with the expansion of the capital market the Government of India permitted public sector banks and insurance companies to start mutual funds. During 1987-92 seven new mutual funds were established in the private sector. Several schemes were offered to public. In 1992-93, private and foreign players were given permission to start mutual funds. The acceptance of mutual funds as valid investment option led the industry to innovate and offer a wide variety of schemes tailored to meet specific needs. The schemes and the number of mutual funds have increased tremendously. This is depicted in Table 5.3.

Table 5.3
Resource Mobilisation by Mutual Funds

(Rupees in crores)

Year	UTI	Bank sponsored mutual funds	Financial institution sponsored mutual funds	Private sector mutual funds	Total
1993-94	9297 (7453)	148	239	1560	11244
1994-95	8611 (6800)	766	576	1322	11275
1995-96	-6314 (-2877)	113	236	133	-5833
1996-97	-855	6	137	864	-2037
1997-98	2875 (2592)	237	203	749	4064
1998-99	170 (1300)	-88	547	2067	2696
1999-00	4548 (15762)	336	296	16937	22117
2000-01	322 (1201)	248	1273	9292	11135
2001-02	-7284.0 (-6119)	863	407	16134	10120
2002-03	-9434	1033	862	12122	4583
2003-04	1050	4526	787	41510	47873
2004-05	-2467	706	-3384	7933	2789

Note: Figures in the brackets pertain to net sales at the face value (excluding premium)

Source: RBI Handbook of Statistics on Indian Economy, 2006

It can be seen from the Table 5.3 that the resource mobilisation declined from 1993-94 and more sharply in 1995-96 and 1996-97. Even though new private sector mutual funds entered the market during this time, there was a decline in resource mobilisation by mutual funds. Subdued stock market conditions coupled with perceived lack of transparency in the functioning of mutual funds, delayed refunds, poor accountability, and lack of efficient services were the cause of poor performance of mutual funds. In 1998-99 private sector funds accounted for two third of the total resource mobilization. In the next subsequent years condition improved because of the tax concessions offered in equity oriented schemes coupled with bullish trend in the secondary market. Private sector mutual funds are the fancy of investors today because of their dynamic performance.

SECONDARY MARKET OPERATIONS

The securities which are floated and subscribed in the primary market are traded in the secondary market or stock market. The most important function of stock exchange is to provide liquidity of capital and continuous market for outstanding securities. In India the secondary market consists of recognized stock exchanges operating under rules, bye-laws and regulations duly approved by the government. This stock exchange consists of an organized market where securities issued by the central and state Governments, public bodies and joint stock companies are traded. Section 2(3) of Securities Contract (Regulation) Act, 1956 defines a stock exchange “any body of individual whether incorporated or not constituted for the purpose of assisting, regulating or controlling the business of buying, selling or dealing in securities”. The stock exchanges bring about a correct evaluation of securities and set prices for securities close to their investment worth.

Scream to Screen based trading

Trading on the established stock exchanges in India took place through open outcry system. The physical transactions retarded the growth and there was time lag for new information to reflect in prices. Moreover, when the number of

transactions enhanced, the problems got aggravated. The automated screen based system can match buy and sell orders without the intervention of brokers and real time system is highly useful. This style is faster, highly transparent and capable of incorporating price sensitive information into share prices and results in improved liquidity of markets. Over The Counter Exchange of India (OTCEI) set up in 1992, was the first screen based trading exchange in India to provide liquidity to scrips of small and medium sized companies. The Table 5.4 shows the phenomenal growth in the operations of stock market in India till the nineties.

Table 5.4

Pattern of growth of stock exchanges

	1946	1961	1971	1975	1980	1985	1990
No. of Stock Exchanges	7	7	8	8	9	14	19
No. of Listed Companies	1125	1203	1599	1852	2265	4314	5968
Market Capitalisation (Rs.in crores)	971	1292	2675	3273	6750	25302	70521

Source: Bombay Stock Exchange

Before 1990s, the Indian secondary market consists of regional stock exchanges and BSE, as the apex body. The Indian stock market was plagued with many limitations such as; lack of transparency, club mentality of brokers, insider trading, kerb trading, private off market deals, absence of risk management, high transaction cost, uncertain delivery and settlement periods, systematic failure of the entire market and market closures due to scams, front running, i.e., trading ahead of a client, based on knowledge of the client order and uncertainty of execution prices.

POST REFORMS STOCK MARKET SCENARIO

After the introduction of economic reforms in 1991, the Indian secondary market has a three tier form viz., (i) Regional Stock Exchanges (RSEs), (ii) National Stock Exchange (NSE), and (iii) Over The Counter Exchange of India (OTCEI).

The NSE was set up in 1994. It was the first modern stock exchange to bring in new technology, new trade practices, new institutions and new products and it is a demutualised stock exchange in the country. At present, there are 23 Stock Exchanges in India – 19 regional stock exchanges, BSE, NSE, OTCEI and the Interconnected Stock Exchange of India (ISE). The ISE is a stock exchange of stock exchanges. The 19 regional stock exchanges are located at Ahmedabad, Bangalore, Bhubaneswar, Calcutta, Cochin, Coimbatore, Delhi, Guwahati, Hyderabad, Indore, Jaipur, Kanpur, Ludhiana, Chennai, Mangalore, Pune, Patna, Rajkot and Vadodara. They operate under the rules, bye-laws and regulations approved by the Government and SEBI.

STOCK MARKET DEVELOPMENT IN INDIA

The stock markets in India which were lying dormant during the first three decades of independence have undergone metamorphic transformation since the mid eighties involving multi-dimensional growth. The magnitude of growth has been rapid in terms of funds mobilized, the turnover of the exchanges, the amount of market capitalization and expansion of investor population (Ramasastri, 2000)⁶. However, the growth took place in an unbalanced manner leading to uneven distribution of pattern and frequency of trading, lack of price continuity and liquidity of listed stocks at many of the exchanges, insufficient spread of investment consciousness and habit in the country, inadequate mobilisation of semi urban and rural savings, lack of free flow of information and effective communication and an inadequate number of members without having any working knowledge and background in Finance, Accountancy, Law and Economics (Balakrishnan and Nartha 1997)⁷. In addition to that, most of the members were actively indulging in speculative activities.

Insider trading was very common. Option and kerb trading, large scale price rigging and the manipulation of market in active connivance with outsiders leading to frequent and / or closure of markets became a routine issue. Based on the recommendations of the Patel Committee, Government of India issued several guidelines and directions with a view to ensuring proper functioning of the stock markets.

Indian stock market is one of the largest and oldest stock markets in the world. There are 23 stock exchanges in the country. Out of which Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) are conferred the status of national stock exchanges. All stock exchanges in the country have adopted online screen based trading. At present, there are 8000 trading terminals for these exchanges which cater the needs of investing public spread across the country. The growth of stock markets in India in terms of the number of listed companies, market capitalisation, turnover on stock exchanges, price indices etc., are profuse. Table 5.5 reveals the major indicators of stock market development in India.

Table 5.5**Stock market development in India**

Year	Number of listed companies	Market capitalisation of listed companies (Rs. crores)	Market turnover (Rs. crores)
1993-94	7811	400077	203703
1994-95	9077 (16.2)	473349 (18.3)	162905 (-20.0)
1995-96	9100 (0.3)	572257 (20.9)	227368 (39.6)
1996-97	9890 (8.7)	488332 (-14.7)	646116 (184.2)
1997-98	9833 (-0.6)	589816 (-20.8)	908681 (40.6)
1998-99	9877 (0.4)	574064 (-2.7)	1023382 (12.6)
1999-00	9871 (-0.06)	1192630 (107.8)	2067031 (102.0)
2000-01	9954 (0.8)	768863 (-55.1)	2880990 (28.25)
2001-02	9644 (-3.1)	749248 (-2.6)	895818 (-221.6)
2002-03	9413 (-2.4)	631921 (-18.6)	968910 (7.5)
2003-04	-	1318795 (52.1)	1620498 (40.2)
2004-05	-	1698428 (22.4)	166896 (2.7)

(Note: Figures in the parentheses are percentage variation over the previous year)

Source: Reserve Bank of India, Report on Currency and Finance-various issues.

From Table 5.5 it is evident that there were 7811 companies listed in all stock exchanges in India during 1993-94. It rose to 9413 in 2002-03, an increase of 20.51 per cent. The all India market capitalisation of listed companies amounted to Rs.400077 crores during 1993-94. There was no significant increase till 1998-99. However, during 1999-2000 it doubled to Rs. 1192630 crores. Turnover on various stock exchanges in India was Rs. 203703 crores in 1993-94. Even though it decreased by 20 per cent in 1994-95, it rose steadily up to 1999-2000 and started fluctuating because of favourable and unfavourable conditions in the market.

STOCK MARKET INDEX

The stock market index measures overall market sentiment through a set of stocks that are representatives of the market. It is a barometer of market behaviour. Stock market index indicates the day to day fluctuations in stock prices and it also reflects the direction of market. A good stock market index incorporates a set of scrips which have high market capitalisation and high liquidity. Market capitalisation is the sum of market value of all the stocks included in the index. The market value is derived by multiplying the price of the share by the number of equity shares outstanding.

The index on a day is calculated as the percentage of the aggregate market value of a set of scrips incorporated in the index on that day to the average market value of the same scrips during the base period. BSE sensx is a weighted average of prices of 30 select stocks and S & P CNX Nifty is of 50 select stocks.

Methodologies for Calculating the Stock Market Index

1. Market Capitalisation –Weighted:

a) Full market capitalisation method: In this method, the index is calculated by the number of shares outstanding multiplied by the market price of a company's share. The shares with the highest market capitalisation have a higher weightage

and the most influential in this type of index. Some examples are S&P 500 Index in the USA, BSE Sensex and S&P CNX Nifty in India.

b) Free float market capitalisation method: This index is made up of a method in which all shares which are available in the market are taken into consideration. In other words, it excludes strategic investments in a company such as the stock held by government, controlling share holders and their families, the company's management restricted shares due to IPO regulation, and shares locked under the ESOP plan. In this methodology, the weight of scrip is based on the free float market capitalisation.

In the world, free-float methodology is very popular. This index helps the fund managers in better tracking and replications as the weight of the scrips in the index is based on the float available in the market which helps the investing public in those scrips. The BSE-Teck index is a free float index in which index of technology, entertainment, communication and other knowledge based sectors are involved.

c) Modified capitalisation weighted index: In this method stocks which are dominant and influenced by the index are marginalized. This method sets a limit on the percentage weight of largest stocks or a group of stocks. The NASDAQ-100 index is the best example.

2. Price weighted index: Price of each stock in the index is summed up, which is then equated to an index starting value, is the methodology used in this index. If there is a stock split, the market price of the stock falls and this results in less weightage in the index. The Dow Jones Industrial Average and Nikkie 225 are price weighted indices.

3. Equal weighted index: Each stock's percentage weight in the index is equal and hence all stocks have equal influence on the index movement.

Major indices in India

BSE Sensex and NSE Nifty are the two major indices in India. The base year of BSE Sensex is 1978-79 and it comprises of 30 scrips. In addition to this criterion, other factors like number of trades, average value of shares traded per day as a percentage of total number of outstanding shares etc., are considered for the inclusion of Sensex. Balance representation of industry, leadership position in the industry, continuous dividend paying record, and track record of promoters are the selection criterion. Only 11 scrips remain out of 30 scrips and rest have been selected on the basis of their performance in the market. New economy scrips are also having enough weightage in the index.

S & P CNX NIFTY

The S & P CNX NIFTY was launched in 8 July 1996, comprising 50 scrips. The scrips are selected on the basis of low impact cost, high liquidity and market capitalisation. Nifty is the widely used indicator and became popular within a short span of time (The NSE began equity trading in November 1994 and its volume surpassed that of BSE). A joint venture of NSE and CRISIL, a specialised organisation to provide stock index services, promoted India Index services and products. This organisation in collaboration with Standard & Poor (S & P) made this index to reflect market movement more accurately, provide fund managers with a benchmark for measuring portfolio performance and develop reference rate for introducing index based derivative products.

Both the leading stock exchanges viz., BSE and NSE use the weighted averaging whereby each stock is given weight in proportion to its market capitalisation. In addition to these indices, other indices are Economic Times Ordinary share price index (72 scrips), Financial Express Ordinary share price index (100 scrips) and RBI index of security prices (338 scrips). Major regional stock exchanges also have their own indices.

MAJOR PARTICIPANTS IN THE STOCK MARKET

The increase in turnover took place mostly in large exchanges at the expense of small ones. Of the 23 exchanges in India, 6 top exchanges account for 99 per cent of turnover with BSE and NSE as the major stock market participants in the country.

BOMBAY STOCK EXCHANGE

Trading in securities has been 'in vogue' in India for a little over 200 years. Since 1793, dealing in securities was like transaction in the loan securities of East India Company. Hetic speculation was common feature during that period. The broking community became very prosperous as there was high rise in stock prices. This led to share mania during 1861-1865. But in 1865, American Civil war broke out and investors lost their confidence and brokers realised the importance of a well regulated body with defined rules and regulations.

The Bombay Stock Exchange established in 1875, as 'The Native Share and Stock Brokers Association', is the oldest in Asia, even older than the Tokyo stock exchange which founded in 1878⁸. Until the establishment of National Stock Exchange, it was considered the premier stock exchange and trend setter in the country. Among the 23 stock exchanges recognised by Government of India under the Securities Control (Regulation) Act, 1956, it was the first one to be recognised as the one that has granted the privilege of permanent registration⁹.

Bombay Stock Exchange is a voluntary, non-profit making association of broker members. BSE emerged as a premier stock exchange after 1960s. Increased industrialisation after two world wars, protection to domestic industry, and government's fiscal policies helped the growth of new issues which in turn helped BSE to prosper. BSE dominated more than 60 per cent of all India turnover.

Until 1992, BSE was functioning like an investors' club. After the outbreak of security scam in 1992, SEBI was controlling the ambit of stock exchanges. In 1994, the Bombay stock exchange faced competition for the first time when National Stock Exchange was formed as a full fledged automated trading system. It rose to the challenges of technology and in 1995 put the automated trading programme and transferred over 5000 scrips from the trading floor to screen. The Bombay On-Line Trading (BOLT) network has been extended to centres outside Mumbai and covers 329 cities with 1463 very small aperture terminals (V-SATs) and 2347 trader work stations (TWS) as of October 2000¹⁰. BSE later set up a Central Depository System to dematerialise shares and promote the demat trading.

Carry Forward Deals or Badala

The carry forward system or badala was a special feature of Indian stock exchanges, particularly of BSE. The badala provided the facility of carrying forward the transaction from one settlement to another. By bringing in outside money to fund the carry forward of long positions, badala acted as a bridge between money market and stock market. This system helped in moderating extreme movement of stock prices, as it facilitated short selling in a rising market and long purchases in a declining market. It acted as a risk hedging instrument. Badala was a vehicle of speculation also.

The badala system was banned in 1993 by SEBI because it had led to excessive speculation and increased market risk. Modified carry forward system was followed after the Ketan Parekh scam in March 2001. SEBI banned badala system and replaced it by a new system called rolling settlement.

BSE Indices

BSE sensitive index (sensex) was the first index launched by BSE in 1986. It has launched 13 more indices. BSE sensdex comprises of 30 scrips and a base year of 1978-79. The BSE sensdex index was followed by BSE National in

1989. This is a broader index comprising of 100 scrips. In 1993-94 BSE introduced two new indices; BSE 200 and Dollex. BSE 200 is a list of 200 selected companies from the specified and non-specified group. The Dollex is a dollar version of the BSE 200 which has 1989-90 as its base year. Five more sectoral indices are also introduced during August 1999. They are BSE IT index, BSE capital goods index, BSE FMCG index, BSE health care index, and BSE consumer durable index.

Trade / Settlement Guarantee Fund

The Trade Guarantee Fund (TGF) of BSE having an initial corpus of Rs.172.5 crores became operational from May 12, 1997. The fund guarantees the settlement of bonafide transactions of BSE members and ensures timely completion of settlement.

Trends in BSE Turnover

The annual turnover, market capitalisation and BSE sensx increased almost 100 per cent from 1990-91 to 1991-92. Hightend activity and the stock market were buoyant due to liberalisation measures announced by the government to attract investors. Some of the important announcements of 1992-93 union budget were, the abolition of wealth tax on financial assets, abolition of CCI, free pricing of securities, and permission for Indian companies to raise funds abroad. These announcements triggered the volume of BSE. High speculation was there because of irregularities in the securities' transactions of banks and financial institutions. These irregularities were detected in 1992-93 and turnover depleted drastically. In 1996-97 the turnover at BSE rose by 148 per cent. Badala was relieved and turnover got increased. The extension of trading terminals outside Bombay in September 1997 led to increase in volume. Moreover, the demat trading also helped BSE to increase the volume from 1996-97 to 1998-99.

Marked by large FII inflows, improved corporate performance, sound macro-economic fundamentals and upgrading India's credit ratings by credit rating agencies have led BSE turnover witnessed a sharp increase of 119 per cent. In 2000-01, increase in turnover was 46 per cent because FIIs slowed down their activities in the BSE. Large sell offs of new economy stocks in NASDAQ, increase in international oil prices, payout crisis at some stock exchanges and liquidity problems with some corporate banks led the slow down of FIIs activities.

In 1995-96, the number of companies in a group reduced from 94 to 32 but the volume got increased. This is the clear indication of concentration of a few blue-chip companies trading volume at exchange. So concentration effect is very much evident here.

On 31 March 1995, BSE Sensex lost 1382 points and the market was highly depressed. In 1996-97, 1998-99, and 2000-01, even though turnover got increased, the market capitalisation declined. The decline in the market capitalisation was a result of decline in the new economy share prices, large sell offs in the global market, the financial crisis of US-64 payment crisis at different stock exchanges and the withdrawal of badala system. The BSE Sensex touched at 2600 mark on 11 September 2001 when terrorists attacked the US. This 2600 mark is all time low since September 8, 1993 (lowest in eight years).

In terms of market capitalisation and turnover, the relative importance of various manufacturing companies like cement, steel and financial services have declined, while that of IT, Pharma and FMCG sectors have increased sharply. This shift was a result of government policy which lifted the controls on the private sector and the economy was opened for foreign institutional investors. Even though many capital intensive industries such as steel, fertilisers and chemicals are preferred well in a closed economy, they could not withstand international competition. Moreover, the new emerging companies offered handful gains to share holders as dividend and capital gain. The table 5.6 depicts the trend in major indicators of Bombay Stock Exchange.

Table 5.6

Trends in Bombay Stock Exchange

Year	Number of listed companies	Market capitalisation of listed companies (Rs. crores)	Market turnover (Rs. crores)	BSE Sensex
1993-94	3585	368071	84536	3778.99
1994-95	4802 (33.9)	435481 (18.1)	67748 (-19.9)	3260.96 (-13.7)
1995-96	5603 (16.7)	526476 (20.9)	50064 (-26.1)	3366.21 (3.2)
1996-97	5832 (4.1)	463915 (-11.9)	124284 (148.3)	3360.89 (-0.2)
1997-98	5853 (0.4)	560325 (20.8)	207383 (66.9)	3892.75 (15.8)
1998-99	5849 (-0.1)	522942 (-2.7)	311999 (50.4)	3739.96 (-3.9)
1999-2000	5815 (-0.6)	912842 (68.1)	685028 (119.6)	5001.28 (33.7)
2000-01	5689 (-0.9)	571553 (-37.4)	1000032 (46.0)	4269.69 (-14.6)
2001-02	5782 (-1.5)	612224 (7.1)	307292 (-69.3)	3331.95 (-22.0)
2002-03	5650 (-2.3)	572198 (-6.3)	314073 (2.2)	3206.9 (-3.8)
2003-04	5528 (-2.2)	1201207 (109.9)	503053 (60.2)	4492.1 (40.1)
2004-05	4731 (-14.4)	1698428 (41.4)	518715 (3.1)	5740.52 (27.8)

*Note: Figures in the parentheses are percentage variations over the previous year.
Source: Reserve Bank of India, Report on Currency and Finance – various issues.*

According to the Table 5.6, there were 3585 listed companies in BSE in 1993-94. The number of listed companies showed an upward trend until 1996-97. In 1999-2000 the number of listed companies in Bombay stock exchange was 5889 and it reduced to 4731 in 2004-05. As regards the market capitalisation of listed companies in the exchange, it amounted to Rs. 638701 crores in 1993-94. As in the case of all India market capitalisation, it remains idle up to 1998-99 and rose in the year 1999-2000. It again went down in the subsequent years and went up in the year 2004-05. Market turnover of the exchange during the period under review showed a mixed trend.

Market returns on equity shares as well as volatility in prices are measured through share price indices. In India, Bombay Stock Exchange 30 share sensitive index (BSE Sensex) is one of the popular benchmarks of share prices. As revealed in Table 5.6, sensex stood at 3779 points in 1993-94. It hovered around this level up to 1998-99 but rose by one third to 5001 points in 1999-2000. On a review of trend indices from the Table there will be a misleading impression that the index remained stable between 1993-94 and 1998-99, and that the level of volatility was comparatively low in Bombay Stock Exchange. But this is not correct. The Indian market is probably more volatile than the developed markets which is probably why a much higher portion of saving in developed countries go to equities (Economic Times Knowledge Series, 2001)¹¹. As given in Table 5.6, sensex stood at 2037 points towards the end of April 1993 and rose to 3492 points during the middle of October 2000. However, sensex moved erratically during the intervening period.

THE NATIONAL STOCK EXCHANGE OF INDIA

The National Stock Exchange was set up in November 1992 under the recommendations of Pherwani committee. The idea was to start a most modern stock exchange with international standards (best global practices). NSE was set up to achieve the objectives like;

1. To establish nationwide trading facility for equities, debt instruments and hybrids.
2. To ensure equal access to all investors through an appropriate communication network.
3. To provide a fair, efficient and transparent securities market to investors through an electronic trading system.
4. To provide shorter settlement cycles and book entry settlement system.
5. To bring the Indian stock market in line with international standards of securities market and,
6. To promote secondary market in debt instruments such as government and corporate bonds.

NSE has a fully automated, electronic screen based system. It is sponsored by the IDBI and co-sponsored by other term lending institutions, LIC, GIC and other insurance companies, commercial banks and other financial institutions viz., SBI caps, SHCIL, and ILFS. Unlike other stock exchanges, NSE is a tax paying company incorporated under the Companies Act, 1956. The NSE is a professionally managed, in that the ownership and management of NSE are completely separated from the right to trade on the exchange. To upgrade the professional standards of the market intermediaries, the NSE lays stress on factors such as capital adequacy, corporate structure, track record and educational experience.

NSE is a demutualised stock exchange and its management is free from brokers. NSE has two major divisions. One sector is with wholesale debt market segment which deals with government securities, treasury bills, PSU bonds, call money, etc. On the other hand, the capital market segment deals with equities, convertible debentures, etc. This segment provides true nation wide market through a satellite using VSATs (Very Small Aperture Terminals). It has a network with more than 6000 terminals offering trading facilities in 370 cities. Trading on the wholesale debt market segment of the exchange was started in June 1994 and the capital market segment in November 1994. After one year of

NSE's incorporation, its volume surpassed the volume of BSE and now it has emerged as the largest stock exchange in the country. The trend in the major indicators of the National Stock Exchange is exhibited in Table 5.7.

Table 5.7

Trends in National Stock Exchange

Year	No. of listed companies	No. of Companies Available for trading	Market turnover (Rs. crores)	Average daily Turnover (Rs. Crores)	Market capitalisation (Rs. crores)	S&P CNX Nifty
1994-95	135	678	1800	10	363350	-
1995-96	422	1269	67287	2.07	401450	985
1996-97	550	1484	295400	1170	419360	969
1997-98	612	1357	370193	1520	481500	1117
1998-99	648	1254	414470	1650	491170	1078
1999-00	720	1152	839050	3300	1020420	1529
2000-01	785	1029	1339510	5330	657840	1148
2001-02	793	890	513160	2070	636860	1130
2002-03	818	788	617980	24.6	537130	978
2003-04	909	787	1099530	4320	1120970	1772

Source: Reserve Bank of India, Report on Currency and Finance – various issues.

Trading in National Stock Exchange (NSE) started in 1994. Nifty index is available only from 1995-96. As it is evident from the Table 5.7 that there were only 135 companies listed in 1994-95 whose market capitalisation amounted to Rs. 363350 crores. In the case of market capitalisation, there was a sudden spurt during 1999-2000 to Rs. 1020420 crores making an increase of more than 150 per cent in a single year. The turnover rose nearly 60 per cent during 1999-2000, the NSE bench mark S&P CNX Nifty rose more than 40 per cent. The phenomenal rise in Information Technology scrips coupled with the signs of overall improvement in economic performance, appeared to have significantly

contributed to the stock market buoyancy. However, the growth in market turnover from Rs. 1800 crores in 1994-95 to 1099530 crores in 2003-04 is an indicator of growth of exchange as achieved with in a short span of time.

National Securities Clearing Corporation Limited (NSCCL)

The National Securities Clearing Corporation Limited (NSCCL) was set up by NSE in April 1995, a wholly owned subsidiary, to undertake clearing and settlement at the exchange. It started functioning from April 1996. NSCCL operates with a well defined settlement cycle, aggregates trades over a trading period, and nets the position to determine the liabilities of members. It also ensures movement of funds and securities to meet respective liabilities.

NSCCL guarantees the settlement. It is a guarantee provided by a clearing corporation for the settlement of all trades even if a party defaults to deliver securities or pay cash. In this way, NSCCL assumes counter party risk. NSCCL started settlement guarantee fund for the capital market in June 1996 with an initial corpus of Rs. 300 crores. At the end of August 2002 their funds stood at Rs. 1651 crores. In addition to the above, a separate Settlement Guarantee Fund (SGF) is maintained for Future and Options (F&O) segment. NSCCL also provides Mutual Fund Service System (MFSS) to investors for transacting dematerialised units of open-ended schemes of mutual funds.

The NSE Indices

The NSE 50 was rechristened as S&P CNX Nifty on 28 July 1998. This index is widely used as it reflects the state of the stock market sentiments for 50 highly liquid scrips. The CNX Nifty Junior is a midcap index introduced in January 1997 to cater to the growth companies in the economy. The companies included in this index are traded with an impact cost of less than 2.5 per cent on 85 per cent of the trading days.

Another index S&P CNX Defty was introduced in 26 November 1997 (This is a dollar dominated index). It serves as a performance indicator to foreign institutional investors, offshore funds and others. This index is available online and it is used as an effective tool in hedging Indian equity exposure. Other indices are S&P CNX 500, CNX midcap - 200, S&P CNX Industry indices (comprising of 79 industries) a CNX segment indices (for three segments). India Index Services and products Limited (IISL) is the authority to monitor and upgrade these indices, a joint venture of NSE and CRISIL. IISL is the only specialised organisation in the country to provide stock index services. This organisation has introduced S&P CNX IT index.

OVER THE COUNTER EXCHANGE OF INDIA (OTCEI)

OTCEI was recognised as a stock exchange under the Securities Contracts (Regulation) Act, 1956 with the effect from 23 August 1989. This stock exchange was incorporated as a company under section 25 of the Companies Act, 1956 on 20 September 1990 with an authorised capital of 10 crores and paid up capital of Rs. 5 crores. It is promoted by UTI, ICICI, IDBI, IFCI, LIC, GIC, SBI caps and Canbank financial services limited.

OTCEI is a stock market based on the model of National Association of Securities Dealers Automated Quotation (NASDAQ) of the USA with modifications to suit Indian conditions. OTCEI started functioning from 6 October 1992. OTCEI was the first ringless electronic and national exchange with screen based system. This exchange is meant for small companies for their listing and trading. OTCEI is located in Bombay. Its objectives are:

- a) To help companies to raise capital from the market at the cheapest cost and on optimal terms,
- b) To help investors to access capital market safely and conveniently,
- c) To cater the needs of the companies which cannot be listed on the official stock exchanges, and

- d) To eliminate problems of non-liquid securities, delayed settlements and unfair prices faced by the investors.

Though the purpose of introduction of OTCEI was extremely good, the turnover of the exchange steadily declined from 1994-95. In order to overcome the difficulties, SEBI appointed two committees - Malegam and Dave committees, to review OTCEI working and suggest measures to revamp its functioning. The reasons for low activity on OTCEI are: a) stringent market making norms, b) mandatory requirement that the sponsor must offer buy and sell quotes in all the scrips with the spread not exceeding 10 per cent, c) banks aversion to finance market making, and d) T + 3 settlement period not permitting speculators.

INTERCONNECTED STOCK EXCHANGE OF INDIA

With the opening up of the economy and economic reforms, there were drastic improvements in the Indian stock market. The cutthroat competition of BSE and NSE threatened the existence of regional stock exchanges. The volume of business on the RSEs which accounted 9.2 per cent of the total turnover in 1995-96 decreased to 3.5 per cent in 1998-99. Even if electronic trading has started, certain exchanges like Guwahati, Magadh, Indore, Mangalore and Rajkot came to a halt. So, the survival was in question. These RSEs have formed the Federation of Indian Stock Exchanges (FISE) in 1996.

There were two options; either to become a member of NSE or BSE. So the RSEs and Federation of Indian stock exchanges proposed for Inter-Connected Market System (ICMS), to improve trading and to increase market efficiency. They have sought technical assistance from the US agency for international development-Financial Institutions Reforms and Expansion (USAID-FIRE) project, administered by Price Waterhouse. The Inter-Connected Stock Exchange (ISE) was set up as the twenty third stock exchanges in the country, with the help of USAID - FIRE.

The ISEs have 15 RSEs granted recognition under the Securities Contracts (Regulation) Act, 1956 by SEBI in November 1998. ISE commenced its operation on February 26, 1999. ISE has 4500 members and 3500 securities listed on them. ISE is a stock exchange of stock exchanges and its participatory stock exchanges are only traders on NSE. In 1999-2000 ISE had a turnover of 545 crores and in 2000-01 it was Rs. 223 crores. The trading volume got depleted drastically and its importance is vanishing now.

REGIONAL STOCK EXCHANGES IN INDIA

Indian capital market has 19 regional stock exchanges which is the highest in the world. In developed countries also, regional stock exchanges existed but they had to shut down or merge with the principal exchanges. In the UK, by 1965 all the regional stock exchanges joined together to form the Federation of Stock Exchanges and amalgamated to become a fully unified stock exchange in 1973. Australia had six exchanges got united and established the Australian Associated Stock Exchanges (AASE), a company limited by its guarantee, to represent them at the national level. The Australian Stock Exchange (ASX) commenced operation, with the six capital city exchanges as its wholly owned subsidiaries in 1987. The same is the case with Italy. In Italy, all securities listed on the Milan stock exchange and nine other RSEs were transferred to a national computerised order-driven trading system under the Italian stock exchange in 1991. So, now the Italian stock market is a computerised system with no specific place as its apex.

In India, the jurisdiction and area of operation of the regional stock exchanges were specified. The 19 stock exchanges provided investors an access to big brokers in Bombay. The RSEs served as a link between local companies and local investors. Reputed local companies could list their companies in exchanges and RSEs continued trading in these local scrips. But hectic competition arose among the issuers of companies and they tried to list these companies in as many exchanges as possible to attract investors from all over the

country. The listing fee was the major source of income of stock exchanges and the listing standards were also diluted. But before 1990s, regional stock exchanges were working properly.

During 1990, Government of India started OTCEI, NSEI, and Inter-Connected Stock Exchange and permitted nationwide trading. Since people could directly access NSE and BSE terminals, the turnover of regional stock exchanges nosedived. Since many companies decided to delist shares, the listing income which was the major income of the regional stock exchanges depleted and the very existence of regional stock exchanges were at stake. The Table 5.8 reveals the growth and distribution of turnover on stock exchanges.

Table 5.8**Growth and distribution of turnover on stock exchanges**

(Rupees in crores)

Sr. No.	Stock Exchanges	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
01.	NSE	-	8,509 (5.01)	80,009 (33.44)	3,36,782 (48.92)	4,81,197 (47.18)	5,19,852 (46.05)	11,43,268 (48.2)	17,70,458 (53.43)	15,62,283 (80.25)
02.	Mumbai	84,536 (41.50)	67,748 (39.93)	50,064 (20.93)	1,24,284 (18.05)	2,07,383 (20.33)	3,11,999 (27.64)	6,85,028 (28.89)	10,01,619 (30.23)	3,09,316 (15.89)
03.	Kolkata	57,641 (28.30)	52,872 (37.22)	62,128 (25.87)	1,05,664 (15.35)	1,78,778 (17.53)	1,71,780 (15.22)	3,57,168 (15.06)	3,55,035 (10.72)	27,075 (1.38)
04.	Uttar Pradesh	6,889 (3.38)	7,283 (4.61)	2,373 (0.99)	16,070 (2.33)	15,390 (1.51)	18,627 (1.65)	24,048 (1.01)	24,747 (0.75)	25,237 (1.30)
05.	Ahammadabad	23,540 (11.56)	5,651 (3.33)	8786 (3.67)	20,533 (2.98)	30,771 (3.02)	29734 (2.63)	37,566 (1.58)	54,035 (1.63)	14,844 (0.76)
06.	Delhi	12,098 (5.94)	9083 (5.35)	10,076 (4.21)	48,631 (7.06)	67,840 (6.65)	51,759 (4.58)	93289 (3.93)	83,871 (2.53)	5,828 (0.30)
07.	Pune	3,459 (1.76)	3672 (2.16)	7,071 (2.86)	9,903 (1.44)	8,624 (0.85)	7,453 (0.66)	6,087 (0.26)	6,171 (0.19)	1171 (0.06)
08.	Ludhiana	1,620 (0.80)	2,488 (1.47)	4,849 (2.03)	5,274 (0.77)	8,315 (0.82)	5,978 (0.53)	7,741 (0.33)	9,732 (0.29)	857 (0.04)
09.	Bangalore	2,312 (1.13)	712 (0.42)	880 (0.37)	4,398 (0.64)	8,636 (0.85)	6,779 (0.60)	11,147 (0.47)	6,033 (0.18)	70 (0.00)
10.	ICSEIL	-	-	-	-	-	1 (0.00)	545 (0.02)	233 (0.01)	55 (0.00)
11.	Hyderabad	984 (0.48)	1,375 (0.81)	1,285 (0.54)	480 (0.00)	1,860 (0.18)	1,276 (0.11)	1,237 (0.05)	978 (0.03)	41 (0.00)
12.	SKSE	302 (0.15)	545 (0.32)	564 (0.24)	398 (0.06)	17	0	0	0	27 (0.00)
13.	Chennai	2,299 (1.13)	3,033 (1.79)	1,594 (0.67)	2,315 (0.34)	1,228 (0.12)	370 (0.03)	250 (0.01)	109	24 (0.00)
14.	Madhya Pradesh	134 (0.07)	118 (0.07)	204 (0.09)	12	1	1	10	2	24 (0.00)

Sr. No.	Stock Exchanges	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
15.	Vadodara	1,621 (0.96)	1,259 (0.53)	4,268 (0.62)	(0.45)	4,576	1,749 (0.15)	159 (0.01)	1	10 (0.00)
16.	OTCEI	365 (0.22)	218 (0.09)	221 (0.03)	(0.01)	125	142 (0.00)	3,588 (0.15)	126	4 (0.00)
17.	Guawahati	452 (0.22)	285 (0.17)	619 (0.76)	484 (0.07)	20	30	0	0	0 (0.00)
18.	Bhuvaneshwar	420 (0.21)	143 (0.05)	226 (0.09)	231 (0.03)	202 (0.02)	77 (0.01)	70	0	0
19.	Cochin	294 (0.14)	587 (0.35)	1803 (0.75)	1,401 (0.20)	1,783 (0.17)	773 (0.07)	0	187 (0.01)	0
20.	Magath	1,938 (0.95)	797 (0.47)	1,629 (0.66)	2,755 (0.40)	323 (0.03)	0	8	2	0
21.	Coimbatore	1,026 (0.50)	1310 (0.7)	2,503 (1.05)	2,398 (0.35)	2,136 (0.21)	395 (0.03)	39 (0)	0	0
22.	Jaipur	616 (0.30)	879 (0.52)	1,047 (0.44)	1,519 (0.22)	431 (0.04)	65 (0.01)	2	0	0
23.	Mangalore	107 (0.05)	62 (0.04)	39 (0.02)	373 (0.05)	306 (0.03)	11	0	0	0
	Total	203,702	1,69,686	2,39,236	6,88,334	10,19,944	11,28,851	23,71,247	33,13,338	19,46,865
	Share of largest stock exchanges	41.50	44.94	54.37	66.98	67.51	73.69	77.10	83.66	96.13
	Share of remaining	58.50	55.06	45.63	33.02	32.49	26.31	22.90	16.34	3.87

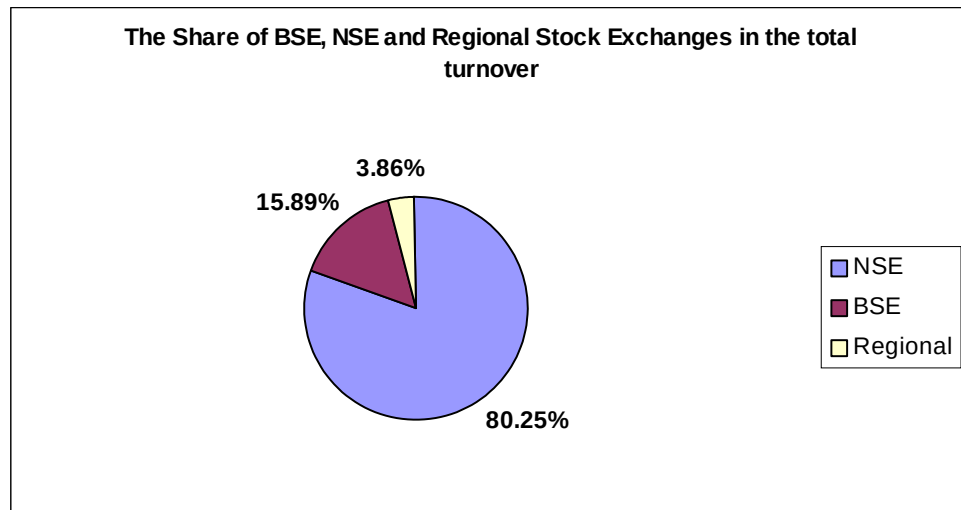
Note: Figures in brackets indicate percentage share in total turnover.

(Turnover means the total value of transactions of securities in all the market segments of an exchange.)

Source: SEBI

The Fig.5.1 shows the share of BSE, NSE and Regional Stock Exchanges in 2001-02.

Figure 5.1



Causes of Failures of Regional Stock Exchanges

1. The regional stock exchanges (RSEs) have a theoretical basis in the fact that for a vast country like India, a decentralised development of stock market is good for the balanced regional development. The decline in RSEs reflects the crisis and stagnation in the National stock market, which in turn has been the result of industrial recession and stock market scams which had destroyed the investor confidence thoroughly. Moreover local, regional, semi-urban people did not have adequate knowledge or analytical skills and quick information required for share investment.
2. BSE and NSE did not leave space for RSEs to grow. RSEs could not compete with BSE and NSE.
3. Listing fee was the major income of regional stock exchanges, and when companies started delisting their shares from RSEs, the very survival of them was difficult.

In order to revive the regional stock exchanges, Government of India is planning to set up an organisation called Indonext on par with Euronext of UK. The idea of Indonext is that all companies with paid up capital of Rs. 20 crores will be traded in Indonext only. Such companies cannot list in BSE and NSE. RSEs brokers will become the members of Indonext. Along with that, if SEBI allows future and options (F&O), the turnover will flourish in regional stock exchanges and they will be able to survive.

Recent Developments in Indian Stock Market

The last decade was a landmark in the history of Indian stock market. Vast reform measures have started. Innovative initiatives like screen based trading and establishment of IT backed National Stock Exchange took place in the first half of this decade. Such developments placed the Indian stock market in the forefront of modern well developed capital markets in the world. Now, Indian stock market is getting a lot of momentum and turnover, market capitalisation and the number of companies getting listed are increasing heavily.

Resource Mobilisation in the Post Reform Period - Structural Changes

When we initiated the reforms in India in the mid 1980s, people accepted it half-heartedly. People did not welcome the change. Following the reforms of 1980s, the Structural Adjustment Programmes (SAP) of 1990s was a 'Big Bang'. Major policy initiatives encompassing all major segments of the economy transformed the economic environment. Along with internal liberalisation, external liberalisation and competition were also ushered in, through reduction in input tariffs and liberalisation of imports. The sudden change in the economic environment and great expectations about the future potential in India, led to a sudden boom or euphoria in the Indian capital market. Even though the decade of the nineties witnessed sudden change in economic reforms, followed by two major stock market scams and high volatility in stock prices, the capital market as a whole experienced a steady, secular growth trend. It was for the first time in

India, resource mobilisation from primary market exceeded the assistance disbursed by all financial institutions. The resource mobilisation through the issue of corporate securities in the primary market rose to Rs. 68963 crores (excluding Euro issues) during 1990-2000, while during the same period, the assistance disbursed by all financial institutions rose to Rs. 68478 crores (ISMR, 2002 and RBI Handbook). This clearly shows the structural changes occurred and India has moved to a more or less market oriented economy. A new idea of private placement is 'in vogue' by corporate sector. Now disinvestment of public sector units is going on and even the central and state government are thinking of utilizing equity oriented investment projects.

Reforms in the Indian Capital Market Post 1991-The Globalisation Era

The period of globalisation witnessed tremendous changes in the capital market of India. It is worth to revisit some of the reforms (after 1991) and examine their impact on market efficiency.

Market Pricing of Issues

The Controller of Capital Issues (CCI) was abolished and the decision to leave the pricing of issues to the markets was some of the major steps taken in 1991. Earlier, companies used to issue their IPOs at Rs.10 at par. Now, the companies can decide what should be the premium of their shares and how much the company's share is worth. This reform replaced the beaucocratic price administration with market pricing, thereby facilitating the price discovery. Later, under the supervision of SEBI, book building mechanism was introduced and a better price recovery system was established.

Empowering the Regulatory Body - SEBI

The capital market regulating body, Securities and Exchange Board of India (SEBI), was set up in 1989 and started official functioning in 1992 with the responsibility of protecting the interest of investors and promoting and regulating

the development of securities market. It is mandatory that all intermediaries have to be registered with SEBI. SEBI is the most powerful body in India to control the capital market and it is being regulated by the Ministry of Finance. Disclosure and investor protection (DIP) guidelines are issued by the SEBI to protect the interests of the investors. After the setting up of SEBI, investors' grievances reduced substantially and confidence increased.

Open Electronic Limit Order Book and Screen Based Trading

The major paradigm shift in the case of capital market is the replacement of 'open outcry' system with the modern open electronic order book market. The open outcry system was prevailing in the stock market for more than a century. It is just like any market where brokers assemble in a trading floor and trade through shouting and hand signalling. The deficiency of this system is that its liquidity is limited to the ability of the market intermediaries to hold inventory of securities. Another deficiency is that all available information is not reflected in the market all of a sudden. So, some brokers have the advantage of making more profits than others. In other words, market is in the weak form of efficiency.

The Open Electronic Limit Order Book (ELOB) system is a countrywide computer based matching system. The advantage of this system is that it facilitates discovery of prices that reflect the combined resources and information of all traders. This system boosts up liquidity substantially. Moreover, it facilitates transparent screen based trading. The ELOB and screen based trading started in the National Stock Exchange (NSE) in 1994. This was a great leap forward in the case of Indian stock market. Bombay Stock Exchange (BSE) started ELOB and screen based trading in 1995.

Extension of Markets: Country wide Integrated Markets

When open-outcry system was dominant in Indian stock market, the traders and investors had to route their orders to Bombay through many intermediaries. This multiplication of intermediaries pushed up transaction costs.

There was price variation between Bombay and other parts of the country and intermediaries used to exploit the investors.

When NSE established satellite communication systems, paving way for a nationwide connectivity, the major deficiency of the open outcry system was removed. This led to the emergence of an integrated national market. With this screen based trading system, an order placed from any part of the country through computer can be matched with any order from any parts of the country. The ELOB system and the consequent country-wide integration of markets, succeeded in introducing the number of intermediaries substantially and thereby reducing transaction costs. This has removed discrepancies between markets, thereby contributing to market efficiency. Liquidity has increased tremendously and the market capitalisation ratio has increased more than one in India which is comparable with other developed markets.

Clearing House System

In the case of open-outcry system when the trades are not guaranteed by the stock exchange, there is a possibility of counter-party risk. The counter-party risk arises when one of the parties to a contract declares bankruptcy and reneges the contract. High volatility in stock prices adds to the possibility of counter party risk. The danger of counter party risk is that a default at the level of the one or few traders can lead to default at the entire market level and a systematic collapse through cascading effects. The problem of counter-party risk has been removed through a major reform in Indian stock market, called the Clearing House Corporation. This corporation guarantees each trading which is taking place in stock exchanges. It was from July 1996 onwards, the National Securities Clearing Corporation (NSCC) guarantees each trade and thereby removing the risk of counter party risk and its cascading consequences.

Depository Services

Since inception till 1996, share transfers in the market required physical movement of shares. This physical movement of shares generate direct back office cost for handling, transporting and storing certificates. In addition to that, certificates are vulnerable to theft, counterfeiting and inconsistent signatures. The back office work consists of filling the transfer deeds, affixing share transfer stamps, sending certificates to the company through post offices etc. This led to high transaction cost. Moreover liquidity of the stock was also affected because a share to get its name transferred, normally took 45 days to get it done. Moreover, companies also manipulated by making artificial scarcity of shares, thereby increasing the prices.

Problems which are arising from physical certificates have been solved through the novel system of depositories. A 'depository' is an institution which maintains an electronic record of ownership of shares. The storage and handling of certificates is hence immediately eliminated, which generates a reduction in cost. Furthermore, possibilities of forgery, counterfeiting and theft of securities are eliminated. The significance of the depository is that they reduce transaction cost, improve liquidity and help in better price realisation, thereby contributing to market efficiency. India has two depositories. India's first depository, the National Securities Depository Limited (NSDL), started functioning on 8th November 1996 promoted by the NSE. Later, BSE also started its depository called Central Depository Services Limited (CDSL).

Rolling Settlement

Before 1991 reforms, the trading cycle in stock exchanges varied from 14 days for specified securities and 30 days for non-specified securities with carry over facilities under the badala system. Here, actual delivery of securities and payment of cash after settlement took another 10 days or more after the trading cycle. Such long periods between entering into a contract and final settlement often caused defaults and settlement problems. In order to overcome these

problems, the settlement cycle was later reduced to one week. This weekly settlement period also created problems in the stock markets.

In India, after the securities market reforms, on par with international standards, India also introduced 'T+n' rolling settlement. Here 'T' denotes the trading day and 'n' refers to the number of days after the trading day, when actual settlement takes place. All shares were compulsorily moved to rolling settlement from December 2001. Started with T+5, now we have T+2 in Indian stock market and T+1 is in the offing. Only five countries in the world have adopted T+2 settlement system and India is one among them.

Derivatives Trading

Introduction of derivatives trading is one of the most important reforms in recent times. Derivatives like future and options are financial contracts which derive their value from 'the underlying'. The underlying refers to the spot market price of the product concerned. In India, trading in derivatives was introduced in June 2000. At present, the market offers index future and options and stock future and options in securities. Index futures and options are more advisable than the stock future and options. The clearing corporation guarantees all trade in the derivative market.

The key motivation for such instrument is that they are useful in reallocating risks either across time or among individuals with different risk bearing preferences. The advantage of derivatives is that they allow better risk management. Trading in derivatives enables risk minimisation through hedging and arbitrage.

Capital from abroad - GDRs and ADRs

Till 1994, Indian companies were allowed to raise resources only from the domestic market. Because of the financial liberalisation and globalisation in India, Indian corporate sector could mobilise resources from foreign countries through the issue of Global Depository Receipts (GDRs) and American Depository Receipts (ADRs) from 1992. Because of this facility, Indian

companies could flourish maximum and they could mobilise enough foreign savings for the capital formation in India. The Table 5.9 reveals the flow of ADRs and GDRs.

Table 5.9
ADRs / GDRs

Year	ADRs / GDRs (US \$ mn)
1992-93	240
1993-94	1597
1994-95	2050
1995-96	683
1996-97	1366
1997-98	645
1998-99	270
1999-00	768
2000-01	831
2001-02	477
2002-03	600
2003-04	459
2004-05	613

Source: RBI

The flow of ADRs and GDRs was only US 240 million dollars in 1992-93 and it increased to US \$ 2050 million in 1994-95, an increase of 8.5 times. The flow of ADRs and GDRs were not uniform. In 2004-05, it was only 613 million US dollars.

Foreign Portfolio Investment

Indian stock market was opened for foreigners since 1993. Foreign institutional investors (FIIs) were allowed to invest in Indian stock market and it gave a fillip to the secondary market. FPI played a significant role in boosting India's foreign exchange reserves at a time when the country's reserves position

was precarious. FPI boosted up the support when Indian stock market was dwindling after the crash of 1992. FPI has a positive effect from the macro-economic perspective. Increase in capital flows through FPI reduces the interest rate (via. increase in money supply). Reduction in interest rate has a positive impact on investment and growth. The Table 5.10 reveals the foreign investment inflows.

Table 5.10
Trends in FII Investment

Year	Gross Purchase (Rs. crore)	Gross Sales (Rs. crore)	Net Investment (Rs. crore)	Net Investment** (US \$mn.)	Cumulative Net Investment** (US \$ mn.)
1993-94	5593	466	5126	1634	1638
1994-95	7631	2835	4796	1528	3167
1995-96	9694	2752	6942	2036	5202
1996-97	15554	6979	8575	2432	7634
1997-98	18695	12737	5958	1649	9284
1998-99	16115	17699	-1584	-386	8898
1999-00	56856	46734	10122	2339	11237
2000-01	74051	64116	9934	2160	13396
2001-02	49920	41165	8755	1846	15242
2002-03	47060	44371	2689	562	15804
2003-04	144858	99094	45765	9949	25754
2004-05	216953	171072	45881	10172	35926

**Net Investment in US \$ mn at monthly exchange rate

Source: Securities Market (Annual series, National Stock Exchange Ltd, 2006)

Table 5.10 shows that net FII investment has increased from Rs. 5126 crores to Rs. 45881 crores in 2004-05, a nine fold increase in twelve years. Since the FPI is hot money, sudden reversal of foreign capital (capital flight) can disturb the macro-economic policies. Contagion is very common in emerging markets. When the researcher has enquired with top officials in RBI, they have

opined that they are in a position to overcome this kind of shocks, because RBI is concentrating on fuller convertibility rather than full convertibility. Moreover 48 per cent FII inflows were participatory notes in 2004-05 (Refer EPW, January 1, 2006, p.98). This money is routed through Mauritius.

Book Building

In 1995 book building was introduced in India. In the USA this was highly successful. Book building is a process of offering securities based on bids received from investors. Better price discovery can happen with the help of this process. But, we are of the opinion that a lot of manipulation is being done in India in the case of book building. Road shows are not conducted and book builders manipulate the price. SEBI must keep a strict vigil on this issue.

Demutalization of Stock Exchanges

Indian stock exchanges are the institutions of brokers, for the brokers and by the brokers. India demutalized its National Stock Exchange in 2001. Normally broker owned, controlled and managed the stock exchanges. Under the corporatisation of ownership, management and trading membership are segregated from one another. NSE has a demutualised governance structure. For other exchanges, government offered many concessions and tax incentives to facilitate corporatisation. Recently, Government of India decided to offload major shares of Bombay Stock Exchange and BSE is planning to go for a public issue shortly.

Risk Management

Stock markets are meant for their natural volatility. According to the proponents of financial liberalisation hypothesis, they advocate that volatility will reduce when market becomes mature. In order to avoid market failures and systematic collapse, market integrity is essential. In order to have market integrity, it requires comprehensive risk management system. In India, we had many stock market scams and crashes, and after learning from these lessons, many comprehensive risk management system has been introduced viz., the capital adequacy of members, adequate margin requirements, limit on exposure

and turnover, indemnity insurance, on-line position monitoring and automatic disablement, circuit breaks or price bands, etc. And also, there are systems for efficient market surveillance to curb excessive volatility and to prevent price manipulations.

Other Measures

In addition to the measures mentioned, a number of other reforms were also introduced in India. They are: (i) code of take overs / acquisitions and mergers, (ii) stock buy back facility for companies, (iii) opening up of the mutual fund industry to private sector, (iv) stock lending, and (v) disclosure and investor protection guidelines

India and the World Stock Market

Indian capital market is the second largest in the world after the United States. There are 35 countries which are emerging capital markets and India is the largest in terms of number of listed companies. In terms of number of transactions, India's leading stock exchanges NSE and BSE stood fifth and seventh position respectively among the stock exchanges in the world in 1999. An estimated 19 million individual investors were in India at the end of 1998-99 (Pratip et al, 2000)¹². The Table 5.11 reveals India's corporate position in the world's stock markets.

Table 5.11

Stock market development-international comparison: December '04

Particulars	USA	UK	Japan	Germany	Singapore	Hong Kong	China	India
No. of listed companies	5231	2486	3220	660	489	1086	1384	4730
Market capitalization (\$ bn)	16324	2816	3678	1195	172	861	640	388
Market capitalization ratio (%)	148.2	167.6	84.3	57.3	190.1	488.8	45.2	68.0
Turnover (\$)	1935	3707	3430	1406	81	439	748	379

bn)	5							
Turnover ratio (%)	126.5	140.5	103.5	123.7	51.2	55.7	113.3	113.7

Source: S & P Global Stock Markets Fact book, 2005

Following the implementation of reforms in the securities industry since the last decade, Indian stock markets have stood out in the world ranking as well as in the developed and emerging markets. As may be seen from Table 5.11, India has a turnover ratio of 113.7 per cent which is quite comparable to other developed market like the US and UK, which has turnover ratio of 126.5 per cent and 140.5 per cent, respectively. As per the Standard and Poor's Fact book, India ranked 18th in terms of market capitalisation and total value traded in stock exchanges and 15 in terms of turnover ratio as on December 2004. India ranked second in terms of listed securities zone, the exchange next only to the USA. These data, though quite impressive, do not reflect the full Indian market, as S&P does not cover the whole market. India has approximately 9000 companies listed at the end of March 2005, while S&P considers only 4730 companies. If the whole market were taken into consideration, India's position vis-à-vis other countries would be much better.

It is evident from the analysis that India has attained a notable position among international capital markets. Since India is an emerging market and the spending habits of the people are changing, companies are performing extremely well and therefore there is a tremendous potential for further growth.

Dependence on Securities Market -Corporate Sector and Central Government

The share of securities market in corporate finance increased from 19.35 per cent in 1991 and reached 31.39 per cent in 2000-01 and went down due to depressed conditions in the primary and secondary markets. The peak of 53.23 per cent growth was achieved during 1993-94, but it could not be sustained.

Due to increase in the fiscal deficits of the Central Government, their dependence on market borrowings to finance fiscal deficits has increased from

17.9 per cent in 1990-91 to 69.4 per cent in 2001-02 (refer Indian Securities Market, A Review (ISMR) 2005).

Investor Population

Though BSE started in 1885, even after one century the number of investors was very small even in 1970s. But, there was tremendous growth in the number of investors in the eighties and nineties. The number of share owning individuals and households estimated in various survey reports like SEBI - NCAER survey of Indian investors, survey made by Society for Capital Market Research and Development etc. are compiled and presented in the Table 5.12.

Table 5.12
Growth of share owning population in India
(in millions)

Year	Estimated number of share owning households	Estimated number of share owning individuals
1975	0.6	1.2
1980	1.05	2.4
1985	2.6	6.0
1990	3.9	9.0
1997	N.A	20.0
1999	12.8	19
Compound Growth Rate (%)	13.6	12.2

N.A-Not Available

Source 1: Gupta. L.C (1991) *Indian Share Owners – A Survey: New Delhi, Society for Capital Market and Research and Development.*

Source 2: Gupta. L.C (1999) *India's Financial Markets: New Delhi – Society for Capital Market Research and Development.*

Source 3: Pratip Kar et al (2000) *SEBI – NCAER Survey of Indian investors, Mumbai – SEBI.*

The Table 5.12 reveals that the number of share owning households increased from 0.6 million in 1975 to 12.8 million in 1999. But, the number of share owning individuals increased from 1.2 million in 1975 to 20 million in 1997. The number of investors declined to 19 million in 1999. The investor

households have increased at a compound growth rate of 13.6 per cent during the period 1975–99, whereas the corresponding growth in share owning individuals increased to 12.2 per cent during the same period.

Geographical Distribution of Investors

It is not necessary that the investor population in a country may be uniformly spread throughout the country. The same is the case with India also. They may be concentrated in certain geographical areas. Study of geographical distribution of investors among various places in the country provides a factual description of its distribution and analyses the trend of changes in this regard. An earlier study made in India reveals that geographical distribution of investors is not evenly spread in the country (Gupta et al, 1994)¹³. About 55.3 per cent of individual share owners in India belong to five cities. The top ten cities ranked by their percentage share of total account for nearly two thirds (65.3 per cent) of India's total number of share holders. The distribution of share ownership by States and Union Territories showed that just five states accounted for 74.7 per cent of the countries share ownership population and 71.7 per cent of the aggregate value of the share holdings of individuals in India. Among the five states, Maharashtra tops the list with Gujarat, as a distant second followed by West Bengal, Delhi and Tamilnadu¹⁴.

Stock Market Efficiency - Reduction in Transaction Cost

Efficiency of the stock market is measured by its transaction costs. Bencivenga, Smith and Starr (1996)¹⁵ investigated transaction costs in secondary capital market that represents genuine resource loss and they have examined the consequences for determining saving, investment, the composition of the capital stock and asset pricing. Transaction costs involve real resource losses, but reduction in transaction costs raise steady-state welfare. Liberalisation and globalisation initiatives have drastically reduced transaction cost in Indian capital

market. India's stock market transaction cost now, is on par with international standards. This is evident from Table 5.13.

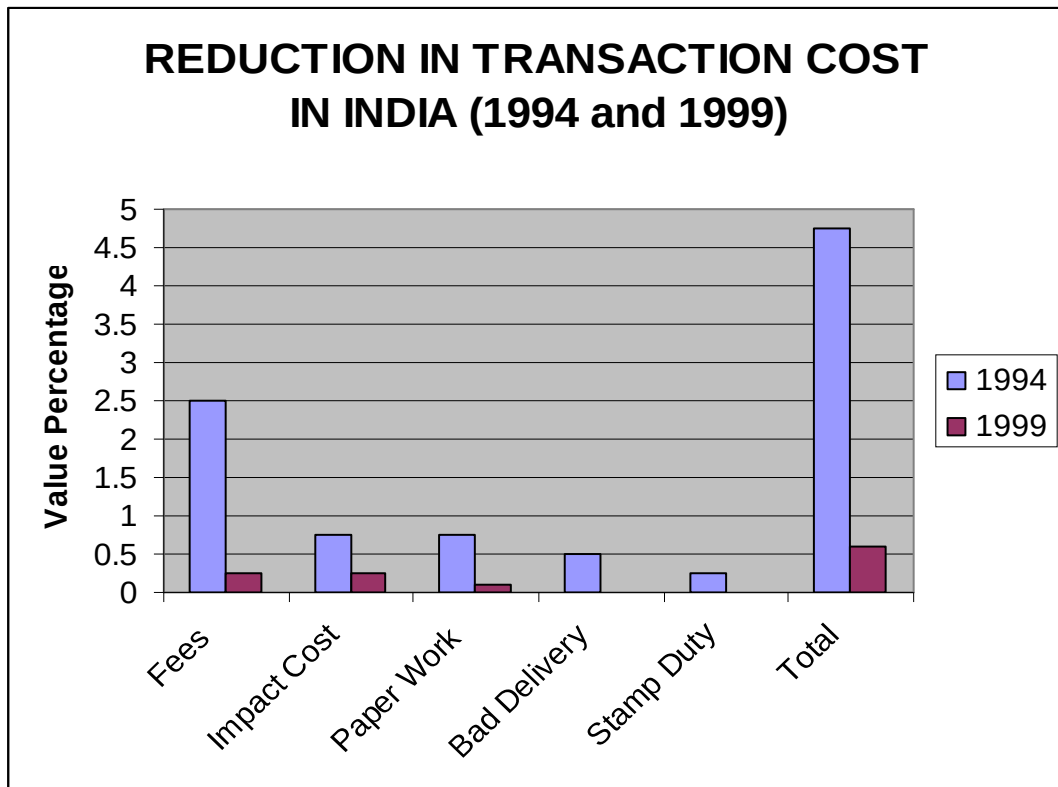
Table 5.13
Reduction in transaction cost in India (1994 and 1999)

Transaction cost	1994	1999	Global Best
Trading %			
Fees	2.5	0.25	0.25
Impact Cost	0.75	0.25	0.20
Clearing Counter Party Risk	Present	Nil	Nil
Settlement \$% Paper work	0.75	0.10	0
Bad Delivery	0.50	0	0
Stamp Duty	0.25	0	0
Total (%)	> 4.75	0.60	0.45

Source: National Stock Exchange

From the Table 5.13 it is clear that transaction costs such as trading fees, bad delivery, counter-party risk and stamp duty are all on par with rest of the world. But in the case of impact cost, India lacks the global best parameters. The impact cost can be found out by the buyers' quotations and sellers' quotations. If it is narrow down, we can say that efficiency increases. When total transaction costs are taken it is evident that, in 1994 it was 4.75 per cent and it reduced to 0.60 per cent in 1999. This reduction in transaction cost is purely the globalisation effect and this was possible because of the technological revolution in Indian stock market. Market efficiency has improved because of drastic reduction in transaction cost. The Figure 5.2 exhibits the reduction in transaction cost.

Figure 5.2



Conclusion

India has witnessed a veritable explosion of capital market growth. The 1990s witnessed a big leap in the quantity as well as the efficiency of resource mobilisation. The capital market reforms, a part of the Structural Adjustment Programme of 1991, substantially improved the overall efficiency of the Indian capital market. The reduction in transaction cost and market capitalisation ratio reaching more than 100 per cent is worth mentioning. The globalisation has welcomed the foreign institutional investors (at present more than 1044 FIIs are registered with SEBI). In terms of number of companies listed, number of intermediaries and the products available are immense. Indian stock market is also getting matured and it can be compared with other developed stock markets in the world in terms of the accepted parameters.

References:

1. Raymond Atje and Jovanovic B. (1993): "Stock Market and Economic Growth" *European Economic Review*, Vol. 37, pp. 632-640.
2. Misra B.M (1997): *Fifty Years Of Indian Capital Market 1947-1997*, Mumbai, Reserve Bank of India, Occasional Papers, Vol. 18, No. 2 & 3.
3. Ajay Shah and Susan Thomas (1997): *Securities Markets towards Greater Efficiency* in Parekh Kirit. S. (Ed.) p. 186
4. Bhole L.M (1999): *Financial Institutions And Markets, Structure, Growth and Innovations*, Tata-McGraw-Hill Publishing Company Limited, New Delhi, p. 439.
5. Machiraju H.R (1998): *Indian Financial System*, Vikas Publishing House Private Limited, New Delhi, p. 111.
6. Ramasastri A.S (2000): "Market Efficiency in The Nineties: Testing Through Unit Roots", *Prajan*, Vol. XXXVIII, No. 2, p. 155
7. Balakrishnan and Nartha S.S (1997): *Security markets in India*, Kanishka Publishers and Distributors, New Delhi, p. 273
8. The Stock Exchange Official Directory, Mumbai (1878): The Stock Exchange Foundation vol. 29, (1), p. 6
9. Ibid p. 6
10. Investor's Year Book 2000-01, The Economic Times Knowledge Services, Mumbai, p. 24
11. Ibid p.5
12. Pratip Kar et al (2000): *Survey of Indian Investors*, Mumbai: Securities and Exchange Board of India, p 23.

13. Gupta L.C et al (1994): Share Owners Geographical Distribution: City wise, Urban wise, Rural wise and State wise, Society for Capital Market Research and Development , New Delhi, p. 28
14. Ibid p. 71.
15. Bencivenga, Valeri R, Bruce D. Smith, Ross M. Starr (1996): “Equity Markets, Transaction Cost, and Capital Accumulation: An Illustration”, *The World Bank Economic Review*, Vol.10, No.2,pp.241-265.

CHAPTER 6

ANALYSIS OF THE IMPACT OF STOCK MARKET ON MACRO-ECONOMY

The role and importance of capital market in the economic development has already been discussed. The capital market performs an important function in the allocation of resources. The ability of the capital market to do resource allocation in an effective and efficient way is critically related to market efficiency. When markets are efficient and healthy, the firms that do well in terms of the 'real economy' would be rewarded with funds for growth and expansion. Such markets would be successful in avoiding the allocation of scarce savings to low productivity firms and would produce incentives for them to focus their engines and attention upon operations in the real economy so as to improve the quality of capital utilisation. Well functioning and healthy capital markets are hence a mechanism for converting a given stock of investible funds to large flow of goods and services.

Indian capital market has witnessed a plethora of changes since 1991. These changes are due to the nation wide integrated secondary markets based on electronic order matching, well functioning clearing houses, promotion of depository and similar value added services. These changes have made to reduce the transaction cost and also increased the market efficiency which is necessary for creating conducive climate for investment and economic growth. The primary and secondary market witnessed phenomenal growth in early nineties of the last century. A large number of companies placed their IPOs successfully during this period of time.

So far no serious academic work has been undertaken to construct a capital market index. A few studies have been done by Demirguc – Kunt, Asli and Levin Ross (1996)¹ and Pagano (1993)². A few attempts have been made in the past to construct the equity market development index with the help of three

indicators viz; market capitalisation ratio, value traded ratio and turnover ratio (See Pagano 1993, Demirguc – Kunt, Aslial and Levin Ross, 1996)

STOCK MARKET DEVELOPMENT AND FINANCIAL INTERMEDIARIES -- SOME STYLIZED FACTS

In the present research, the term stock market development and capital market development have been used interchangeably. Existing theory does not provide a unique concept of stock market development to guide empirical research. Stock market development is a multi faceted concept, involving issues of market size, market liquidity and integration with world markets.

If the markets are not integrated, the price of risk may differ across markets. This may be due to capital controls and other barriers. On the contrary, if the markets are financially integrated the capital should flow across borders to equalise the price of risk. Korajczyk (1996)³ estimates deviations from the law of one price of risk using the International Arbitrage Pricing Model (IAPM). In his theory Korajczyk finds that the market segmentation is larger for emerging markets than developed markets. Also the market segmentation decreases through time for many countries, suggesting a reduction in barriers to capital flows.

By using Korajczyk's measure of market integration as well as measures of stock market size, liquidity, volatility, concentration and institutional development indicators for 44 developed and emerging markets from 1986 to 1993, Demirguc - Kunt and Levine find that large markets tend to be less volatile, more liquid and less concentrated in a few stocks than similar markets. Moreover, internationally integrated markets tend to be less volatile. And also, the institutionally developed markets with strong information disclosure laws, international accounting standard and unrestricted capital flows have larger, more liquid markets. They also find that Indonesia, Turkey, Portugal and Venezuela have experienced explosive stock market development. The above said four countries' liberalised restriction on portfolio and dividend flows, points out the importance of policies in affecting stock market development. Levine

and Zervos (1995)⁴ also show that the countries which liberalised restrictions on capital and dividend flows shows a marked improvement in the functioning of their stock exchanges.

Levine and Zervos (1995) explored the effects of liberalisation of capital controls. 14 countries have been identified and significantly reduced barriers to international capital and dividend flows in 1980s. They showed that these countries enjoyed rapid improvements in the functioning of their stock markets following liberalisation. One common interesting thing is that their results suggest that the stock return volatility rises immediately following capital control liberalisation. But the analysis of Demirguc – Kunt and Levine implies that, in the long term, stock return volatility is lower in countries with more open capital markets.

Demirguc - Kunt and Levine also examined the interaction between stock market development and financial intermediaries. They have come to the conclusion that as countries grow and reach middle income (about \$ 2000, per capita in 1990), stock markets and non-bank financial intermediaries grow rapidly. As stock markets and non-banks grow in importance, banks represent a correspondingly smaller share of the overall financial markets and non-banks prosper. They found that across countries, the level of stock market development is positively correlated with the development of financial intermediaries. Thus, stock markets and financial institutions are generally compliments and they grow simultaneously.

STOCK MARKET DEVELOPMENT AND LONG RUN ECONOMIC GROWTH

Levine and Zervos empirically examined the relationship between measures of stock market development and long run economic growth rates. They constructed aggregate indices of overall stock market development which comprises of information on stock market size, liquidity and international integration. Levine and Zervos used instrumental variable procedures and

control for many other variables associated with economic growth to assess the strength of the empirical relationship between economic growth and stock market development. After controlling the initial level of GDP per capita, initial investment in human capital, political stability, the level of banking development and measures of monetary, fiscal and exchange rate policy, the predetermined component of stock market development remains positively and significantly correlated with long-run economic growth.

Demirguc-Kunt and Vojislav Maksimovic (1996)⁵ found that firms in countries with underdeveloped stock markets first increase their debt equity ratio as the stock markets develop. Thus they not only issue new equity, but also borrow more. This relationship changes as stock markets develop. Firms in countries with relatively developed stock markets substitute the equity for debt as stock markets develop further. These findings are consistent with the view that in the early stages of stock market development, improvements in stock market functioning tends to improve information quality, monitoring and corporate control, such that these improvements induces creditors to lend more. For these firms, debt and equity finance are complementary. Boyd and Smith (1996)⁶ made a model and suggested that stock markets and banks act as compliments rather than as a substitute sources of capital.

Demirguc-Kunt and Levine (1996) examined different measures of stock market development like stock market size, market liquidity, market concentration, marketability, institutional development and integration with world capital markets. Since each indicator suffers from statistical and conceptual shortcomings, the authors used a variety of indicators which provide a more accurate depiction of stock markets than any single measure. However, one should keep in mind that stock market development is a multifaceted concept and no single measure will capture all aspects of stock market development.

It is now evident that stock markets are more liquid, less volatile and more internationally integrated than smaller markets. Countries with strong information disclosure laws, internationally accepted accounting standards and

unrestricted international capital flows tend to have larger and more liquid markets. Countries with markets concentrated in a few stocks tend to have smaller, less liquid and less internationally integrated markets. Moreover internationally integrated markets are less volatile.

Many stock market development indicators are significantly correlated in an intuitively plausible fashion. They produce indices that average together the information contained in the individual indicators. Developing aggregate indices that summarises the extent of a country's stock market development in a single figure is essentially helpful for analysts who are engaged in making comparisons across countries. These indices can be used in empirical studies linking stock market development and other phenomena as explained by Levine and Zervos (1996)⁷ and Demirguc-Kunt and Maksimovic (1996). They have found that from 1986 to 1993, the most developed stock markets are Japan, the United States and the United Kingdom and the most under developed markets are Columbia, Venezuela, Nigeria and Zimbabwe. Further, countries like Hong Kong, Singapore, the Republic of Korea, Switzerland and Malaysia have highly developed stock markets and Turkey, Greece, Argentina and Pakistan have underdeveloped markets (Appendix 2).

Demirguc and Maksimovic (1996) have found in their study that sindex was highest for Hongkong (0.73) and lowest for Turkey (0.05), (Appendix 1).

Many stock market development indicators are highly correlated with the development and efficient functioning of banks, non-bank financial corporations, private insurance companies and pension funds. Countries with developed stock market tend to have well developed financial intermediaries also.

INDICATORS OF STOCK MARKET DEVELOPMENT

One theoretical literature examines the relationship between particular attributes of such markets both economic growth as well as firms financing decisions. Devereux and Smith (1994)⁸ and Obstfeld (1994)⁹ showed that by

facilitating risk sharing, internationally integrated stock markets affect saving decisions, the allocation of capital, and long-run economic growth rates.

Greater risk diversification and liquidity have theoretically ambiguous effects on savings rates. According to some economists, saving rates could fall sufficiently for enhanced liquidity and risk diversification leading to slower economic growth. Levine (1991)¹⁰ and Bencivenga, Smith and Starr (1996)¹¹ emphasised that stock market liquidity - the ability to easily trade securities - facilitates investments in the long run higher return projects that involve more transactions. Pagano (1993) studied the increased risk sharing benefits of larger stock markets due to their thick market externalities. Delong et al (1989)¹² argued that excess volatility in the stock market can hinder investment and growth. Also there is a considerable disagreement over the existence of the excess volatility in stock returns (refer Shiller, 1981)¹³.

Theory provides a rich source of channels like – market size, liquidity, integration with world capital markets and capital market volatility – through which stock markets may be linked to economic growth and corporate financing decisions. A few stock market development indicators have been discussed here based on existing theoretical studies. The measure of market size, market liquidity (i.e., turnover ratio and value traded ratio), market volatility, market concentration, asset price efficiency, regulatory and institutional development and a conglomerate index called sindex have been described. Table 6.1 reveals the growth of Indian Stock Market based on selected indicators for the period 1979-80 to 2004-05.

It is clear from the Table 6.1 that the number of stock exchanges has increased from 9 to 23. Listed firms have increased from 992 in 1979-80 to 5869 in 2000-01 and reduced to 4731 in 2004-05. Market capitalisation has increased from Rs. 5421 crores in 1979-80 to Rs.1698428 crores in 2004-05, an increase of 313 times which is a remarkable one. Turnover also has increased 227 times during the same period. The sensex which was 122 in 1979-80 increased to 5471 in 2004-05.

Table 6.1

The growth of Indian Stock Market: Select Indicators
(Bombay Stock Exchange)

Year	Number of Exchanges	Listed Firms	Market Capitalisation (crores)	Total Turnover (crores)	BSE Sensex	Real GDP (crores)
1979-80	9	992	5421	2283	122.32	374291
1980-81	9	NA	6180	2476	138.87	401128
1981-82	9	NA	9270	6851	207.91	425073
1982-83	11	1161	9769	4357	221.51	438079
1983-84	12	1295	10219	2488	238.33	471742
1984-85	13	1529	20378	4796	266.19	492077
1985-86	14	1911	21636	7429	492.23	513990
1986-87	15	2095	25937	13691	567.39	536257
1987-88	15	2240	45519	7913	454.46	556778
1988-89	15	2275	54560	20563	613.46	615098
1989-90	19	2247	65206	29386	729.49	656331
1990-91	19	2471	90836	36012	1049.53	692871
1991-92	21	2601	323363	71777	1879.51	701863
1992-93	22	2861	210952	45696	2895.67	737792
1993-94	23	3858	398432	84536	2898.69	781345
1994-95	23	4702	468837	67749	3974.91	838081
1995-96	23	5603	563748	50063	3288.68	899563
1996-97	23	5832	505137	124284	3469.24	970082
1997-98	23	5853	630221	207644	3812.86	1016595
1998-99	23	5849	619532	311999	3294.78	1082748
1999-2000	23	5815	912842	685028	4658.63	1148368
2000-01	23	5869	571553	1000032	4269.69	1198592
2001-02	23	5782	612224	307292	3331.95	1267833
2002-03	23	5650	570568	314073	3206.29	1318321
2003-04	23	5528	1201206	503053	4492.19	1426701
2004-05	23	4731	1698428	518715	5740.52	1529408

Source: SEBI, *Indian Securities Market. A Discussion paper, 1994, p.37*, RBI *Annual Report, various issues* and *SEBI Annual Report, various issues*.

NA-Not Available

Stock Market Size

Generally, analysts use market capitalisation ratio as a measure of stock market size. Market capitalisation ratio is found out by the value of listed shares divided by Gross Domestic Product (GDP). In terms of economic significance, the assumption behind market capitalisation is that market size is positively correlated with the ability to mobilise capital and diversify risk. Countries like South Africa, Hong Kong, Malaysia, Japan and Singapore had market capitalisation ratio greater than one from 1986 to 1993, while Nigeria, Argentina, Indonesia, Colombia and Turkey had market capitalisation ratios less than 0.10 during the same period (see Appendix 2).

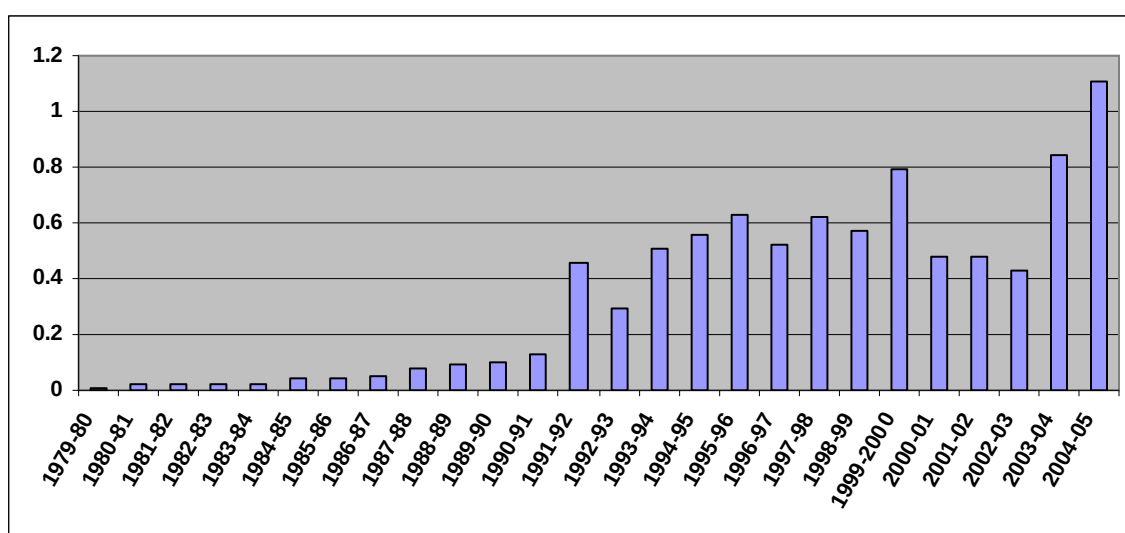
Table 6.2 reveals that the market capitalisation ratios for shares listed at BSE was as low as 0.015 in the year 1979-80 and gradually increased to 1.11 in the year 2004-05. The data shows that, though there has been little improvement in the size of capital market during the beginning of 1980s, the size of capital market witnessed drastic improvement during the decade of economic reforms. The market capitalisation ratio was less than one in India, whereas in developed countries it was more than one. There is enough scope for enhancing capitalisation of new companies in the Indian capital market and there is enough room for developing further.

Table 6.2
Market Capitalisation Ratio

Year	Market Capitalization Ratio	Year	Market Capitalization Ratio
1979-80	0.01	1992-93	0.29
1980-81	0.02	1993-94	0.51
1981-82	0.02	1994-95	0.56
1982-83	0.02	1995-96	0.63
1983-84	0.02	1996-97	0.52
1984-85	0.04	1997-98	0.62
1985-86	0.04	1998-99	0.57
1986-87	0.05	1999-2000	0.79
1987-88	0.08	2000-01	0.48
1988-89	0.09	2001-02	0.48
1989-90	0.10	2002-03	0.43
1990-91	0.13	2003-04	0.84
1991-92	0.46	2004-05	1.11

Source: Computed from BSE Annual Capital Market Review (various issues), National Accounts Statistics (NAS) (various issues) and RBI Annual Report (various issues)

Figure 6.1: Market Capitalisation Ratio from 1979-80 to 2004-05.



The bar chart as given in Fig.6.1 shows that the market capitalisation has risen to the highest level of 1.1 during 2004-05, which was the period in which very high activity was reflected in the stock market.

Liquidity

Though economists advance many theoretical definitions of liquidity, analysts generally refer the term as the ability to easily buy and sell securities. Since liquidity allows investors to alter their portfolios quickly and cheaply, it makes the investment less risky and facilitates long term more profitable investments. Liquidity is one of the most important attributes of stock market development. Theoretically liquid markets improve the allocation of capital and enhance prospects of long - term economic growth. A comprehensive measure of liquidity would quantify all the costs associated with trading, including time costs and uncertainty of finding a counterpart and settling the trade.

There are two types of liquidity measurements viz., value traded ratio and liquidity ratio. Value traded ratio can be found out by dividing total value traded on the stock exchange divided by GDP. The total value traded ratio measures the organised trading of equities as a measure of national output and should therefore positively reflect liquidity on an economy-wide basis. World Bank group study conducted by Demirguc – Kunt and Levine, 1996 (see Appendix 2) revealed that Japan, Hong Kong, Malaysia, the United States and United Kingdom all had the total value traded / GDP ratios above 0.40, while in Pakistan, Zimbabwe, Columbia and Nigeria, the total value traded / GDP ratio was 0.01 from 1986 to 1993. Value traded ratio complements the market capitalisation ratio. Although market capitalisation may be large, there may be little trading. The market capitalisation ratio and value traded ratio together give better information about market size and liquidity. Table 6.3 clearly shows that value traded ratio was 0.01 in 1979-80 and 0.83 in 2000-01 and declined to 0.34 in 2004-05. This value traded ratio varies depending upon the euphoria and depression in the stock market.

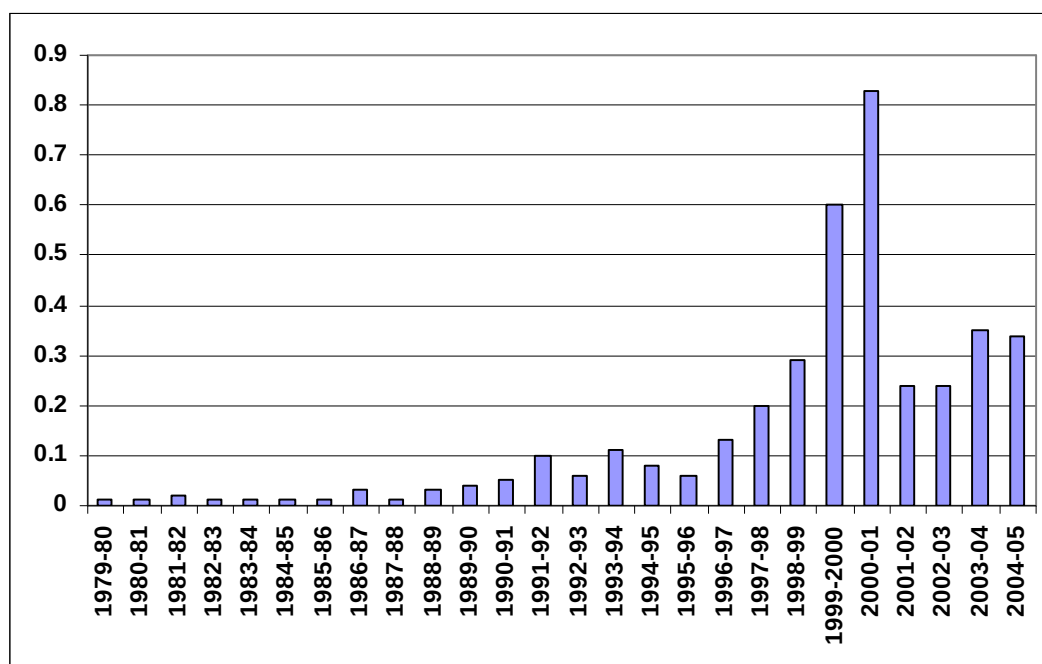
Table 6.3
Value Traded Ratio

Year	Value Traded Ratio	Year	Value Traded Ratio
1979-80	0.01	1992-93	0.06
1980-81	0.01	1993-94	0.11
1981-82	0.02	1994-95	0.08
1982-83	0.01	1995-96	0.06
1983-84	0.01	1996-97	0.13
1984-85	0.01	1997-98	0.20
1985-86	0.01	1998-99	0.29
1986-87	0.03	1999-2000	0.60
1987-88	0.01	2000-01	0.83
1988-89	0.03	2001-02	0.24
1989-90	0.04	2002-03	0.24
1990-91	0.05	2003-04	0.35
1991-92	0.10	2004-05	0.34

Source: Computed from BSE Annual Capital Market (NAS) (various issues) and RBI Annual Report (various issues)

While we compare with other countries, Indian stock markets are having very high liquidity after the introduction of National Stock Exchange in the country and the value traded ratio is on par with other developed markets in the world.

Figure 6.2: Value Traded Ratio from 1979-80 to 2004-05.



The bar chart as given in Fig.6.2 also confirms that the value traded ratio was the highest during 2000-01. This was the year in which Government of India made a lot of stock market friendly measures.

Turnover ratio

As we have already explained, the second measure of liquidity is the turnover ratio. Turnover ratio is evaluated by dividing the value of total shares divided by market capitalisation. High turnover is often considered as an indicator of low transaction costs. Korea and Germany had turnover ratios above 0.90, while Nigeria, Zimbabwe and South Africa had turnover ratios below 0.05 from 1986 to 1993 [Demirguc – Kunt and Levine, 1996] (see Appendix 2). The turnover ratio also complements market capitalisation. A small but active market will have small market capitalisation but high turnover.

Turnover ratio complements the value traded ratio. Although the total value traded / GDP captures trading compared with the size of the economy, turnover ratio measures trading relative to the size of the market. To put it differently, a small liquid market will have high turnover ratio, but a small total

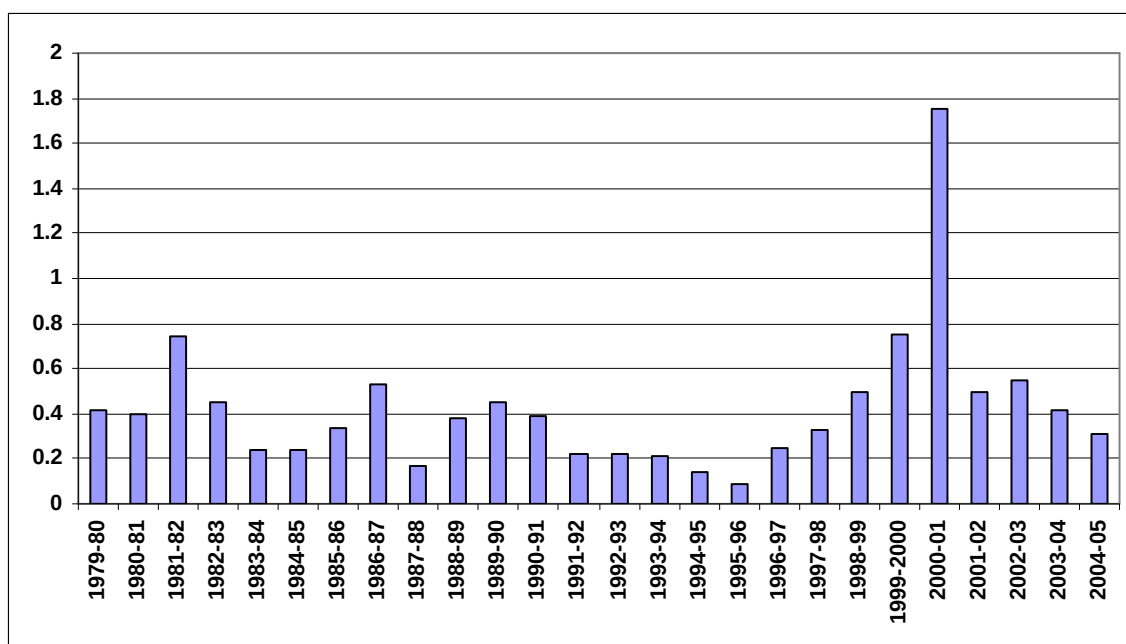
value traded / GDP ratio. By incorporating information on market capitalisation, total value traded / GDP and turnover provides a more comprehensive picture of stock market development than any single indicator.

Table 6.4
Turnover Ratio

Year	Turnover Ratio	Year	Turnover Ratio
1979-80	0.42	1992-93	0.22
1980-81	0.40	1993-94	0.21
1981-82	0.74	1994-95	0.14
1982-83	0.45	1995-96	0.09
1983-84	0.24	1996-97	0.25
1984-85	0.24	1997-98	0.33
1985-86	0.34	1998-99	0.50
1986-87	0.53	1999-2000	0.75
1987-88	0.17	2000-01	1.75
1988-89	0.38	2001-02	0.50
1989-90	0.45	2002-03	0.55
1990-91	0.39	2003-04	0.42
1991-92	0.22	2004-05	0.31

Source: Computed from BSE Annual Capital Market Review (various issues), National Accounts Statistics (NAS) (various issues) and RBI Annual Report (various issues).

Figure 6.3: Turnover Ratio from 1979-80 to 2004-05



From Table 6.4, it is evident that the turnover ratio for the Indian capital market has almost the same behaviour as the value of shares traded to GDP ratio. This ratio had been 0.42 in 1979-80, went down to 0.17 in 1987-88. It was due to post scam jerk and depression experienced by the Indian stock market. Later due to the effect of capital market reforms and economic reforms, this ratio went up to 1.75 in 2000-01 and further declined to 0.31 in 2004-05. Fig. 6.3 also confirms this trend.

Concentration ratio

When a few companies dominate the stock market, concentration takes place. High concentration is not at all desirable because it may adversely affect the liquidity of the market. In order to measure the degree of market concentration, the share of market capitalisation accounted for by the ten largest stocks is computed. Highly developed countries like the United States and Japan have a very low concentration. Countries like Venezuela, Argentina and Columbia were having concentration ratios above 0.60 for the period from 1986 to 1993. This concentration is three times larger than the United States and

Japan (Appendix 2). In the case of India, the concentration ratio is around 0.22 as revealed in Appendix 2.

Volatility

Volatility in stock returns has noticed in Indian stock market during the liberalisation and globalisation programmes. Volatility is another attribute which has received significant attention in the literature and has attracted the interests of practitioners in the field. Greater volatility is not a good sign for a developed market. Country wide studies revealed that volatility in Pakistan, the United States and Netherlands averaged above 0.03 from 1986 to 1983, while volatility in Brazil and Argentina was above 0.25 (Appendix 2).

Volatility can be measured by different methods. A simple measure of volatility at Bombay Stock Exchange has been taken, defined as yearly high minus low divided by the average of the Sensex of each year from 1989-90 to 1999-2000.

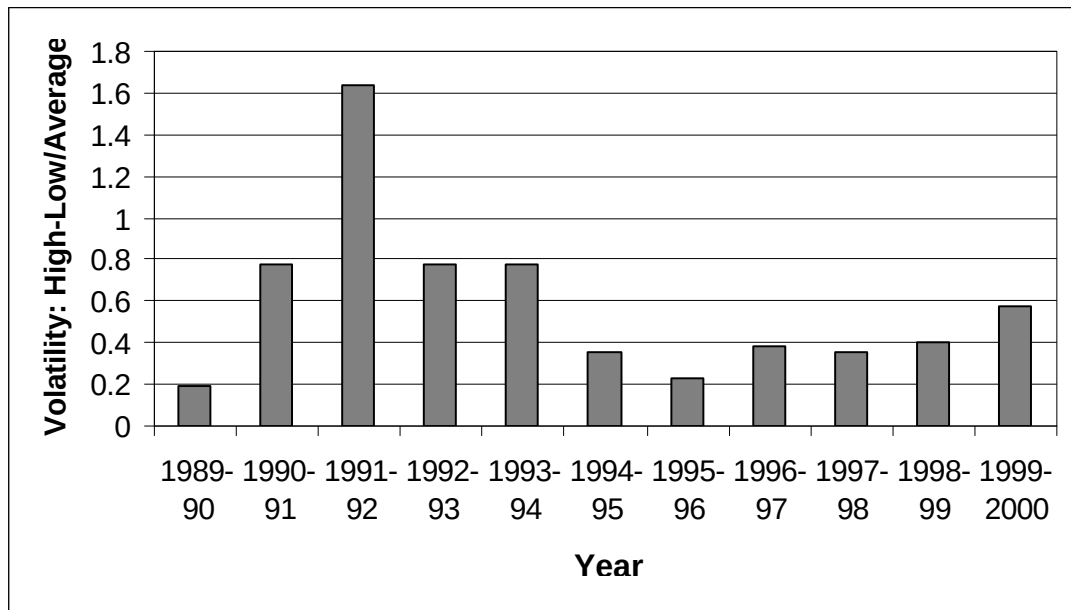
Table 6.5

Volatility of Sensex at BSE

Year	Volatility
1989-90	0.19
1990-91	0.77
1991-92	1.64
1992-93	0.77
1993-94	0.78
1994-95	0.35
1995-96	0.23
1996-97	0.38
1997-98	0.35
1998-99	0.40
1999-2000	0.58

Source: BSE

Figure 6.4 : Volatility of Sensex at BSE



From Table 6.4 and Fig. 6.4, it is very clear that the volatility was the highest during 1991-92 at 1.64. The globalisation programmes of the Indian stock market corroborated with Harshad Mehta's scam led the stock exchanges experienced a very large fluctuations at that period of time. With more economic reforms, the volatility has gone down from 1994-95 onwards, but volatility is still very high in the Indian economy as per international standards.

Asset Pricing

Researchers and practitioners have devoted unusual efforts to measure the degree of integration between national stock markets and the world market and to gauge whether market price risk effectively. In order to become a market to be developed it need not be integrated into world capital market. But analysts generally believe that the countries that are more integrated and that price risk more efficiently are more developed. After the globalisation, Indian stock markets are moving towards strong integration with world capital market.

Regulatory and Institutional indicators

According to Pagano (1993) the regulatory and institutional factors may influence the functioning of stock markets. Mandatory disclosures of reliable information about firms and financial intermediaries can enhance investor participation in equity markets. Proper regulation can boost the investor confidence that ultimately result in more investment and trading in the stock market.

The World Bank Research group led by Demirguc – Kunt and Levine (1996) showed seven regulatory institutional indicators in order to measure the institutional development of emerging markets.

1. Whether the firms listed in the stock market publish price-earning information on a regular basis.
2. The accounting standards.
3. Quality of investor protection laws.
4. Whether the country has a strong securities and exchange commission.
5. Dividend repatriation by FIIs.
6. Capital repatriation by FIIs.
7. Domestic investment by foreigners.

In Indian scenario, the measure of seven institutional development indicators propounded by the World Bank group has led to the following results.

- 1 Pricing-earning information is published by the firms that are listed in the stock market.
- 2 With the Narasimham Committee reports, there have been drastic improvements in the accounting standards since it is being accepted internationally.
- 3 SEBI is a regulatory body for the stock exchanges and investor protection laws are adequately implemented.
- 4 Dividend and capital repatriation by foreign investments.

- 5 Domestic investment by foreigners, and
- 6 Large scale liberalisation and reform towards foreign investors have taken place.

The data on FDI and FII indicate that there has been significant rise in foreign investment in India since 1991 due to globalisation, liberalisation and economic reforms. In the beginning of 1991, the net inflows were only negligible, say around 2 crores and it picked up to Rs. 5126 crores in 1993-94 and reached to Rs. 8484 crores in 1996-97. But net FII investment was negative during 1998-99 at Rs. 1584.4 crores because of Asian crisis and picked up to higher levels. As per the suggestion of World Bank group, India also set up seven indicators of institutional development and it performs well in terms of regulation and institutional indicators. And now, Indian stock market is on par with international standards and there is huge potential of FDI and FII investment in India and now thrust is given to property development sectors.

CONSTRUCTION OF CAPITAL MARKET DEVELOPMENT INDEX (SINDEX)

Capital Market development has been analysed differently by different economists. Some of them focus on one characteristic of the functioning of capital / stock markets such as size, liquidity or integrations. In the World Bank study (1996), Levine Ross has used a capital market development index called Sindex. The researcher has constructed the same index using the Indian capital market variables.

The ratio of market capitalisation to GDP (M) is a measure of both the capital market's ability to allocate capital to investment projects and ability to provide significant opportunities for investors to have risk diversification. The ratio of total value of shares traded to GDP (V) and the ratio of total value of shares traded to market capitalisation (T) are indicators of market liquidity. The value traded ratio measures the ability to trade economically significant positions on the stock market and the liquidity ratio is an indicator of liquidity of assets traded on the market.

By realising the importance of the indicators like market size and the other two liquidity indicators, Demirguc – Kunt and Levine have clubbed the three indicators in an equally weighted index of stock market development. This type of index of stock market development has been used by Demirguc–Kunt and Makismovic (1996) and Samal.C.Kishore (1997).¹⁴ Sindex is calculated by the following formula.

$$\text{Sindex} = \frac{M + V + T}{3}$$

Table 6.6

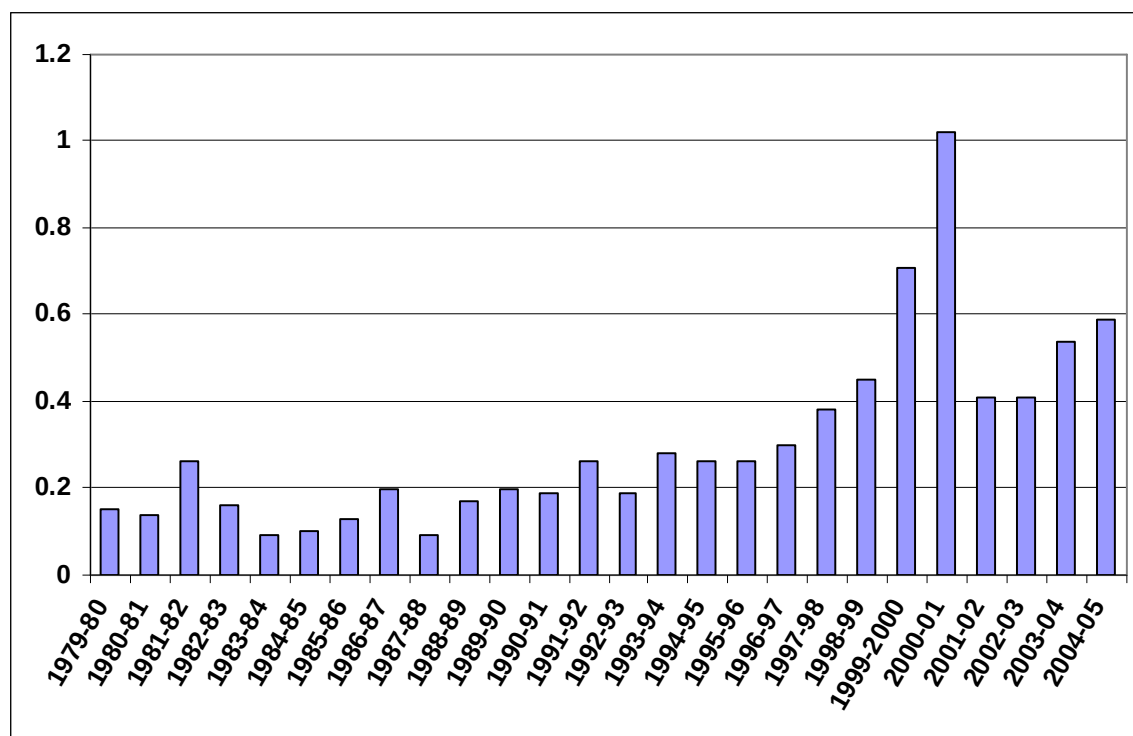
SINDEX

Year	Sindex	Year	Sindex
1979-80	0.15	1992-93	0.19
1980-81	0.14	1993-94	0.28
1981-82	0.26	1994-95	0.26
1982-83	0.16	1995-96	0.26
1983-84	0.09	1996-97	0.30
1984-85	0.10	1997-98	0.38
1985-86	0.13	1998-99	0.45
1986-87	0.20	1999-2000	0.71
1987-88	0.09	2000-01	1.02
1988-89	0.17	2001-02	0.41
1989-90	0.20	2002-03	0.41
1990-91	0.19	2003-04	0.54
1991-92	0.26	2004-05	0.59

Source: Computed from BSE Annual Capital Market Review (various issues), National Accounts Statistics (NAS) (various issues) and RBI Annual Report (various issues).

Figure 6.5

Sindex for the year 1979-80 to 2004-05



TREND ANALYSIS OF CAPITAL MARKET DEVELOPMENT INDEX (SINDEX)

BSE started its computerisation in 1979-80 and hence, time series data is available only from 1979-80 onwards. Thus, in this work Sindex has been analysed only from 1979-80 to 2004-05. This is the period in which capital market reforms and economic reforms were introduced in the economy. After the introduction of National Stock Exchange the volume of Indian stock market increased drastically because of the nation wide terminals and trading system. The capital market reforms and globalisation measures adopted by authorities gave greater confidence to investors and various players of capital market.

From Table 6.6 and Fig. 6.5 it is clear that, in 1979-80 Sindex was only 0.15 and got momentum after real sector reforms. The real momentum started only after globalisation. From 1990-91 the growth of capital market

development was steady because of the development and improvements in the capital market. It reached its peak 1.02 in 2000-01 and went down to 0.59 in 2004-05. Sensex is a price index whereas sindex is an index of capital market development.

LEADING FACTORS AFFECTING CAPITAL MARKET DEVELOPMENT

The transformation from a primitive stage to a sophisticated era of stock market development took a very long time but the speed of the process got momentum only after 1991. The main factors responsible for these developments are: (i) Economic reforms, (ii) SEBI and regulation for securities market, and (iii) Macro-economic indicators.

1. Economic Reforms

Both the internal and external liberalisation measures, undertaken as a part of economic and financial sector reforms, and the more liberal general economic ethos created by the reform process, resulted in the freedom for private enterprise and competition. These measures have contributed substantially to the transformation of the market. The internal liberalisation measures included the repeal of the CCI Act 1947, abolition of the office of CCI and allowed companies to freely access the capital market. The external liberalisation helped foreign institutional investors to invest in the stock markets and Indian companies to raise capital from abroad through GDRs, ADRs and ECCBs. The gradual appreciation of the potential of the securities market started in the beginning of 1980s and got momentum in 1990s because of the financial sector as well as real sector reforms. The financial sector reforms and security market reforms have encouraged corporates to rely on the securities market and substitute one source of long term funds with another.

2. SEBI and Regulations for Securities Market

After the 1991 liberalisation measures, Government of India set up a regulatory body called SEBI on par with Securities Exchange Commission (SEC) of the USA. SEC is an independent body but SEBI is a Government controlled body. SEBI was set up in 1992 and after four years it was converted into a non-statutory body. SEBI was established as the apex, statutory regulatory body for the securities market, with the express mandate of investor protection, development and market regulations. SEBI had to undertake key roles of credible regulatory structure for the securities market and at the same time to bring about market development on the outset of changing technological revolution and introducing international best practices.

Regulations and enforcement of regulations are the two main instruments of SEBI for delivering investor protection. After the repeal of CCI Act in 1992, SEBI also issued guidelines for disclosure and investor protection for all issues of capital offered to the public under the free pricing regime. Companies can fix the price, but SEBI only ensures the adequacy of disclosure in the offer documents.

Some of the key measures initiated by SEBI in the 1990s are given below.

1. Introduction of initial and continuing disclosures norms for issuers.
2. Strict entry point criteria for public issues to improve and raise the standards of financial disclosures.
3. Automation of all stock exchanges, speed of trading terminals of the major stock exchanges across the country and use of technology by the stock exchanges.
4. Mobilisation of market micro-structure.
5. Establishment of settlement guarantee funds in the stock exchanges to ensure smooth and timely settlement of trades.
6. Introduction of strict margins for stock transactions and online monitoring.
7. Shortening of settlement cycles of stock exchanges.

8. Increase in the efficiency of clearing and settlement mechanism.
9. Setting up of the depositories and ensuring electronic book entry transfer.
10. Modernising and strengthening of surveillance system in the stock exchanges.
11. Rapid growth of mutual funds.
12. Liberalisation of FII policy and simplification of the investment procedures by the FIIs.
13. Strengthening of the regulations for take over in a fair and transparent manner to protect the investors.
14. Indexation and derivative trading.

The above said institutional changes have improved liquidity, lowered transaction cost and made the capital market efficient leading to significant improvements of growth and development of Indian capital market.

3. Macro-Economic Indicators

An attempt has been made in this work to give a broad idea about the importance of economic and other indicators affecting capital market development. Capital / stock market development of a country is an integral part of the whole economy. In order to understand the complexities of capital market, one needs to develop a sound understanding and should be able to interpret the impact of economic indicators on capital market development.

Most studies have proved that the macro-economic variables have significant influence on the stock market and for the existence of a long run relationship between macro-economic variables and stock prices/returns (Dritsaki, 2005)¹⁵. Three types of indicators are used for economic analysis. They are; leading indicators, coincidental indicators and lagging indicators.

Leading indicators predict what is likely to happen to the economy. Perfect examples of leading indicators are; the unemployment position, rainfall, agriculture production, fixed capital investment, corporate profits, money supply, credit position and index of equity share prices. Coincidental indicators highlight the current position. Examples of coincidental indicators are; gross national product, index of industrial production, money market rates, interest rates and reserve funds with commercial banks. The lagging indicators explain what has already taken place. Examples of lagging indicators are; large scale unemployment, piled up inventories, outstanding debt, interest rates on commercial loans etc. The macro-economic indicators as given in Table 6.7 can affect the capital market development. A summary of the economic situation and the resultant impact on the market is also summarised.

Table 6.7

Behaviour of Economic Indicators and their Suggestive Impact on the Share Market

Economic Indicator	Situation	Impact on the Share Market
1. Gross domestic product	Growth Decline	Positive (Bullish market) Negative (Bearish market)
2 Inflation	Constant Prices Inflationary/deflationary prices	Positive (Bullish market) Negative (Bearish market)
3 Unemployment	Increase Decrease	Negative (Bearish market) Positive (Bullish market)
4 Individual savings	Increase Decline	Positive (Bullish market) Negative (Bearish market)
5 Interest rate	High Low	Negative (Bearish market) Positive (Bullish market)
6 Exchange rate	Favourable (Strong against foreign currency) Unfavourable (Weak against foreign currency)	Positive (Bullish market) Negative (Bearish market)
7. Domestic corporate tax rate	High Low	Negative (Bearish market) Positive (Bullish market)
8 Balance of trade	Positive trade balance (exports greater than imports) Negative trade balance (imports greater than exports)	Positive (Bullish market) Negative (Bearish market)

Source: Ranganatham M and R. Madhumathi (2005)

As evident from the Table 6.7, all economic indicators do not change for a given situation. A combination or a set of these economic conditions define an economy at any point of time. A change in one economic variable has multiple impacts on other economic indicators either positively or negatively. This makes investor to look for an economic scenario rather than directional movement of a single indicator.

Investors can work out different permutations and combinations of economic situations and the possible investments. Model building using qualitative methods needs a lot of assumptions and involves a lot of procedural difficulties, but if the model is simple, qualitative ideas can provide logical and simplistic tool for investor. The sample of economic outlook and the corresponding investment opportunities are given in Appendix 3.

Capital market provides lucrative investment opportunities, because it helps in earning a return without actually indulging in economic activities. Economic activities are the base without which the supporting functions of capital market will not work properly. Every economy has a real economy and a casino economy. In casino economy we can see 'irrational exuberance' but it will not last long. Smart people make money before the burst takes place. The ultimate aim of any investment is to make money. However, investments (assets or securities) always entail some degrees of risk either in productive economic activity or in an intermediary role. While dealing in securities market there are some specific features that relate to investment. The investor must understand the following concepts which can gain a lot. They are as follows.

- 1) The higher the expected returns the greater the risk.
- 2) Some investments cannot be easily sold or converted into cash. Sometimes there will be some premature penalty if one disposes off an investment too soon before the maturity date.
- 3) Investment in securities issued by a company with little or no operating history or published information may involve greater risk.
- 4) Security investment, including mutual funds cannot be legally insured against loss in the market value.
- 5) Securities may be subject to tender offers, mergers and acquisitions, reorganisations and third party actions that can affect the value in terms of ownership interest. Hence market anomalies might exist to public announcement and information about such transactions. This characteristic makes an investment decision process more complex.

- 6) The past success of a particular investment is no guarantee of future performance.

Inflation

A low rate of inflation is always welcomed by the stock market. A maximum of five percent inflation is advisable for economic growth. The yearly inflation rates measured by wholesale price index with base year 1981–82 = 100. Table 6.8 shows the inflation rate of wholesale price index 1989-90 to 1999-2000.

Table 6.8
Inflation rate of wholesale price index

Year	Inflation Rate of Wholesale Price Index (% per annum)
1989-90	9.10
1990-91	10.3
1991-92	13.8
1992-93	13.1
1993-94	8.3
1994-95	10.9
1995-96	7.7
1996-97	6.4
1997-98	4.8
1998-99	6.9
1999-2000	3.5

Source: Calculated from Wholesale price index base 1981-82 = 100 taken from CMIE

From 1950-51 to 1999-00, the average inflation worked out to 6.7 per cent. The inflation rate has been less volatile than in most developing countries with standard deviation at 6.6 and rate having crossed 1.5 per cent mark only for four occasions during the last half century. High rates of inflation felt on occasions due to exogenous shocks like oil price hike, wars etc., and domestic supply shocks such as adverse monsoon conditions.

After 1995-96 inflation has declined. It may be attributed to reform process and general supply conditions in the economy. RBI is very keen on keeping inflation rate below 5 per cent for which they undergo monetary as well as fiscal measures to bring down the inflation for better economic growth. The economic effects of minor inflationary effects can be positive and often can be taken as a sign that the economy is in an expansionary phase.

Domestic Savings

The rate of domestic savings plays an important role in the country's economic development. A higher saving ratio with suitable transformation intermediaries lead to larger investments in productive activities and larger market capitalisation of securities. Therefore gross domestic savings as a proportion of GDP are positively correlated to the capital market development. Large savings in the economy with the household will also imply larger availability of funds for investment in the primary and secondary markets. The actual amount of investment in various financial instruments in the economy will depend upon the yields, risks expected on these instruments and their past performance. The gross domestic savings reached a peak of 25 per cent in 1994-95 and 25.5 per cent in 1995-96. Now the gross domestic saving ratio is 30 per cent. The household savings that steadily increased with financial savings outstripped the physical savings in the decade of 1990s (except for the year 1995-96 when the financial saving was lower than that of physical saving of the household sector).

From the Table 6.9, it is clear that the rise in the household sector savings is primarily on account of higher rate of household financial savings in bank deposits, provident funds as well as pension funds. And also claim on government on these investors minimise the risk. But the percentage of investment in shares and debentures has come down drastically. This may be because of risk aversion of investors. This risk aversion can be reduced only through education and it is proved that when more education is given, the risk taking capacity of the people increases.

Table 6.9
Savings of household sector in financial assets

(Rupees in Crores)

Item	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
Savings (Gross) of Household Sector in Financial Assets	80387	109485	145381	124986	157490	152890	181119
Currency	6562 (8.20)	13367 (12.20)	15916 (10.90)	16525 (13.20)	13643 (8.70)	12780 (7.20)	22130 (10.60)
Bank Deposits #	29550 (36.80)	36200 (33.10)	55834 (38.40)	39995 (32.00)	57367 (36.40)	79514 (44.50)	76590 (36.90)
Non Banking Deposits	6035 (7.50)	11654 (10.60)	11547 (7.90)	13198 (10.60)	21411 (13.60)	7775 (4.40)	15376 (7.40)
Life Insurance Deposits**	7114 (8.80)	9548 (8.70)	11370 (7.80)	13894 (11.10)	16188 (10.30)	19431 (10.90)	22766 (11.00)
Provident and Pension Fund	14814 (18.40)	18226 (16.60)	21295 (14.60)	22292 (17.80)	26248 (16.70)	32808 (18.40)	38742 (18.60)
Claims on Government *	3885 (4.80)	6908 (6.30)	13186 (9.10)	9588 (7.70)	11701 (7.40)	22164 (12.4)	27004 (13.00)
Shares and Debentures ++	8212 (10.20)	10067 (9.20)	13474 (2.40)	8909 (9.30)	6696 (7.10)	3777 (4.30)	4935 (2.10)
Units of UTI	5612 (7.00)	4705 (4.30)	3908 (2.70)	262 (0.20)	3776 (2.40)	595 (0.30)	565 (0.30)

Figures in brackets indicate percentage to financial assets of households.

includes deposits with cooperative non-credit societies.

** includes State / Central and postal insurance fund

* includes compulsory deposits

++ includes investment in shares and debentures of credit / non-credit society and public sector banks.

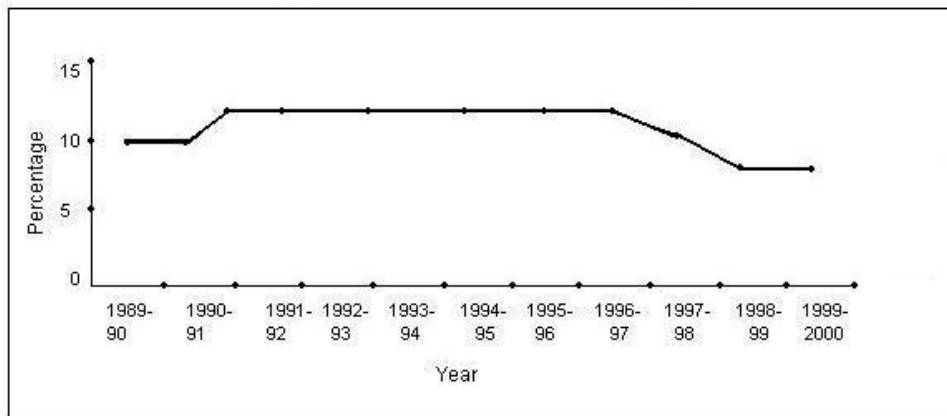
Source: Report on Currency and Finance (various issues)

The household sector saving is the most important component of India's domestic saving performance. Saving and its distribution is influenced by several factors like, growth, income, inflation, interest rates, tax benefits, pension and safety nets, etc. The increase in financial intermediation, widening and deepening of financial system as well as the relative rates of returns on assets of household sectors portfolio also influence the distribution pattern of saving. They were important structural changes in the pattern of financial savings on par with the changes in the financial sector. The interest rate structure, which has changed significantly since 1992-93 played a role in inducing structural shifts in the household saving in the financial assets. When the stock market is in bearish trend, people prefer to invest in income investments and if it is in bullish trend, people prefer to invest in securities of companies. The investment performance of the households, pattern of household saving and the number of households investing in the securities market during the decade of 1990s were influenced by impact of many factors.

Interest rates

Interest rate is the price of credit. The rate of interest moves along with bank rate. Therefore bank rates affect general interest in the economy. The figure 6.6 shows the trend of bank rates during 1990s.

Figure 6.6. Trends in Bank Rate



During the time of globalisation, bank rate was 10 per cent increased to 12 per cent in 1991-92 and it remained constant up to 1996-97. It was because of the degeneration of interest rates and financial sector reforms in Indian economy, there was a steady decline in the bank rate from 1997-98. The bank rate is also one of the proxies to represent deregulation of interest rates under financial sector reforms. The minimum prime lending rate (PLR) reached its peak of 19 per cent in 1992-93 and 1993-94 and it started declining (in 1995-96 it increased but was lower than the peak level).

As a result of financial sector reforms, there was a general decrease in the interest rate in the economy. The movements in the long term interest rates such as 10 year treasury rate provide information about likely changes in the level of activity in the interest-sensitive sectors of the economy. Bond interest rate often move in tandem with the 10 year treasury rate and changes in bond rates often precede changes in the level of activity in financial sectors.

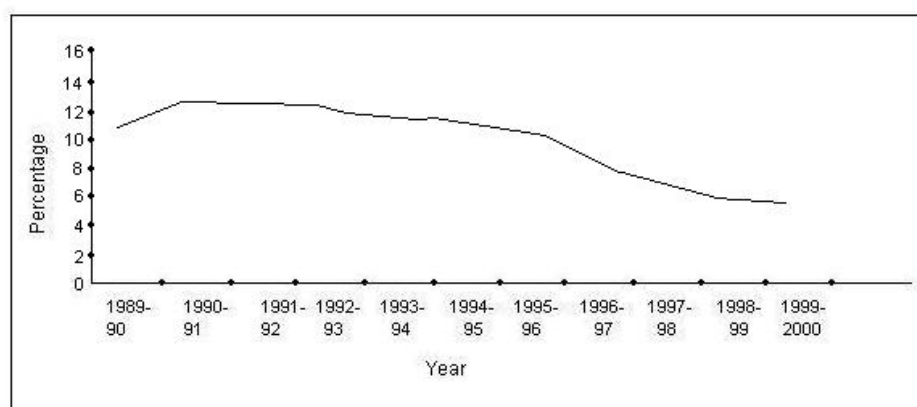
A lower rate of interest is positively correlated with the development of the economy as well as the capital market development. When the yields on the debt instruments would be lower and opportunity cost of borrowing funds is low, investors would prefer to invest in equities. It improves market capitalisation and the value of shares traded. It also enhances the subscription of new issues in

the primary market. Interest rate deregulation is one of the most important forms of financial sector reforms and has a direct effect of the funds to the real sectors and financial sectors of the economy. Moreover interest rates also affect the cross boarder capital movements. If the rate of interest is higher in the home country, it will attract foreign capital and also correct the balance of payment disequilibrium.

Cash Reserve Ratio (CRR)

Narasimham committee (1991) pointed out that CRR prevailed at 15 per cent of net demand and time liabilities in the early 1990s. And also the committee recommended a phased reduction of CRR in order to facilitate more lendable funds with the banks. This was a landmark in the case of economic reforms in India. The fig.6.7 illustrates the behaviour of CRR on yearly average basis as stipulated by RBI from time to time.

Figure 6.7 Cash Reserve Ratio (%)



At the time of liberalisation, privatisation and globalisation (L-P-G), the CRR was 15 per cent and reduced to 14.5 per cent in 1993-94 and again increased to 15 per cent in 1994-95. Marked reduction has happened only from 1995-96. The CRR has been reduced to 4.7 per cent by the RBI at the end of the year 2002.

A reduction in 1 per cent point in CRR would augment large resources (say about 5,000 crores) available by banks and they can lend these funds to the private sector for investment purposes. A small reduction in CRR releases larger funds for banks and these funds are used for investment purposes in capital market thereby increasing market capitalisation and improving the liquidity of capital market. Phased reduction in CRR as suggested by Narasimham Committee is one of the most important instruments used in the Indian economy during 1990s to implement the financial sector reforms in the economy.

Deficit financing

Deficit financing is the way of financing the deficit. In India deficit financing refers to the excess of total expenditure over total budgetary receipts on current and capital accounts together.

During the Eighth plan, deficit financing was around 8.6 per cent as against the target of 4.6 per cent. Stringent rules were imposed by IMF during the economic crisis in 1990s and insisted Indian Government to reduce deficit to 5 per cent of GDP. Excess deficit financing develops inflationary pressure in the economy and adversely affects savings and its transformation to investments. Large budgetary deficits can be controlled by decreasing non-plan expenditures, expenditure on subsidies etc. At the same time large privatisation and disinvestment of public sectors can be resorted. Stock market is adversely affected by the large deficit financing since private investment activities were largely affected.

Public debt

Public debt expenditure is a non-developmental expenditure. Because of this, government has to bear larger and larger interest burden every year. Foreign capital will not be attracted if their economy's public debt is higher and

in order to attract funds government has to raise the rate of interest of government securities. Since government securities, especially ten year bond, determines the rate of interest, the private sector also faces a higher cost of funds and this ultimately leads to poor investment climate in the country. Stock market will not have euphoria, if an economy is having large public debt.

Disinvestment in Public Sector

Economic reforms and globalisation has encouraged privatisation. In order to curtail budgetary deficits, IMF advised Indian Government to open the financial market to foreigners and they also advocated going for disinvestment of public sector undertakings which are making losses. The disinvestment is done to restructure the share holding pattern of PSUs so that inefficient units and high cost units may be brought under private sector and thus turn to be profit making units. Disinvestment of PSUs has been used as a tool to bring down budgetary deficits. The table 6.10 illustrates the target and actual amount of disinvestment in the public sector units.

Table 6.10

Disinvestment in Public Sector Units

Year	No. of companies in which equity sold	Target (Rs. crores.)	Achievement (Rs. crores.)
1991-92	47	2,500	3,038
1992-93	29	2,500	1,913
1993-94	NA	3,500	NA
1994-95	17	4,000	4,843
1995-96	5	7,000	362
1996-97	1	5,000	380
1997-98	1	4,800	902
1998-99	5	5,000	5,371

1999-00	5	10,000	1,860
2000-01	5	10,000	1,871
2001-02	8	12,000	5,632
2002-03	8	12,000	3,348
2003-04	2	13,200	15,547
2004-05	3	4000	2,795

NA-Not Available

Source: Kapila Uma, "Understanding the Problems of Indian Economy". Table 8, Page 339 and Department of Disinvestment, Government of India (www.dinvest.nic.in)

From Table 6.10 it is clear that in India the achievement of disinvestment was not so successful. But it should be an ongoing process. The amount of disinvestment in the public sector units leads to its listing in stock exchanges and contributes to market capitalisation. It also can increase the value of shares traded in stock exchanges. Cumulative PSU disinvestment has contributed increase in size of market and improved the liquidity in stock exchanges. This disinvestment has benefited the general public in acquiring shares of public sector units and their wealth effect also has improved. The privatisation has made positive impact on stock exchanges.

Employment and number of investors

Larger the portion of persons employed in the economy, greater will be the growth of Gross Domestic Product. After 1990, because of globalisation and privatisation, a huge amount of investment has taken place in Indian economy and the general income of the people has increased. The people lying below poverty line have come down to 20 per cent. There are more than 40 crores people in the income bracket of middle income people. With larger number of people above the poverty line, greater will be the saving and investment. This

would contribute to the development of capital markets because of larger investments and larger flow of funds in the capital market.

Many surveys have been done to understand the number of investors in India. Gupta (1987) made intensive research in this topic. According to this study, in India only 2 per cent of the people are investing in shares and debentures whereas in the case of China it is 15 per cent and in the case of USA it is 50 per cent. If we bring more people in this arena, the general welfare of the people can be increased.

Tax Rates

Higher economic growth takes place, when there is liberalised taxation policy. In this situation people are left with more disposable income and at the same time they have an incentive to work, enjoy opportunities and save. Companies are able to plough back profits and create assets. Stock markets react when government raises taxes. However, after the introduction of 'Laffer Curve' in 1970s, throughout the world the governments have understood the importance of medium tax rates in order to plough maximum tax revenue. In India also, as part of fiscal reforms, tax rates, both direct and indirect have been reduced by the government.

In order to boost up the stock market activity, Government of India has abolished long term capital gain tax for securities and short term capital gain tax has been reduced to 10 per cent. In order to make up this revenue loss, a new tax i.e. securities transaction tax (STT) has been implemented for each transaction at the stock exchanges and investors and speculators will not feel the pinch of it. Hence low tax rates are positively correlated to stock market activities.

Infrastructure

The productivity of public infrastructure services like banking, telecom, railways, coal, power etc., play a crucial role in deciding the future of an

economy. Poor productivity in these sectors is harmful because companies depend heavily upon economic infrastructure for the survival and at the same time, this will result in stock market. For a sustained growth of 9 to 10 per cent, improvement in physical, social and financial infrastructure is very much needed.

Reforms in physical infrastructure are possible in the medium term within 5 to 7 years. Reforms in the financial infrastructure started in 1990s and it is an ongoing process. The financial infrastructure reforms must further accelerate for better development of the economy and the capital market development. The reform of social infrastructure is a long haul commitment for next two decades.

Infrastructure developments are necessary for the development of industries and various other financial sectors of the economy including capital market. It is because of the development of telecommunication facilities like screen based trading and dematerialisation of shares in India, we could stand on par with international standards in terms of financial sector development. A better infrastructure leads to larger production and greater growth of gross domestic product (GDP) and capital market.

Monsoon and Agricultural production

India is lucky to have consecutive monsoon for the past fourteen years. A good monsoon pushes up purchasing power of the people, the aggregate demand increases and companies perform well. When company's turnover increases, their profits will rise and investors will be benefited. The impact of good monsoon is pronounced on agro-based industries such as fertilisers, pesticides, seeds, edible and non-edible oils, etc.

A favourable monsoon has a positive impact on stock markets. With good monsoons economy performs well and GNP posts a promising growth. A higher marketable surplus in the agricultural sector finds an outlet of investment in the industry and service sector. Good monsoon positively affects agricultural production and ultimately leads to stock market development.

Political situation

A stable government undertakes long term policy decisions for economic development. Stock markets always welcome a strong and stable government. Now in India we are used to coalition government and they also can do reforms for the welfare of the people. Stable government can do wonders. In India, we introduced more reforms, more opening up of insurance sector (it was a monopoly before) replacing FERA with a liberal Foreign Exchange Management Act (FEMA), allowing pension funds to invest in the stock markets, reduction of interest rate, participation of LIC in stock market and certain stake of banks in stock market etc. More and more foreign capital (both direct and portfolio investments) will flow to India, only when the international business confidence is increased.

Financial depth

Financial depth is defined as the ratio of liquid liabilities of financial system to GDP. Liquid liability consists of currency held outside the banking system plus demand and interest-bearing liabilities of banks and non bank financial intermediaries. King and Levine (1993) measured the financial depth defined as M3/GDP to evaluate stock market development which is correlated with financial depth. The ratio of banks liquid liabilities (the M3 money supply) to GDP is an indicator of the size of the banking sector in relation to the economy as a whole. The financial depth or M3/GDP is an indicator which has been used in several studies to check the effect of financial sector on the growth of the economy.

Financial depth is a ratio that measures the overall size of the formal financial system. If the size of the financial system is positively related to the provision of financial services, then this ratio should be a good indicator of the provision of financial intermediary services.

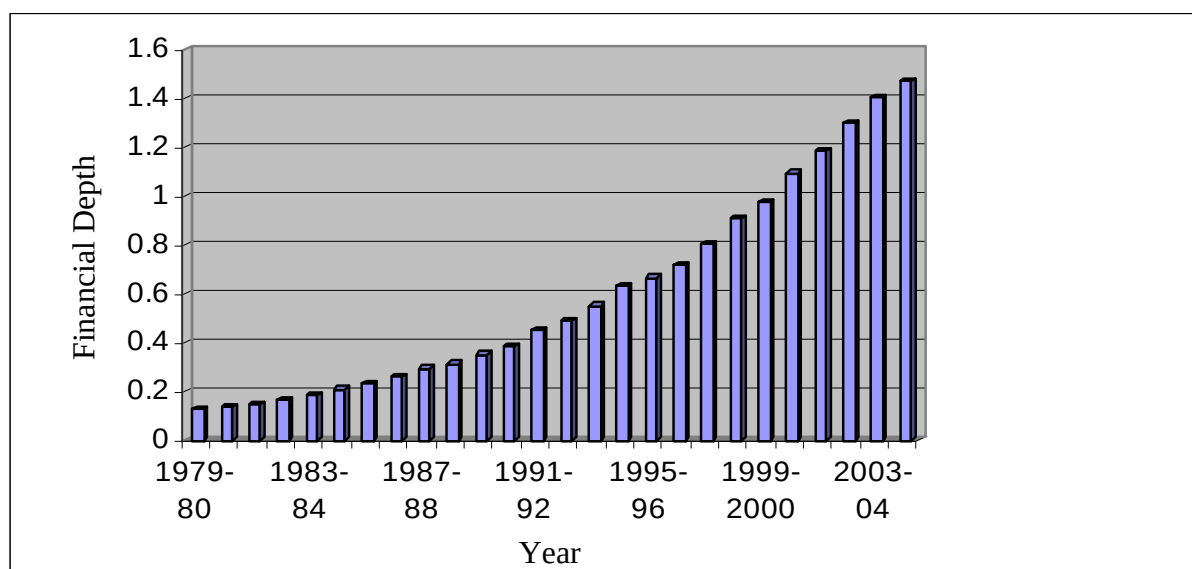
The financial depth (M3/GDP), measuring bank intermediary development was 0.13 in 1979-80, reached 1.47 in the Indian economy in 2004-05. With the financial sector reforms, the banking facilities as intermediary have improved and contributed to the development of financial sector of the economy. Hence stock market is highly correlated to the institutional development indicator M3/GDP. The Table 6.11 and the bar chart (Fig. 6.8) show the financial depth of India from 1979-80 to 2004-05.

Table 6.11
Financial Depth

Year	M3/GDP	Year	M3/GDP
1979-80	0.13	1992-93	0.49
1980-81	0.14	1993-94	0.55
1981-82	0.15	1994-95	0.63
1982-83	0.17	1995-96	0.67
1983-84	0.18	1996-97	0.71
1984-85	0.21	1997-98	0.81
1985-86	0.23	1998-99	0.91
1986-87	0.26	1999-2000	0.97
1987-88	0.30	2000-01	1.10
1988-89	0.31	2001-02	1.18
1989-90	0.35	2002-03	1.30
1990-91	0.38	2003-04	1.40
1991-92	0.45	2004-05	1.47

Source: RBI, Statistics on Indian Economy - Various Issues

Figure 6.8. Financial Depth from 1979-80 to 2004-05



Foreign Sector Indicators

Foreign investment and foreign trade are indicators concerned with foreign sector which affect capital market as follows.

a) Foreign Exchange Reserves b) Balance Of Trade c) Foreign Exchange Rates
d) Foreign Direct Investment e) Global Depository Receipts f) Foreign Institutional Investments and g) Openness.

The effects of each of the above said variables on capital market development are summarised in a nutshell.

1. When foreign exchange reserves are more, there will be surplus in the balance of trade and the current account deficit will be lesser. Hence the economy is comfortable with foreign exchange requirements and the problem of foreign exchange infrastructural bottlenecks will be reduced. This is the reason India is encouraging FIIs and even participatory notes (PNs) which are short term flows and the sources of the fund is unclear and there is no need showing it. (Most of the PNs come from countries having tax heaven, routed it to Mauritius and channelised to India). Whose money is this is a debatable question and the impact will be severe if there is any political threat or economic mismanagement. When the researcher made an enquiry into it, it is understood that RBI is capable of handling such 'shocks'. With comfortable balance of reserves and favourable policy on dividend repatriation, higher will be FII investment and foreign direct investment in the country and also larger will be the subscription to ADRs/GDRs/ECCBs. Now more than 1044 FIIs are registered in India and when more and more cumulative investment in the country, greater will be the investment in Indian industries and the capital market. This will ultimately lead to larger market capitalisation and the value of shares adding to the size of the market and more liquidity in the market. Thus higher the value of foreign exchanges, reserves will lead to positive balance of trade, lesser current account deficit, higher cumulative net FII investment, FDI, cumulative ADR/GDR

investments, and greater development of capital market and euphoria in the stock market.

2. When more FII flows are there, the exchange rate will be reduced. But when exports are concerned, we can move the exchange rate according to that. Depreciation of Rupee vis_a_vis Dollar makes the cost of dollar dearer and would discourage imports and encourage exports. International confidence will reduce if a country goes for devaluation frequently. This will ultimately discourage capital inflows and causes inflation in the country which leads to negative effects on stock market development. The Table 6.12 shows the data of Foreign exchange reserves, Rupee dollar exchange rate and Openness from 1979-80 to 2004-05.

From the Table 6.12, it is clear that foreign exchange reserves have grown up from Rs.5934 crores in 1979-80 to Rs. 619116 crores in 2004-05. Rupee Dollar exchange rate was 8.19 in 1979-80 reached its peak 48.80 in 2001-02 and started declining. The openness was 0.04 in 1979-80 increased to 0.55 in 2004-05. The data on openness and foreign reserves show that India is becoming an open economy. The researcher has developed a model to examine the impact of macro- economic variables on real GDP. The following paragraphs analyse the model.

Table 6.12

Foreign Exchange Reserves, Rupee - Dollar Exchange Rate and Openness

Year	Foreign Exchange Reserves (Rs in Crs)	Rupee - Dollar Exchange Rate	Openness
1979-80	5934	8.19	0.04
1980-81	5545	8.19	0.05
1981-82	4025	9.35	0.05
1982-83	4782	9.97	0.05
1983-84	5972	10.71	0.05
1984-85	7243	12.43	0.06
1985-86	7819	12.31	0.06
1986-87	8151	12.89	0.06
1987-88	7636	13.03	0.07
1988-89	7040	15.66	0.08
1989-90	6252	17.32	0.10
1990-91	11416	19.64	0.11
1991-92	23850	31.23	0.13
1992-93	30744	31.24	0.16
1993-94	60420	31.37	0.18
1994-95	79780	31.50	0.21
1995-96	74384	34.35	0.25
1996-97	94932	35.92	0.27
1997-98	115905	39.50	0.28
1998-99	138005	42.44	0.29
1999-2000	165913	43.61	0.33
2000-01	197204	46.64	0.36
2001-02	264036	48.80	0.36
2002-03	361470	47.51	0.42
2003-04	490129	43.45	0.46
2004-05	619116	43.76	0.55

Source: RBI, Statistics on Indian Economy - Various Issues

Model Specification

The linkages between stock market development and economic growth has occupied a central position in the development literature (Samuel, 1996¹⁶; Demirguc – Kunt and Levine, 1996¹⁷; Akinifesi, 1987¹⁸; Levine and Zervos, 1996¹⁹, Obedan, 1998²⁰; Onosode, 1998²¹; Emenuga, 1998²²; Osinubi, 1998²³).

In line with the above linkages, our model is thus specified as;

$$g = f(\text{Sindex, M1, M3/GDP, BSE Sensex, Openness, Rupee Dollar Exchange Rate, GDCF and Foreign Exchange Reserves})$$

where,

g = real GDP which is the dependent variable,

and the independent variables are;

1)
$$\text{Sindex} = \frac{M + V + T}{3}$$

2) M1 = Broad Money

3) M3/GDP = Financial Depth

4) BSE Sensex- (Economic Barometer of the Country)

5)
$$\text{Openness} = \frac{\text{Export} + \text{Import}}{\text{GDP}}$$

6) Rupee Dollar exchange rate – which determines the value of Indian currency with Dollar.

7) GDCF – is the country's gross domestic capital formation which has direct influence on real GDP.

8) Foreign Exchange Reserves

The hypothesis to test here is that the economic reforms initiated in the 1980s and the globalisation initiated in the 1990s have been instrumental in overall improvements in the country. Globalisation of stock markets has helped India to achieve this goal. To test the hypothesis, stock market development

index has been constructed. The qualitative index of stock market development has been constructed by using indicators like market capitalisation ratio (M), value traded ratio (V) and turnover ratio (T). The index is known as Sindex.

The techniques used in this work are Boyce index and Unit Root Co-integration technique. The co-integration techniques are used to study the individual time series properties as well as the inter-relationships. Boyce index is used to understand the performance of pre-globalisation and post-globalisation period.

Methodology

An attempt is made here to apply piecemeal regression by using Boyce index. The exponential growth rate before globalisation and after globalisation has been checked. It is possible to find the exponential growth rate before globalisation and after globalisation with the help of Boyce index.

Again an attempt has been done to check whether the economic growth rate has been increased after the globalisation period or not. The economic growth has been calculated on the basis of real GDP. So, real GDP is taken as dependent variable. Several macro-economic variables are used in our study and also BSE sensx is used to find out if there is any relationship between real GDP and BSE sensx.

Since BSE sensx is following 'free float methodology' and it is widely used by Indian and institutional investors, it is also used as one of the independent variables.

The other variables used in the study are M1, M3, M3/GDP, Foreign Exchange Reserves, Rupee Dollar exchange rate, GDCF and Openness. All these macro-economic variables have strong influence on real GDP. It is possible to find out which of these factors are statistically significant in explaining variation in the real GDP with the help of 't' test.

Since there is a problem of multicollinearity, M3 variable has been omitted. The variables selected in the final analysis are Sindex, M1, M3/GDP,

Foreign Exchange Reserves, Rupee Dollar exchange rate, GDGF, Openness and BSE Sensex.

The stationarity of different independent and dependent variables has been checked by applying Augmented Dickey-Fuller Unit Root Test. Simple OLS is used to run the regressions and find out their significance. The real GDP is regressed and one giving the highest co-efficient of determination is chosen.

Boyce Index

Since Indian stock market has undergone dynamic changes after globalisation, we use piecemeal regression using dummy variables. In order to understand the growth differentials, Boyce index test has been applied. The results positively confirm that in the post reform and globalisation period, the exponential growth rate has increased around 6 per cent. The formula used to find out the Boyce index is

$$\text{Ln (real GDP)} = \text{D0} + \text{D1} + \beta_1 \text{DOT} + \beta_2 \text{D1T} + \text{Ut}$$

The equation becomes,

$$\text{Ln (real GDP)} = 12.78293 + 12.69394 + 0.0539125\text{DOT} + 0.0593174\text{D1T} + \text{Ut}$$

Table 6.13

Exponential growth rate of real GDP with dummy

	α_1	α_2	β_1	β_2	R ²
Coefficients	12.78293	12.69394	.0539125	.0593174	0.99
Standard error	.0099021	.0212403	.0013454	.0010667	
t-stat	1290.93	597.64	40.07	55.61	
Exponential growth rate					
Pre 1991	5.3*				
Post 1991	6.0*				

* Significant at 1 per cent level

The real GDP growth has increased in the post globalisation period at 1 per cent level of significance.

Unit Root Test and Co-Integration Techniques Using E-G Methodology

Before going for co-integration, we need to check whether there is any unit root in the series for which ADF (Augmented Dickey Fuller) test is done. We formulate the test with trend and constant (Table 6.14).

Table 6.14
Unit Root Test

Variables (at level)	Constant + trend	Inference
Real GDP	1.529 (6)	Non Stationary
Sindex	-0.3484 (6)	Non Stationary
M1	2.169 (6)	Non Stationary
GDCF	0.01922 (6)	Non Stationary
M3/GDP	1.424 (6)	Non Stationary
Openness	-0.03357 (6)	Non Stationary
Foreign Exchange Reserves	2.289 (6)	Non Stationary
BSE sensex	-2.856 (6)	Non Stationary
Rupee Dollar Exchange Rate	-1.519 (6)	Non Stationary
M3	-1.104 (6)	Non Stationary

* Figures in the paranthesis show the optimum number of lags used

From the analysis, we can see that there is unit root problem in the variables as the variables are non-stationary at levels. So we difference these variables once again and see whether they become stationary. The first difference is taken at this point (Table 6.15).

Table 6.15

First Difference

Variables	Constant + Trend	Inference
DReal GDP	-2.089 (6)	Non-Stationary
DSindex	-4.66 (0)	Stationary
DM1	-0.3199 (6)	Non-stationary
DGDCF	-4.089 (0)	Stationary
D M3/GDP	-4.384 (0)	Stationary
D Openness	-3.721 (0)	Stationary
D Foreign Exchange Reserves	-0.1933 (6)	Non-stationary
D BSE Sensex	-3.794 (0)	Stationary
D Rupee Dollar Exchange Rate	-3.837 (0)	Stationary
DM3	1.681 (6)	Non-stationary

*Figures in the paranthesis show optimum number of lags used.

From the analysis we can see that some variables are not stationary even at one differencing. Therefore, there is a unit root in these variables. So we

difference the whole series once again and check whether the variables become stationary (Table 6.16).

Table 6.16
Second Difference

Variables	Constant + Trend	Inference
DD Real GDP	-6.341 (0)	Stationary
DD Sindex	-6.063 (0)	Stationary
DD M1	-6.223 (0)	Stationary
DD GDCF	-6.621 (0)	Stationary
DD M3/GDP	-6.346 (0)	Stationary
DD Openness	-7.8033 (0)	Stationary
DD Foreign Exchange Exchange	-4.036 (0)	Stationary
DD BSE Sensex	-6.363 (0)	Stationary
DD Rupee Dollar Exchange Rate	-5.855 (0)	Stationary
DD M3	-6.604 (0)	Stationary

*Figures in parenthesis show that the optimum number of lags used.

After going for second differencing, we can see that the series has become stationary. There is no unit root in these variables. Therefore the series is of order I (2).

In order to do co-integration techniques, it is necessary that I (2) and I (0) must be done.

The result of ADF test for residuals shows that,

ADF = -5.040 at zero lag.

The unit root test for residuals show that the residuals follow zero order of integration and it is stationary I (0). Therefore we may infer that the variables are co-integrated according to E-G method.

For co-integration we have used E-G methodology. According to this methodology, residuals of the models should follow a stationary condition. From the residuals, we can see that they are stationary and hence there is no unit root in the residuals.

In order to get accurate results, we tried many alternate methods in this study. The best method found to be the model in which the log differences of the variables are taken for analysis and the lag of dependent variable is added as one of the independent variables in the equation, to solve the problem of simultaneity.

An attempt was made to assess the impact of chosen variables on real GDP. In order to get mathematical and statistical accuracy, the analysis was made considering the simultaneity problem. After removing the problem of simultaneity, the dependent variable was regressed with nine independent variables. The estimated coefficients are presented in Table 6.17.

Table 6.17

Dependent variable: Id_Real_GDP__

Variable	Coefficient	Std. Error	t-statistic
Const	0.0945772 ***	0.00866807	10.9110
Id_Sindex	0.013062 ***	0.00395683	3.3011
Id_M1__Rs	0.29908 ***	0.0553265	5.4057
Id_GDCF__Rs	0.0514919 *	0.0282168	1.8249
Id_M3/GDP	-0.670271 ***	0.078515	-8.5369
Id_Openness	-0.0671547 *	0.0330021	-2.0349
Id_Foreign_Ex	-0.0134506 **	0.00518629	-2.5935
Id_BSE_Sensex	-0.0149839 **	0.00697813	-2.1473
Id_Rupee_Doll	0.0380983 *	0.0197651	1.9276
Id_Real_GDP	-0.186323	0.110811	-1.6814

- *** denotes 1 per cent level of significance
- ** denotes 5 per cent level of significance
- * denotes 10 per cent level of significance

The equation is as follows:

$$\begin{aligned} \text{Id_Real_GDP} = & 0.0945772 + 0.013062 \text{ Id_Sindex} + 0.29908 \text{ Id_M1_Rs_in_} + \\ & 0.0514919 \text{ Id_GDCF_Rs_i} - 0.670271 \text{ Id_M3/GDP} - 0.0671547 \text{ Id_Openness} - \\ & 0.0134506 \text{ Id_Foreign_Ex} - 0.0149839 \text{ Id_BSE_Sensex} + 0.0380983 \text{ Id_Rupee_Doll} \\ & - 0.186323 \text{ Id_Real_GDP_1} \end{aligned}$$

Statistics based on the weighted data:

Sum of squared residuals = 22.0912

Standard error of residuals = 1.25616

Unadjusted R² = 0.921416

Adjusted R² = 0.870897

F-statistic (9, 14) = 18.2392 (p-value < 0.00001)

Durbin-Watson statistic = 1.84771

From Table 6.17, it is seen that almost all variables are statistically significant at different probabilities. Adjusted R² is overall good, which satisfies the validity of the model. Durbin-Watson statistic is found to be 1.84, fairly a good indicator of absence of autocorrelation. From the analysis it is found that, the maximum influences are due to four variables viz., M1 and M3/GDP followed by other variables with more or less equal level of significance. But variables like openness, foreign exchange reserves and BSE Sensex and financial depth recorded negative relation. This may be due to the large time period particularly pre- globalisation period included in the data. Or other explanation is the composite nature of openness and foreign exchange reserves. A detailed treatment of all the exogenous variables within the system is difficult in a narrow frame work of the Thesis. The results would have been better provided, we went

for disaggregate level analysis. But that type of disaggregation will violate data sufficiency conditions in statistical analysis.

However, in India a detailed country specific study has not been done so far. So we have made an attempt to study a country specific work and this empirical work has a lot of policy significance.

The empirical research has proved that the macro-economic variables have a lot of influence on real GDP. The sindex, which is a stock market development index, is highly significant at 1 per cent level. This shows that along with liberalisation and globalisation programmes, the government must make adequate atmosphere to make the market arena in a highly sophisticated way, so that more wealth creation can take place if the stock market is buoyant. So the hypothesis that, along with macro-economic variables stock market development must be given highest priority, stands to be correct. This research is in line with the research outcome of the World Bank Group 1996. So the hypothesis stands to be substantiated.

References:

1. Demirguc-Kunt, Asli and Levine Ross (1996): 'Stock Market Development and Financial Intermediaries: Stylized Facts', *The World Bank Economic Review*, Vol.10, No.2, pp. 291-321.
2. Pagano Marco (1993): "The Flotation of Companies on the Stock Market: A Co-ordination Failure Model", *European Economic Review*, Vol. 37, pp. 1101-1125.
3. Korajczyk Robert A (1996): "A Measure of Stock Market Integration for Developed and Emerging Markets", *The World Bank Economic Review*, Vol. 10, No. 2, pp.268-289.
4. Levine Ross and Sara Zervos (1995): "Capital Control Liberalisation and Stock Market Development", World Bank, Policy Research Department, Washington DC.
5. Demirguc-Kunt, Asli and Maksimovic Vojislav (1996): "Stock Market Development and Financing Choices of Firms", *The World Bank Economic Review*, Vol. 10, No.2, pp. 341-369.
6. Boyd John and Bruce Smith (1996): "The Co- evolution of the Real and Financial Sectors in the Growth Process", *The World Bank Economic Review*, Vol. 10, No. 2, pp. 371-396.
7. Levine Ross and Zervos Sara (1996): "Stock Market Development and Long Run Growth", *The World Bank Economic Review*, Vol. 10, No. 2, pp. 323-339.
8. Devereux Michel B and Gregor W. Smith (1994): "International Risk Sharing and Economic Growth", *International Economic Review*, Vol. 35, No. 4, pp. 535-550.

9. Obstfeld, Maurice (1994): "Risk Taking, Global Diversification and Growth", *American Economic Review*, 85 (5 December), pp. 1310-1329.
10. Levine Ross (1991), "Stock Markets Growth and Tax Policy", *Journal of Finance* 46 (4), pp. 1145-1165.
11. Bencivenga, Valerie R, Bruce D Smith and Ross M Starr (1996): "Equity Markets, Transaction Cost, and Capital Accumulation: An Illustration", *The World Bank Economic Review*, Vol. 10, No. 2, pp.523-547.
12. Delong J.B, Anderi Shleifier, Lawrence Summers and R.J. Waldmann (1989): "The Size and Incidence of Losses from Noise Trading", *Journal of Finance*, 44(3), pp. 681-696.
13. Shiller Robert J (1981): "Do Stock Prices Move Too Much to be Justified by Subsequent Changes in Dividends?" *American Economic Review*, 71, pp. 421-436.
14. Samal C. Kishore (1997): "Emerging Equity Market in India Role of Foreign Institutional Investors", *Economic and Political Weekly*, October 18.
15. Melina Dritsaki (2005): "Linkages between Stock Market and Macroeconomic Fundamentals: Case Study of Athens Stock Exchange", *Journal of Financial Management and Analysis*, Vol. 18, No.1, pp.38-47.
16. Samuel Cheriyan (1996), "Stock Market and Investment: The Governance Role of the Market", *The World Bank Review*, Vol.10, No.2.
17. Demirguc-Kunt, Asli and Levine Ross (1996): "Stock Market, Corporate Finance and Economic Growth: An Overview", *The World Bank Economic Review*, 10(2), pp. 223 -239.

18. Akinifesi Oln (1987): "The Role and Performance of Capital Market" in Adedotun Philips and Eddy Ndekwu (eds) *Economic Policy and Development in Nigeria*, NISER, Ibadan Nigeria.
19. Levine Ross and Zervos Sara (1996): "Stock Market Development and Long Run Growth", *The World Bank Economic Review*, Vol. 10, No. 2, pp. 323-339.
20. Obedan M.I (1998): Presidential Address presented on the "Capital Market and Nigeria's Economic Development" at one day Seminar organized by Nigerian Economic Society at the Institute of International Affairs, Lagos, 21st January, edited in the *ICFAI Journal of Applied Finance*, Vo. 10, No.3, March 2004.
21. Onosode G O (1998): "The Capital Market and Nigeria's Economic Development" at One Day Seminar organised by Nigerian Economic Society at the Institute of International Affairs, Lagos, 21st January, edited in the *ICFAI Journal of Applied Finance*, Vo. 10, No.3, March 2004.
22. Emenuga Chidocie (1998): "Nigerian Capital Market and Nigerian Economic Performance" at one day Seminar organised by Nigerian Economic Society at the Institute of International Affairs, Lagos 21st January, edited in the *ICFAI Journal of Applied Finance*, Vo. 10, No.3, March 2004.
23. Osinubi Tokunbo S (1998): *Stock Market Development and Long-Run Growth in Nigeria*, Unpublished Ph.D Dissertation, University of Ibadan, Nigeria.

CHAPTER 7

FINANCIAL PERFORMANCE AND STOCK MARKETS: A FIRM LEVEL ANALYSIS

Industry analysis is a type of business research that focuses on the status of an industry or an industrial sector. The industry classification is economy specific. The boundary of each industry may vary from country to country or from analyst to analyst. A complete industrial analysis usually includes a review of an industry's recent performance, its current status, and outlook for the future. Many industrial analyses include a combination of qualitative and statistical data. Industry analysis demands an insight into the segments / sectors / sub divisions of overall economic activity that influence particular industries and the relative strength or weakness of a particular industry within an economic environment.

The classification of industries can be done on various grounds. However, the present study focuses on the classification made by the BSE. The major sub categorisation of industry groups as per the BSE grouping is given here.

1. Agriculture	2. Automobiles	3. Banking
4. Biotechnology	5. Steel	6. Chemicals
7. Computer	8. Construction	9. Defence
10. Drugs and Pharma	11. Energy	12. Entertainment
13. Electronics	14. Financial services	15. FMCG
16. Food processing	17. Health care	18. Housing
19. Infrastructure	20. Insurance	21. Manufacturing
22. Metals	23. Mining	24. Real Estate
25. Retail	26. Telecom	27. Textile
28. Transport	29. Tourism	30. Utilities
31. Energy & Electricity	32. Coal	33. Fertilizers
34. Cement	35. Petroleum	36. Media and Publicity
37. Aero space & Airlines	38. Software	39. Electrical appliances
40. Health and Medicine	41. Machinery	42. Paper and Printing
43. Hotel	44. Shipping	

Industry analysis usually tries to find answers to the following questions.

1. Is there a difference between returns for alternative industries during the specific time periods?
2. Will an industry that performs well in one period continue to perform well in the future?
3. Do companies within an industry show consistent performance over time?
4. Does the risk for individual industries vary or does it remain relatively constant over time?

Industry analysis is more relevant than economic analysis for an investor, since the final investment decision is to identify the investment opportunities. This helps in focusing on companies with sustainable competitive advantage in their respective industries. The ability to compute the growth rate of an industry helps in the better pricing of specific companies /securities.

There is a strong need to analyse the current status of the industry and forecast the conditions in which business now operates or will operate in future. Industry analysis is done for mainly two reasons. First, it provides an awareness of the market performance and ability to anticipate the future industry. Second, it is an important part of any company's business plan. Financial markets and financial institutions, which are part of the capital providers, need an industry analysis before participating in any company's capital either through IPO (Initial Public Offer) or through FPO (Follow on Public Offer).

BSE Sensex has the sectoral composition of the following group of companies.

- 1) Finance
- 2) IT
- 3) Oil and Gases
- 4) F.M.C.G.
- 5) Transport equipments
- 6) Metal, Metal products and Mining
- 7) Capital goods
- 8) Power
- 9) Health Care
- 10) Telecom
- 11) Housing related, and
- 12) Diversified.

In order to show the relationship between stock market development and economic growth, the researcher has divided the entire sector into five major sectors. There are around eight thousand companies listed in Indian Stock Exchanges and to study every company and all sectors, will be a combursome task. So the researcher has gone for a convenience sampling. Five major sectors are identified and in order to draw the performance, two companies have been identified from each sector and their analysis is done. The sectors identified include: 1) Manufacturing and Construction 2) IT 3) Health Care 4) F.M.C.G and 5) Banks.

Reliance Industries, Larsen and Turbo, Infosys, Wipro, Hindustan Lever, Indian Tobacco Company (ITC), Ranbaxy, Dr.Reddy's Lab, HDFC Bank and State Bank of India (SBI) are the companies selected for analysis. The following sections discuss the company-wise analysis of the selected companies.

RELIANCE INDUSTRIES

Reliance Industries is the largest private sector business enterprise in India on all major financial parameters, including sales, profits, net worth and assets. The very important speciality is that Reliance Industries (RIL) operates from the production of crude oil and gases to polyester, polymer and chemical products to the production of textiles. RIL is the only company to achieve this degree of vertical integration and value additions.

RIL operates mainly in India, but it has business activities and customers in more than 100 countries around the world. RIL has production facilities at three major locations in India and further four locations in Europe. RIL also has exploration and production interest in India, Yemen and Oman.

RIL has three major business segments:

- 1) Exploration and production of oil and gas.
- 2) Refining and marketing of petroleum products and petro chemicals which include manufacturing and marketing of petroleum products and petro chemicals.
- 3) Marketing of polymers, polyester, polyester intermediaries and chemicals.

RILs strategy is to build and sustain leadership position across its product categories in the domestic markets, pursue attractive export opportunities, implement vertical integration, access cutting edge technologies, achieve economies of scale, focus on prudent financial management and invest in high growth opportunities. RIL has grown up by setting up world scale (international scale) world class projects, scaling them up to meet local and global demand, investing in R & D to develop future prospects of markets and delivering a large pool of qualified and skilled manpower.

RIL is making strategic decisions with regard to the emerging business that it is seeding today. These include **a)** Identifying new business with high growth potential **b)** investing in business that can scale rapidly and generate superior returns over an extendable period of time **c)** create a differentiated business model and aspire to be the lowest cost manufacturer / service provider, which shall ultimately result in gaining dominant market leadership.

In terms of growth, RIL found place in the elite world's 25 climbers in the FORTUNE 500 companies of the world (RIL Annual Report 2005-06, p. 27). RIL is rated by international agencies like Moodys and Standard and Poor (S & P). RIL is now rated above India's sovereign rating and it is at Baa 2 (Moody's) and BBB by (S & P). In order to ensure a positive impact on the stock price and maximise the overall shareholder value, RIL purchased 2.86 million shares from the open market valued at Rs. 149.61 crores (US \$34 million).

Financial Performance Record

RIL scaled the unique milestone of becoming the first Indian private sector company to record a net profit of over US \$ 2 billion thereby nearly doubling its profit in a span of just 24 months. RIL's net profit for the year 2005-2006 was Rs. 9069 crores (US \$ 2033 million) and registered Annual Growth Rate (CAGR) was 28 per cent over the past 5 years.

During 2005-06 RIL declared a dividend of Rs. 10 per share, the highest dividend RIL has ever paid. This amount is in the tune of Rs. 1394 crores (US \$ 312 million), the highest ever, by any private company in India. Though weighted average cost of capital is around 12.5 per cent, RIL has generated a return on equity of 22.7 per cent and a net return on capital employed of 20.5 per cent. So when we compared to the cost of capital, RIL has a very high advantage in return on equity and return on capital employed. RIL has net gearing of 25 per cent and a gross debt - equity ratio of 0.44. RIL enjoys a pre-eminent position in India's economy with revenue equivalent to about 2.8 per cent of India's GDP. RIL's leadership position in India is reflected in its all round contributions to the national economy.

RIL accounts for:

- Over 8 per cent of India's total exports
- Nearly 8 per cent of the Government of India's indirect tax revenue
- About 4 per cent of total market capitalisation in India
- Weightage of 10.6 per cent in the BSE Sensex
- Weightage of 8.6 per cent in the NIFTY Index

RIL maintained its position as India's largest exporter, reflecting its global competitiveness and international quality of its products. RIL's products worth Rs. 32691 crores or US \$7327 million were exported in the year 2004-05 which accounts for 37 per cent of its turnover. The profit after tax increased Rs. 1323 crores in 1996-97 to Rs. 9069 crores in 2005-06. EPS has also grown up from

Rs. 14.4 in 1996-97 to Rs. 65.1 in 2005-06. The book value also has grown up from Rs. 92 in 1996-97 to Rs. 357.4 in 2005-06. Table 7.1 reveals the financial highlights of Reliance Industries Ltd.

RIL was demerged in February 2005. Even after demerger, RIL's price went up to 2700 and Reliance Communications share price went up to 750. When demerger took place the share holders of Reliance Industries was offered Reliance Communications share free of cost. So share holder's wealth has increased maximum.

The Reliance Industries has given bonus issues in 1980-81 (3:5 ratio), in 1983-84 (6:10 ratio) and in 1997-98 (1:1 ratio). The fundamental belief for RIL is that '***growth is life and it has to continue to grow at all times***'.

Table 7.1
Financial Highlights of Reliance Industries Limited

(Rupees in crores)

Year	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05	05-06
Turnover	6,442	9,719	10,624	15,847	23,024	45,404	50,096	56,247	73,164	89,124
Total income	6,731	10,055	11,232	16,534	23,407	46,186	51,097	57,385	74,614	89,807
Earnings Before Depreciation, Interest and Tax (EBDIT)	1,948	2,887	3,318	4,746	5,562	8,658	9,366	10,983	14,261	14,982
Depreciation	410	667	855	1,278	1,565	2,816	2,837	3,247	3,724	3,401
Profit after Tax	1,323	1,653	1,704	2,403	2,646	3,243	4,104	5,160	7,572	9,069
Equity Dividend %	65	35	37.5	40	42.5	47.5	50	52.5	75	100
Dividend payout	299	327	350	385	448	663	698	733	1,045	1,393
Equity share capital	958	932	933	1,053	1,053	1,054	1,396	1,396	1,393	1,393
Reserves & Surplus	8,013	10,863	11,183	12,636	13,712	26,416	28,931	33,057	39,010	48,411
Net worth	8,471	11,983	12,369	13,983	14,765	27,812	30,327	34,453	40,403	49,804
Total Assets	19,536	24,388	28,156	29,369	29,875	56,485	63,737	71,157	80,586	93,095
Market Capitalisation	14,395	16,518	12,176	33,346	41,191	41,989	38,603	75,132	76,079	1,10,958
Number of Employees	16, 778	17,375	16,640	15,912	15,083	12,864	12,915	11,358	12,113	12,540
Contribution to National Exchequer	2,490	3,021	2,893	3,719	4,277	10,470	13,210	12,903	13,972	15,950

Key Indicators

Earnings Per Share-Rs.	14.4	17.6	18.0	22.4	25.1	23.4	29.3	36.8	54.2	65.1
Turnover per share-Rs.	70.0	104.1	113.8	150.4	218.5	325.2	358.8	402.8	525.0	639.6
Book Value Per Share-Rs.	92.0	128.3	129.8	129.9	140.1	199.2	217.2	246.7	289.9	357.4
EBDIT / Gross turnover %	30.2	29.7	31.2	30.6	26.8	19.1	18.7	19.5	19.5	16.8
Net profit margin	20.5	17.0	16.0	15.5	12.8	7.1	8.2	9.2	10.3	10.2
RONW %	22.3	21.6	19.0	21.8	20.0	16.1	14.8	17.0	21.9	22.7
ROCE %	19.7	18.7	18.3	20.0	20.4	15.3	13.2	14.0	21.3	20.5

Source: Annual Report, various years

LARSEN & TURBO (L & T)

A movement, a mission, a Lakshya is the motto of Larsen & Turbo. Mr. A.M. Naik is the Chairman and Managing Director of L & T, which has 5 major operating divisions. "It is all about imagineering" - L & T's new tag line captures the ethos of the company. It describes not just where it is coming from, but also where it is heading.

Imagineering synthesises engineering with imagination, fuses right and left brain thinking and alive as the regimental march of knowledge with creative leap. While engineering turns concepts into reality, imagineering lights up the path ahead and unlocks the world that lies beyond. Imagineering underscores L&T's focus on the technological facet of engineering. As L&T progresses towards becoming a true knowledge based premium conglomerate, the sign post along with roads reads 'imagineering'.

L&T's fulcrum is 'technology' that enables the company to achieve its goals more competitively, more emphatically, and more efficiently. By reorganising that, technology is a moving target, L&T constantly scans the horizon and moves rapidly to acquire and implement solutions as they emerge.

The following benchmark will enlist the diversity of L&T's achievements in engineering, construction and manufacturing across several industry sectors.

- World's largest coal gasifier built for an ammonia plant in China.
- India's largest single-stream PTA plant built for Indian Oil.
- The world's largest continuous catalyst reactor for the world's largest refinery.
- The world's biggest Fluid Catalytic Cracking Regenerator.
- India's biggest marine equipment - an oil and gas platform.
- The world's largest LPG pipeline from Jamnagar in Gujarat to Loni in Uttar Pradesh across a distance of 1270 kilometres.
- India's widest range of low tension switches gear.

- The world's largest contractor.
- The first power distribution products and system engineered for a tropical environment.
- India's largest coal conveyer.
- India's first open sea jetty.
- India's first I.T park built by L & T at Bangalore.
- Construction of Asia's largest blast furnace at Vishakapattanam.
- Construction of a Cold Rolling Mill for steel plant in Jamshedpur in a world record time of around 26 months.
- Asia's highest Viaduct.

L & T has six operating divisions.

1. Engineering Construction and Contracts Division (E.C.C.D).
2. Engineering and Construction Projects Division (E & C Projects)
3. Heavy Engineering Division (HED).
4. Electrical and Electronic Division (EBG)
5. Machinery and Industrial Products Division (M.I. P.D)
6. Technology Service Division

L&T has launched an important programme called 'Lakshya'. This is a five-year strategic plan for charting its growth plan. It aims at enhancing shareholder value by achieving profitable growth in scalable high end business, expanding international operations, achieving operational excellence and through effective talent managers. Critical initiatives of Lakshya include **1) Achieving cost efficiencies 2) Thrust on engineering and IT services 3) Risk management 4) Supply chain management 5) Shared services 6) Exploring the inorganic route for bridging competency gaps, achieving scales, etc.** All the operating divisions have launched implementation programmes to monitor the programme of Lakshya initiatives. The key performance of the company during 2005-06 is given here for reference.

- New order inflow Rs. 22305 crores (previous year Rs. 14942 crores) - growth 49 per cent.
- Order backlog Rs. 24646 crores (previous year 17728 crores) - growth 39 per cent.
- Gross sales Rs. 14884 crores (previous year Rs. 13255 crores) - growth 12 per cent.
- Export sales Rs. 2642 crores – 18 per cent of total sales.
- PBDIT Rs. 1573 crores (previous year Rs. 1434 crores) - growth 9.7 per cent.
- PAT Rs. 1012 crores (previous year Rs. 984 crores) - growth 2.8 per cent.
- Debt-Equity ratio 0.32 : 1 (previous year 0.56 : 1)

Segment wise composition of revenue

- Engineering and construction segment 82.3 per cent.
- Electrical and electronic segment 10.4 per cent.
- Other segment 7.3 per cent.

Table 7.2 reveals the financial highlights of Larsen and Turbo Ltd.

Table 7.2
Financial Highlights of Larsen & Turbo Limited

(Rupees in crores)

Year	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Turnover	5305	5677	7292	7424	7825	8167	9870	9807	13255	14884
Total income	5392	5768	7502	7599	8032	8385	10124	10205	13953	15430
PBDIT	764	766	870	994	1013	1042	999	891	1434	1503
Profit after Tax	411	531	471	342	315	347	433	523	984	1012
Share capital	248	248	248	248	249	249	249	25	26	27
Reserves	2856	3174	3458	3616	3751	3095	3314	2750	3343	4613
Net worth	3104	3422	3706	3864	4000	3344	3563	2775	3369	4640
Investments	142	348	489	774	813	885	1160	966	961	1920

Ratios and Statistics

PBDIT as a percentage of Total income	15.07	14.20	12.44	13.94	13.33	13.12	10.39	8.95	10.43	9.89
ROCE %	10.55	8.30	7.51	7.38	6.74	6.84	7.27	13.52	21.69	17.45
RONW %	14.07	13.22	11.13	8.85	8.18	9.69	12.91	20.66	32.83	23.90
Earnings Per Share	33.10	42.78	37.88	27.48	25.34	27.90	34.83	42.82	77.62	76.05
Book Value Per Share	122.04	134.99	146.48	152.13	157.31	130.25	139.15	216.91	253.91	334.01

Source: Annual report, various years

INFOSYS

Narayana Murthy said "Aspiration is the main fuel for progress. Aspiration transfers a set of ordinary people into extra ordinary achievers". He further added, "A great corporation must live for 100 years". Narayana Murthy was the Chairman and Chief Mentor of Infosys. Infosys is now a world class company incorporated in 1981 as a small beginning called Infosys Consultants Pvt. Ltd. In June 1992 the name of the company was renamed as Infosys Technologies Limited and it became a public limited company. In 1993, the company did its first IPO in India and the issue price was Rs. 95 per share. In 1995, IPO of ADS in United States completed. In August 2003 and June 2005 they completed secondary offerings of ADS in the US on behalf of its shareholders.

Software development - Centres of Infosys

Infosys has 38 global development centres of which 20 are in India - 5 in Bangalore, 3 in Pune and Chennai, 2 each in Bhubaneswar and Mangalore, one each in Hyderabad, Chandigarh, Mohali, Trivandrum and Mysore.

Infosys has a global development centre in Toronto, Canada. In addition to that there are eight proximity development centres in the US, three in UK, two in Australia and one each in China, Japan, Mauritius and Czech Republic. Infosys is accepted as an international company. Most of their income comes from overseas operations.

Wealth effect - Infosys shareholders

The initial public offer was made in February 1993 and was listed at different stock exchanges in India in June 1993. Trading opened at Rs. 145 as against the issue price of Rs. 95 per share. If an investor invested around Rs. 9500 for 100 shares in IPO of Infosys, it would have become Rs. 1.40 crores as of today. This is because of the bonus issues and the stock split. The Table 7.3

reveals the history of bonus issues (equivalent to stock split in the form of stock dividend) and stock split at Infosys.

Table 7.3
Bonus and Stock Split of Infosys Ltd.

Fiscal	Bonus issue ratio	Stock split ratio
1986	1:1	2 for 1
1989	1:1	2 for 1
1991	1:1	2 for 1
1992	1:1	2 for 1
1994	1:1	2 for 1
1997	1:1	2 for 1
1999	1:1	2 for 1
2000	N.A	2 for 1
2004	3:1	4 for 1
2006	1:1	2 for 1

Note: NA-Not Available

Source: *Annual Report, Infosys.*

Infosys is a great employer too. In 1996, it had only 1,172 employees and in 2006 it had 52,715 employees and now Infosys has 72,000 employees, 5 year CAGR is 40. Infosys, a company which was not even known to public at the time of globalisation, has become a globalised company which increased the shareholders wealth tremendously, is very well appreciated. This is because of the globalisation strategies adopted by the Government of India and the financial reform measures to open up the economy. The Table 7.4 reveals the financial highlights of Infosys.

Table 7.4
Financial Highlights of Infosys Limited

(Rupees in crores)

March 31	1982	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Income	0.12	89	139	258	509	882	1901	2604	3623	4761	6860	9028
Operating profit	0.04	31	47	86	202	347	765	1038	1272	1584	2325	2989
Profit after tax	0.04	21	34	60	133	286	623	808	958	1243	1859	2421
Return on average net worth (%)	96.88	29.53	34.96	42.24	54.16	40.63	56.08	46.57	38.78	40.68	43.77	39.89
Return on average capital employed	96.88	33.12	40.16	46.09	63.51	46.27	62.62	54.37	46.91	48.10	51.43	44.89
Share capital	-	7	7	16	33	33	33	33	33	33	135	138
Reserves & Surplus	0.04	73	106	157	541	800	1357	2047	2828	3220	5107	6759
Net worth	0.04	80	113	173	574	833	1390	2080	2861	3253	5242	6897
Total assets	0.04	84	113	173	574	833	1390	2080	2861	3253	5242	6897
EPS	-	0.80	1.27	2.28	5.17	10.81	23.56	30.53	36.17	46.85	69.26	88.67
Book value	-	3.02	4.27	6.54	21.71	31.49	52.51	78.58	107.96	122.05	193.73	250.29
No. of share holders	7	6909	6414	6622	9527	46314	89643	88650	77010	66945	158725	195956
Market capitalisation	-	356	731	2963	9673	59338	26926	24654	26847	32909	61073	82154

Source : Annual Report, various issues

Financial Performance

Exports constituted 98 per cent of the total revenue during the fiscal year 2005 and 2006 and only 2 per cent of the total revenue earned from domestic resources in the fiscal year 2005 and 2006. Another most important parameter is that aggregate employee costs were approximately 47 per cent of total revenue. Profit after tax before exceptional item was 27 per cent of the total revenue for the year ended March 31st 2006 and 2005. The most important thing the researcher would like to emphasise is that Infosys is a totally debt-free company as on March 31st, 2006.

Return on average net worth is 39.89 per cent. Since Infosys maintains 65 per cent of their assets in liquid asset which are adjusted against average net worth, the revenue earned after tax from liquid assets is adjusted against net profit; return on invested capital is 94 per cent. Basic earnings per share before exceptional items is Rs. 88.67 as compared to Rs. 69.26 for the previous year. Cash earnings per share (basic) is Rs. 103.67 as compared to Rs.79.26 during the previous year. This is because of higher cash generation and higher value addition. Book value per share increased to Rs. 250.29 against Rs. 193.73 on March 31st, 2005. Dividend payout ratio (excluding one time special dividend in the fiscal 2006) for the year ended March 31, 2006 and 2005 was 19.36 percentage and 18.48 per cent respectively.

WIPRO

Wipro, a 60 year old company is headed by Asim Premji, a visionary. The company started as a humble beginning with manufacturing vegetable oil as their first business. Now the company has grown up to one of the world's leading technology provider. Over the six decade period, Wipro's revenues have grown up by a compounded annual growth (CAGR) of 21 per cent, net income has grown up by CAGR of 31 per cent and market capitalisation has grown up by CAGR of 25 per cent. The company's main idea is to have 'restless edge to do

more and achieve more'. This strategy is made to make this company into a world class company having second highest number of employees around 55000, operating in 16 countries. The spirit of Wipro means, manifesting intensity to win, acting with sensitivity and being unyielding on integrity at all the time. This has helped Wipro to climb ladders and provide the highest employer in the private sector.

Wipro has 490 active clients, a wide geographical diversity of operators with over 40 development centres and 10 near shore centres spread across India, Japan, China, Eastern Europe, France, Australia, Sweden, Germany, UK and USA. Wipro is the only IT Services provider, ranked among the Global Top 10 outsourcing companies in IAOP 'Global Outsourcing 100 rankings'. Though Wipro is famous for its IT related services, it has consumer care and lighting division also. But their major revenue comes from IT related services. The Table 7.5 reveals the financial highlights of Wipro Ltd.

From Table 7.5, it can be seen that the sales has increased from Rs. 1256.47 crores in 1997 to Rs. 10264.09 crores in 2006. The profit after tax also showed a quantum jump. It has increased from Rs.65.53 crores to Rs. 2020.48 crores in 2006. Net foreign exchange earnings are also increased to Rs. 3615.22 crores in 2006. There was a tremendous increase in market capitalisation also. Since inception, Wipro has given enough bonus shares and stock splits through which, investors wealth has increased tremendously.

Table 7.5
Financial Highlights of Wipro Limited

(Rupees in crores)

Year	1997-03	1998-03	1999-03	2000-03	2001-03	2002-03	2003-03	2004-03	2005-03	2006-03
Sales	1256.47	1417.71	1830.84	2360.05	3133.86	3477.31	4040.29	5188.19	7276.18	10264.09
PBDIT	146.55	174.10	218.25	396.58	871.68	1094.56	1074.95	1237.07	1947.72	2635.07
PBDT	84.53	130.15	182.67	367.91	864.79	1091.67	1078.02	1233.55	1942.15	2631.94
PBIT	124.93	133.45	153.73	326.73	773.74	950.67	937.01	1085.47	1761.75	2342.81
PBT	62.91	89.53	118.14	298.06	766.8	949.78	934.08	1081.95	1756.18	2339.68
PAT	62.53	85.65	112.14	248.26	667.95	866.11	813.23	914.88	1494.82	2020.48
Foreign earnings	-27.89	52.84	272.87	225.37	980.45	1154.83	1398.42	3542.7	2829.8	3615.22
Book Value	155.29	68.84	89.68	27.95	80.70	108.95	143.20	150.70	69.54	45.03
Market Capitalization	573	3444	18438	125875	31014	39553	28565	31638	47195	76649
CEPS	55.48	27.40	38.24	13.73	32.81	43.36	40.77	42.11	23.19	15.52
EPS	41.33	18.54	24.16	10.68	28.60	37.26	34.84	35.59	20.55	13.47
ROCE	24.55	26.34	31.40	52.50	58.52	42.53	31.45	30.98	41.15	41.01
RONW	29.29	37.83	46.55	56.10	52.94	39.29	27.74	26.76	36.59	35.72

Source: Annual Report, various issues.

HINDUSTAN LEVER

Hindustan Lever is a multinational company and the parent company is Uni Lever. It is headed by Harish Manwan, the Chairman and Douglas Baille, the CEO and MD. Under the ambit of these people Hindustan Lever is functioning extremely well.

Products segments are:

- Soaps, Detergents and Household care products
- Personal products
- Foods
- Chemicals, Agricultural fertilisers, Animal feeds etc.

Hindustan Lever is one of the most important FMCG companies in the country. Recently this company has changed its name to Hindustan Uni Lever (HUL). The Table 7.6 reveals the financial highlights of Hindustan Lever Ltd.

As evident from the table, the sales have increased from Rs. 7120 crores in 1996 to Rs. 11976 crores in 2005. Profit after tax has increased from Rs.412.70 crores to Rs. 1354.51 crores in 2005. Recently the management of the company bought back some quantity of their stock at Rs. 230 per share.

Table 7.6**Financial Highlights of Hindustan Lever Limited**

(Rupees in crores)

Year	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Sales	7120.06	8342.75	10215.24	10917.69	11392.14	11781.30	10951.61	11096.02	10888.38	11975.53
Other income	118.08	183.87	244.74	318.98	345.07	381.79	384.54	959.83	318.83	304.79
Total income	7238.14	8526.62	10459.98	11236.67	11737.21	12163.09	11336.15	12055.85	11207.21	12280.32
PBT	605.25	850.25	1130.44	1387.94	1665.09	1943.37	2197.12	2244.95	1505.32	1604.47
PAT	412.70	580.25	837.44	106.94	1310.09	1540.95	1737.32	1804.34	1199.28	1354.51

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
HLL Share Price on BSE (Rs. per share of Re. 1)	80.70	138.35	166.35	225.00	206.35	223.65	181.75	204.70	143.50	197.25
Market capitalisation (Rs. crores)	16073	27555	36525	49513	45409	49213	40008	45059	31587	43419
Exports (Rs. Crores)	921	1152	1664	1803	1934	1845	1411	1416	1459	1461
Contribution to Exchequer (Rs. Crores)	1398	1640	2062	2341	2524	2478	2609	2999	2694	2638

Source: Annual Report, various issues.

INDIAN TOBACCO COMPANY (ITC)

ITC has been one of the front-runners in India to have put in place a formalised system of corporate governance. ITC defines corporate governance as a systematic process by which companies are directed and controlled to enhance their wealth generating capacity. Since large corporations employ a vast quantum of societal resources, ITC believes that the governance process should ensure that resources are utilised in a manner that meets stake holders' aspirations and societal expectations. This kind of belief is truly benefited and reflected in the company's deep commitment to contribute to the 'triple bottom line' namely the development, nature and regeneration of the nations economic, ecological and societal capital.

ITC's corporate governance structure, system and process are based on two core principles. They are; **1)** Management must have the executive freedom to drive the enterprises forward without undue restraints **2)** This freedom of management should be exercised within a framework of effective accountability.

ITC is an investor friendly company, banks hold 36.79 per cent, foreign companies hold 32.4 per cent, FIIs hold 14.34 per cent, are the main holders. General public has only 14.81 per cent of shares. ITC has made GDR issue also and the share is listed at Luxemburg. Rs. 995 crores has been distributed among shareholders of ITC as the dividend for the year 2005-06. Bonus share of 1:2 also has been given to shareholders. The face value of Rs. 10 has been reduced to Re. 1.

During the financial year 2005-06 ITC and its subsidiaries and ITC Welcome group hotel chain, together earned Rs. 1941 crores in foreign exchange. ITC's main focus is on cigarettes and hotels and its focus has been shifted to many other diversified areas inclusive of packed foods, clothing and paper boards, paper and packing. Apart from cigarettes, now the focus is on other FMCGs. According to ITC the demand for FMCG products would be

driven by rising disposable income in the wake of robust economic growth in Indian economy, the favourable demographic profile of the country, improving literacy levels, growing urbanisation trends and increasing population of working women. ITC is uniquely positioned to tap the emerging opportunities of this sector by synergising and blending the diverse pool of competencies residing in its various businesses.

During 2005-06 ITC made rapid progress in scaling up newer FMCG business, comprising branded package foods, lifestyle retailing, greetings, gifting and stationery, safety matters and agarbathies. The Table 7.7 reveals the financial highlights of ITC Ltd.

The Table clearly shows that the gross income of ITC has increased from Rs. 5990.60 crores in 1997 to Rs. 16510.51 crores in 2006. Profit after tax increased 5.6 times during this period. ITC is inspired by their vision of sustaining its position as one of the India's most valuable companies through world class performance, creating enduring value of all shareholders. Each business within the portfolio is continuously engaged in upgrading the strategic capability to effectively address the challenge of growth in an increasingly competitive market scenario. The vision of enlarging ITCs contribution to the Indian economy is manifest in the creation of unique business models that foster international competitiveness of not only its business but also the entire value chain of which is impart. Propelled by this vision and powered by internal vitality, ITC looks forward to the future with very high confidence.

Table 7.7
Financial Highlights of ITC Limited

(Rupees in crores)

Year	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Gross income	5990.60	6923.75	7700.96	8069.37	8827.11	9982.46	11194.47	12039.92	13585.39	16510.51
PBDIT	769.77	958.35	1194.41	1460.03	1836.15	2045.64	2323.37	2585.47	3028.37	3613.46
PAT	586.65	791.48	938.03	1228.95	1600.30	1780.26	2056.19	2319.06	2673.07	3269.19
EPS (basic)	0.94	1.43	1.69	2.15	2.73	3.20	3.69	4.29	4.91	6.08
EPS (adjusted)	4.53	6.86	8.13	10.33	13.12	15.51	17.88	20.77	23.95	29.73
Dividend per share	0.27	0.30	0.37	0.50	0.67	0.90	1.00	1.33	2.07	2.65
Market capitalisation	8792	17523	23633	18038	19987	17243	15581	25793	33433	73207
Foreign Exchange Earnings	634.73	759.08	649.55	687.70	697.13	947.57	1294.00	1077.51	1268.65	1793.51
Net worth per share	3.69	4.79	6.07	7.60	9.60	11.99	14.45	17.15	21.10	24.13
Debt - equity ratio	0.53:1	0.74:1	0.56:1	0.23:1	0.24:1	0.06:1	0.02:1	0.02:1	0.03:1	0.01:1

Source: Annual report, various issues.

RANBAXY

Ranbaxy is the India's largest pharmaceutical company. From total quality to total integration and from Indian multinational to a global corporate and from generic products to a series of differentiated products, Ranbaxy is aiming to achieve a global sales of US \$2 billion in 2007 and US \$5 billion in 2012. Ranbaxy is headed by Tajendra Khana who is the Chairman of the company. Today Ranbaxy is one of the top ten global generic companies and have compounded average growth rate of 19 percentage in revenue terms in the last 5 years.

Landmarks of Ranbaxy

- (1) Ranbaxy is positioned among the top ten generic companies globally.
- (2) Global sales during 2005 stood at US \$ 1178 million.
- (3) Ranbaxy is one of the largest pharma patent filters in the developing world and the second largest in the US in terms of pending product pipeline.
- (4) Ranbaxy has acquired a company called Terapia, the largest independent company in Romania.
- (5) The focus of the future of Ranbaxy will be on accelerating the generics business and enhancing R & D productivity.

The Table 7.8 illustrates the financial highlights of Ranbaxy Ltd.

Table 7.8
Financial Highlights of Ranbaxy Limited

(Rupees in crores)

Year	1996-97	1997-98	1998	1999	2000	2001	2002	2003	2004	2005
Sales	1148.21	1333.52	1064.05	1559.83	1736.66	2054.54	2819.79	3533.49	3614.34	3536.65
Exports	522.36	595.69	441.41	732.37	801.96	1029.08	1850.29	2467.46	2156.24	2337.11
Gross profit	218.80	238.76	155.21	256.25	317.71	392.41	730.18	1006.14	721.17	317.88
Profit before tax	186.94	201.15	124.02	210.38	194.54	277.77	713.38	956.37	628.34	201.36
Profit after tax	160.44	186.65	117.00	196.88	182.44	251.96	623.38	794.78	528.47	223.70
Earnings per share	32.47	34.74	13.46	16.99	15.74	21.86	28.86	42.61	28.26	5.68 [^]
Net worth	1155.00	1286.43	1400.83	1497.93	1382.69	1735.51	1962.39	2933.34	2628.80	2488.60
Book value per share (Rs.)	233.74	239.44	120.9	129.25	136.56	149.75	105.71	131.14	141.42	66.82

[^] After stock split

Source: Annual Report, various issues

From the Table 7.8 it is clear that the profit after tax has increased from Rs.160.44 crores in 1996-97 to Rs.223.7 crores in 2005. The book value of Ranbaxy has come down because of the stock split. Pursuant to the approval granted by the shareholders at the annual general meeting held on 30 June 2005, the equity shares face value of Rs. 10 has been subdivided in two equity shares of Rs. 5 each, effective from 1 August 2005. Ranbaxy has given 1: 1 bonus in 1998 and 3: 5 again in October 2002. The stock split is another type of bonus, which would have increased the shareholders wealth.

Dr. REDDY'S LABORATORIES

Dr. Reddy's Lab is incorporated on 24 February 1984. It is one of the leading drug manufacturing companies in the country having operations around the world. Dr. K. Anji Reddy, the Chairman of the company is controlling the ambit. The company's shares are listed in BSE, NSE and New York stock exchange also.

Dr. Reddy's has acquired Beta pharma, the fourth largest generic company in Germany for \$584 million in cash. The combination of Dr. Reddy's and Beta Pharma offers excellent opportunity to build on the unique strength of each company to emerge as a leading generic player in Euope. Another major development was the acquisition of ROCHES, API business in Mexico for US \$65.5 million. This will help Dr. Reddy's emerge as a leading player in Customs Pharmaceutical Services (CPS) segment and position itself as a partner of choice for strategic outsourcing needs of global innovator companies. Dr. Reddy's as a pharmaceutical company intends to achieve its vision of becoming a discovery lead and global pharmaceutical company by building on two distict business models viz., being a global generics player and being an innovation based player that focuses on Speciality Pharmaceutical and Drug Discovery.

Dr. Reddy's has 22 years in drug business with nearly 7500 employees at different corners of the world.

Dr. Reddy's revenue comes from 4 major businesses. They are:

1. API (Active Pharmaceutical Ingredients)
2. Formulations
3. Generic business
4. Customs Pharmaceutical Services (CPS), and
5. Biotechnology and critical care.

Dr. Reddy's Lab has given 3 bonus issues in 1991, 1993 and 1994 along with a right issue in 1989. FIIs have increased the shareholding of Dr. Reddy's Lab by 12 per cent. This shows the strength of the company. The table 7.9 reveals the financial highlights of Dr.Reddy's Laboratories Ltd.

Table 7.9
Financial Highlights of Dr. Reddy's Lab Limited

(Rupees in crores)

Year	1997-03	1998-03	1999-03	2000-03	2001-03	2002-03	2003-03	2004-03	2005-03	2006-03
Sales	294.94	331.62	452.86	493.02	984.11	1565.74	1598.33	1740.20	1626.78	2104.57
PBDIT	50.74	70.27	82.76	96.24	261.43	532.34	498.05	379.30	149.56	399.71
PBDT	40.83	59.89	69.92	79.89	218.05	518.19	492.00	375.07	136.82	375.09
PBIT	44.94	63.72	72.60	83.17	218.93	484.92	437.21	307.58	57.10	288.38
PBT	35.03	53.34	59.75	66.82	175.55	470.77	431.16	303.35	34.36	263.76
PAT	35.53	48.84	51.76	60.32	144.47	459.65	392.09	283.20	65.46	211.12
Foreign earnings	21.99	55.13	31.52	58.71	284.13	801.77	680.68	637.2	533.99	786.37
Book Value	113.54	128.68	144.92	164.28	175.12	190.54	236.14	267.51	271.05	294.93
Market Capitalization	114	129	2283	4269	3940	8401	7015	7453	5656	10894
CEPS	14.55	20.61	23.08	27.29	58.78	65.76	58.55	45.74	19.94	41.34
EPS	12.36	18.14	19.24	22.36	45.32	59.56	50.60	36.37	7.85	26.82
ROCE	15.40	20.22	17.83	16.51	31.50	42.06	26.44	15.61	2.19	9.24
RONW	12.54	17.19	14.28	14.73	29.23	45.71	24.02	14.70	2.77	8.57

Source: Annual Report, various issues.

It is clear from the Table that the sales have increased from Rs. 294.94 crores in 1997 to Rs. 2104.57 crores in 2006. Profit after tax showed year to year variations. Net foreign exchange earnings during 2006 were Rs. 786.37 crores. The market capitalisation in 1997 was Rs. 114 crores and it increased to Rs. 10894 crores. The ROCE and RONW also showed year to year variations.

HDFC BANK

HDFC bank is a subsidiary of HDFC, which is incorporated in the year 2004. Having successfully completed 10 years as a professionally managed Bank in India, its share value has gone up more than Rs. 1500 recently.

HDFC bank continued to receive a lot of awards and recognition from various leading domestic and international publications during 2005-06. This bank was selected as the 'Best Bank in India' in the Business Today - KPMG Survey of the Best Banks in India. HDFC bank has achieved tremendous awards because of their professionalism in the banking sector. Credit Analysis and Research Limited (CARE) and Fitch Ratings India Private Ltd have rated HDFC BANK as one of the best banks in India.

Mission & Business strategy

HDFC bank's mission is to become a world-class bank. The bank marks are international standards and best practices in terms of products offerings, technology, service levels, risk management and audit compliances. The objective is to build sound franchises across distinct business so as to be preferred provider of banking services for target retail and wholesale customer segments, and to achieve a healthy growth in profitability, consistent with bank's risk appetite.

HDFC bank has the following business strategy.

- Increase the market share in India's expanding banking and financial services industry by following disciplined growth strategy focussing on balancing quality and quantity and delivering high quality customer service.

- Leverage technology platform and open scalable systems to deliver more products to more customers and to control operating costs.
- Maintain high standards of asset quality through disciplined credit risk management.
- Develop innovative products and services that attract targeted customers and address inefficiencies in the Indian financial sector
- Continue to develop products and services that reduce cost of funds and
- Focus on high earning growth with low volatility.

HDFC bank has a staff strength of 11791 on March 2006. Its major income is from interest income and other income.

Financial Performance

The net profit increased from Rs. 20.28 crores in 1995-96 to Rs. 665.56 crores in 2004-05. The return on average net worth increased from 9.62 per cent in 1995-96 to 20.44 per cent in 2004-05. The basic earnings per share (EPS) have increased from Rs. 1.04 in 1995-96 to Rs. 22.92 per equity share in 2005-06. The Book value per share has increased from Rs. 11.10 in 1995-96 to Rs. 145.86 in 2004-05.

The bank's total customer based increased from 68.1 lakhs in March 2005 to 96 lakhs in March 2006. The distribution network was expanded with a number of branches, increased from 467 (in 211 cities) to 535 (in 228 cities). The number of ATM increased from 1147 to 1323. HDFC's credit card business is 5 years old and the total number of credit increased more than 2 million marks. HDFC bank has got business with SMES and Micro Finance group also. The Table 7.10 illustrates the financial highlights of HDFC bank Ltd.

Table 7.10**Financial Highlights of HDFC Bank Limited**

(Rupees in crores)

Year	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Interest income	114.56	161.74	240.80	376.08	679.87	1259.46	1702.99	2013.61	2548.93	3093.49
Interest expense	70.84	87.18	137.55	229.18	374.28	753.75	1073.74	1191.96	1211.05	1315.56
Net interest income	43.72	74.56	103.25	146.90	305.59	505.71	629.25	821.65	1337.88	1777.93
Net revenues	56.87	103.96	164.30	214.03	425.13	682.28	965.15	1287.20	1817.91	2429.27
Operating cost	22.67	42.18	62.71	88.79	171.39	309.59	417.95	577.05	810.00	1085.40
Operating result	34.20	61.78	101.59	125.24	253.74	372.69	547.20	710.15	1007.91	1343.87
Profit after tax	20.28	40.50	63.15	82.40	120.04	210.12	297.04	387.60	509.50	665.56
Earnings Per Share	1.04	2.03	3.16	4.12	5.93	8.64	11.01	13.75	17.95	22.92
Return on average net worth (%)	9.62	17.42	23.87	26.41	29.00	24.53	18.30	18.10	20.14	20.44
Book value per share as at March 31 Rs.)	11.10	12.20	14.30	16.90	30.90	37.50	69.00	79.60	94.52	145.86
Market price per share as at March 31 Rs.)	32.40	45.20	70.80	69.15	257.20	228.35	236.60	234.55	378.75	573.64
P/E ratio	31.12	22.32	22.42	16.78	43.37	26.43	21.50	17.06	21.10	25.03

Source: Annual Report, various years.

STATE BANK OF INDIA (SBI)

SBI is the oldest bank in India completing its two hundred years of existence. SBI has achieved fresh milestones in credit expansion and quality, moved resolutely forward on its technology and business process structuring initiatives and expanded its international operations for the year 2005-2006. Gross NPA have come down from 11.95 per cent in March 2002 to 3.88 in March 2006. Net NPA has come down to 1.87 per cent. These figures are on par with international benchmarks. SBI's capital adequacy is at 11.88 per cent at the end of March 2006 which is also comparable with that of the best bank globally. Retail advances in the personal segment kept up the tempo of growth and comprise almost a quarter of SBI's advances, as housing finance constitutes more than one half of SBI's retail advances. SBI also gives credit to SMEs and Self Help Group (SHG). Also the disbursement to agriculture was given thrust.

More than 3150 branches which cover more than half of the total business of SBI have been brought under core banking. With 5572 ATMs of SBI and another 3743 ATMs of associated banks; the State Bank group has the largest network of ATMs in the country. Internet banking is now providing at 3482 branches covering 650000 users.

SBI has received two prestigious awards from The Banker magazine in 2005 for its core banking solutions and SBI is considered as the Best Bank of the year by Business India. SBI's foreign offices have increased from 56 to 70 in 2005-06. Together, foreign offices and subsidiaries brought in a net profit of US \$ 80 mn contributing to a steady growth share to the overall profits of SBI. SBI has many subsidiaries under its ambit viz., SBI Life, SBI capital market etc.

Financial Performance

Table 7.11 illustrates the performance highlights of the State Bank of India. It shows that profit after tax increased from Rs. 1349.25 crores in 1997 to 4406.67 crores in 2006. Market capitalisation also increased from Rs. 14355 crores to Rs. 50948 crores. The book value has increased from Rs. 151.57 in 1997 to Rs. 525.25 crores in 2006. The return on net worth averaged around 19 per cent during 1997 and 2006.

Table 7.11**Financial Highlights of State Bank of India Limited**

(Rupees in crores)

Year	1997-03	1998-03	1999-03	2000-03	2001-03	2002-03	2003-03	2004-03	2005-03	2006-03
Sales	14950.6 6	15878.89	19107.54	22200.93	26138.5 9	29810.9	31087.02	30460.49	32428.00	36979.57
PBDIT	11963.0 1	13499.48	14765.81	18668.28	20733.1 9	24852.93	26870.29	24943.30	25756.70	28059.40
PBDT	2371.58	3026.27	1721.37	3395.70	2977.17	4124.09	5760.83	5669.12	7273.33	7668.95
PBIT	11865.6 8	13335.41	14456.24	18302.63	20331.2 7	24427.98	26376.60	24244.96	24004.49	27295.72
PBT	2274.25	2862.20	1410.80	3030.05	2575.25	3699.14	5267.14	4970.78	6521.12	6905.27
PAT	1349.25	1861.20	1027.80	2051.55	1604.25	2431.62	3105.00	3681.00	4304.52	4406.67
Book Value	151.57	182.56	197.65	230.81	255.78	289.27	326.87	384.41	457.38	525.25
Market Capitalization	14355	14842	11231	10584	10539	11568	14205	31878	34575	50948
CEPS	27.11	38.08	24.99	45.10	37.61	54.28	67.29	81.80	94.30	96.28
EPS	25.26	34.96	19.09	38.16	29.97	46.20	57.91	68.53	80.01	81.77
RONW	20.08	21.17	10.27	18.20	14.68	16.95	19.95	19.67	19.43	17.04

Source: Annual report, various years

MAJOR FINDINGS OF THE COMPANY ANALYSIS

The analysis of the selected companies done in this chapter brings to the fore the following findings:

1. Private sector creates more than 97 per cent of employment in India.
2. Return on investment (ROI) in software industry is 30 to 45 per cent. Investors are benefited maximum by investing in software companies.
3. Reliance Industries is the largest private sector in India. RIL is the highest investor friendly share in the market.
4. Infosys is the largest provider of employment, more than 72000.
5. Infosys is the only company, which has given maximum bonus shares. After globalisation, Infosys has become a global company with very high potential.
6. Reliance Industries (RIL) is the largest dividend distributor among all corporate securities.
7. Indian companies have started acquiring foreign companies. This is the impact of globalisation. Indian companies have become highly competent and now they are in a position to become multinational companies.
8. 2000-2001 is the year in which companies started showing drastic jump in their activities. Therefore, the book values and market values started showing quantum jump year after year.

The company analysis shows that strong fundamentals are promoted by strong performance of companies that led to higher economic growth in the country. The globalisation has helped companies to expand and acquire maximum resources from India and abroad. This has helped them to excel properly and Indian companies are now acquiring foreign companies. Though globalisation started in 1991, the Indian corporate results are extremely good and are reflected in company performance from the year 2000 onwards. This is very much clear from the companies selected by the researcher. The company analysis

shows that the liberalisation and globalisation measures have reflected in the corporate performance and it has benefited maximum, the country as a whole.

Conclusion

The financial sector reforms in India since 1991 made drastic impact on the Indian economy, particularly on the corporate sector. In order to assess the capitalisation and impact of reform on the corporate sector, we selected 10 companies and their financial performance was assessed. The temporal and inter-firm financial analysis made here led to the conclusion that, over the time period 1996-97 to 2005-06 all these companies recorded tremendous growth in performance. Definitely this is the direct impact of reforms. These healthy indicators led to an increase in wealth creation of these companies. Any speculation about the healthy performance will be leading to an appreciation in the share values of these companies, consequently the development of capital markets. Capital market and money market will definitely interact and cause multiplier- accelerator interactions, ultimately the expansion and development of the economy. The hypothesis that the firm level performance is a good indicator for economic prosperity of the country stands to be substantiated here.

CHAPTER 8

INDIAN SECURITIES MARKET AND EQUITY CULTURE-EMERGING ISSUES AND CHALLENGES

The Indian stock market has a history of more than a century. Till India got independence, it was in the infant stage. But the momentum started only in 1973 when multi national companies had to issue shares to Indian citizens. Many Indian citizens got wonderful opportunity to increase their wealth. It continued like that and the badala system was carried on. Only in the second half of 1980s, the liberalization and reform policies have started and the stock market trading became very popular only in 1991 following liberalization and globalisation measures adopted by Government of India. Market started growing notwithstanding two securities scams. The Government of India appointed some committees and based on their recommendations, NSE started functioning. Along with that, a nation wide screen based trading, paperless trading; T+2 settlement, depositories etc., became popular. All these have made the operation of Indian stock market on par with international standards. Yet, it is facing some major constraints for growth.

During the course of this study, the researcher has travelled throughout India and discussed the problems of Indian stock markets with the investors, brokers, officials of SEBI, NSE, BSE and RBI. The emerging issues of Indian securities market are discussed here, on the basis of the outcome of the above discussions and also the researcher's experience in the field of stock market.

1. The working of stock markets in India is characterized by various unethical practices on the part of existing companies, new companies and entrepreneurs, brokers and other operators of the market. Though the mergers and acquisition are very common, there are a lot of malpractices going on and they are entering into unofficial transactions even before

issues open for subscription. Moreover, by rigging up of premium on new issues they always present a very rosy picture about new ventures. Because of insider trading, circular trading is very common in the stock market. This results in almost complete lack of protection to the interest of genuine and small investors. This is a serious constraint, because small investors are the ambit of stock market. To retain them is very much essential. A large majority of investors in corporate securities have serious grievances and SEBI has not been able to help much in this regard.

2. The volatility on Indian stock exchanges is twice as much as the New York Stock Exchange. The standards of service and information provided to investors by companies and brokers are very poor. Most of the time, the ordinary investor will often get the information late. Because of high volatility in the stock market, many small investors will have to go out of the market. Since FIIs control the Indian stock market (they have maximum money power), they make the market highly volatile to make use of the volatility advantage. Out of 35 emerging markets, India is the most preferred market for FIIs because of this reason.
3. The trading in Indian stock market is extremely thin and restricted. Though there are around 10000 companies listed in Indian stock market, a few percentages of the companies' shares are traded everyday. About sixty four per cent of listed scrips were not traded at BSE during 1995-97. Even now, top five hundred companies' volumes are reflected in different indices of stock exchanges. Now, only two thousand companies are regularly traded and have liquidity. For the rest of the companies, there is no liquidity at all.
4. The whole activity on the stock market and share prices are determined by excessive speculation. They have little correspondence with the fundamentals of the real performance of the company. If we analyse, the

actual delivery of shares will be less than 20 to 25 per cent of the total turnover. Some speculation is always advisable and excessive speculation spoils the very purpose of wealth creation. A detailed delivery pattern in stock exchanges can be seen in the Indian Security Markets, a Review (ISMR), 2005.

5. In capital market theory, there is a positive relationship between share price movements and the volume of new issues. But, in normal practice there is no positive relation between these variables in India.
6. The stock market experienced payment crisis because of the excessive speculation of stock brokers. The authorities really failed to monitor and curb payment crisis. The payment crisis was common and a number of stock exchange members have been declared defaulters and few other brokers have been directed not to carry on their business. Moreover, stock exchanges did not have uniform settlement periods. In addition to that, bad deliveries were very common. (These constraints have come down drastically in recent years because of liberalization, modernization and globalisation).
7. There is a structural and organizational imbalance in the growth of stock markets. In India the top four exchanges account for the major part of total business. Though India has twenty three stock exchanges, NSE and BSE have the highest turnover. Moreover, Bombay has been declared as the financial capital of India. The volume of regional stock exchanges have come down and it has become almost standstill. Though Government of India tried to revive the regional stock exchanges through an interconnected stock exchange, the idea was not so successful. So, there is no balanced growth of securities market in India. The stock markets even today are almost entirely urban-oriented with little relation with vast rural economy. According to a study, five States (Maharashtra, Gujarat, West Bengal, Delhi and Tamil Nadu) constitute the maximum

shareholding pattern and it is highly concentrated in a few traditional areas. (Gupta et al, 1994)

8. Though we have nation-wide trading terminals in India, the unofficial parallel stock markets still working and the kerb dealings is having huge volume. This kind of kerb dealings is still going on in certain parts of Gujarat. This is the information which the researcher received when he visited Gujarat for his discussion with Professors of Indian Institute of Management, Ahemedabad.
9. In India, there is no market for Industrial debentures. It is under developed even today. Secondary market is concentrating only on shares and not on debentures issued by companies. Companies can make use of partly convertible debentures also to mobilise resources.
10. Individual investors, small market players and small companies have suffered from many disabilities in the capital market. The stock market forgets 'the small is beautiful' concept. The stock market is becoming more centralised, concentrated and non –competitive, serving the bigger and established interest. The market suffers from 'big is beautiful' syndrome. Besides that, the ownership of equities by individuals and households as a percentage of total equity capital is declining and also the percentage of allocation of public issues are increasingly becoming less for the public. Indian stock market is increasingly dominated by institutional investors. Along with that, FIIs are picking up large enblock of shares from the new issue market. FIIs are the most beneficiary in this regard. They are picking up seventy five per cent of new issues which account for sixty per cent of the market turnover. In the proportionate allotment system introduced by SEBI, the minimum shares that can be applied increased from 100 to 500 in certain issues. For retail investors (those who apply for less than 1000 shares or less) the minimum percentage of shares allocated has reduced from 60 to 25 per cent.

11. The volatility of Indian stock market had shown a tendency to increase over the years due to the following reasons:
 - (a) India's adoption of liberalization policy.
 - (b) Introduction of flexible exchange rate regime.
 - (c) Acceptance of globalisation, intermediation and integration of Indian market with the rest of the world.
 - (d) Technological revolution.
 - (e) Financial engineering, i.e. the introduction of new, innovative, hybrid financial instruments.
12. There is no comparison of share prices and the relative parameters of economic performance of companies. Over speculation lift the prices up or down. For the past few years, share price rates were rising just like 'tides will raise every ship'. Contrary to share prices, the secular trend in the average gross dividend yield on equities has been declining.
13. The amount collected from the new issues market (NIM) has increased in the recent past. In many cases, these funds raised were used for frivolous purposes. In many times, these funds are rechanalized for speculative purposes in the secondary market, to buy and create artificial scarcity in the same company shares or speculate and gain extra profit from the stock market. In addition to that, many companies now a day do real estate business along with main business activities. In 1995 and 1996, around 1000 companies which came out with IPO's and FPO's collected about rupees three thousand crores and disappeared (The book building mechanism which started in India reduced this kind of fly-by-night operators).
14. In order to become rich, the middle class people acquire equities and fall on to the fray of promoters who will come out with inflating projects. These companies are fixing abnormal premium and raising money for

companies which are not having sound finance and managerial experience. This is done with help of merchant bankers, under writers, advertisers, financial journals, and book runners. There is a strong contention among the investors that the premium collected by the companies of IPO's and FPO's are not justifiable. The Purvankara public issue promoted by Ravi Purvankara, which went to public, recently (issue price was Rs. 500-525), had to reduce the issue price to Rs. 400 and finally it listed at Rs. 363. In addition to that, the over subscription money collected by the companies are being manipulated and they defer the payments (now the SEBI is very vigilant on this issue).

15. India is perhaps the only country in the world, where twenty five to thirty per cent of new issues are given at a very high discount to promoters and their nominees, companies, foreign collaborators, NRIs, FIIs, foreign banks and mutual funds. This has helped foreign companies to hike their equity stake in their Indian branches at ridiculously low prices.
16. The executives of companies, mutual funds and other financial institutions (public and private) often have insider information. So, they misuse it or making large gains for their organizations and for themselves or for their friends and relatives.
17. Currently a new trend has emerged. The researcher, on the way to visit organizations like RBI, BSE, NSE, SEBI, etc. has understood that all those who are having senior positions in these organizations are given big offers by big brokers and FII's and hire them. This is to utilize the contacts the official had while they were in service, and to collect accurate information to pass it to brokers and FII's. Since the corporate sector promises very high remuneration, people will be tempted to switch over to private firms where they can fulfill all their dreams. So hiring of senior employees from key organizations is 'in vogue'.

18. A big racket was operated in Bombay dealing with fake share certificates and selling at ten to twenty percentage of their market value. These shares were utilized mainly for the purpose of pledging in banks and private financiers. (Though this practice has been stopped after the introduction of demat accounts, still India has not achieved hundred per cent demat accounts).
19. Presence of price rigging: Companies, if opt for Follow on Public Offer (FPO), push up the prices of their shares before the issues. This is done by buying and cornering securities by a few groups of persons among themselves and thereby push the prices up. This is the way through which companies can issue further shares at a very high premium.
20. Recently, some brokers have engaged in issuing shares to their close friends and relatives in benami names. Permanent Account Number (PAN) card was not compulsory. So, the brokers made use of this loophole and manipulated. SEBI has made it mandatory to have pan card for those who apply for securities.
21. In November 1993, shares worth crores of rupees under the custody of Stock Holding Corporation of India (SHCIL) were used for raising funds illicitly. Normally, the shares of reputed blue chip companies, brought by financial institutions are kept with SHCIL for 200 to 300 days. These shares were used for 100 to 250 days to pledge or exchange and to make considerable amount of money which is used to speculate in the market or to lend it as badala finance. In certain cases, the shares kept in their custody were sold by some people.
22. The retail participation in the capital market is minuscule. There are many reasons for their hesitation to invest in the market. The excessive volatility in the equity market is the most important reason. When there is very high volatility, investors are advised to stay away from the market.

23. Securities Exchange Commission in the USA is an independent body. But, SEBI is a body constituted and controlled by the Ministry of Finance. So SEBI authorities cannot take independent decisions. Without full autonomy SEBI cannot excel properly.
24. After visiting all the leading financial institutions in the country, the researcher got convinced that there are fewer consensus between SEBI, RBI, Ministry of Finance and Stock exchanges. If there is harmony we can do wonders. The best example is, RBI is opposing Participatory Notes and Ministry of Finance is supporting it.
25. There is a strong complaint from brokers and stock exchange authorities that the surveillance system is not a healthy one. Most of them opined that those who are working with SEBI do not have practical knowledge of day-to-day operations of stock exchanges in India. SEBI is working as watchman's dog. This is a big hindrance for growth.
26. India is not yet fully equipped to fight against contagion or capital flight. Since full and fuller convertibility is in the offing, RBI must be able to overcome any difficulties, which may face in future, regarding capital flight. FII's are generally very sensitive people. The correction happened during May 2006 (sensex fell twenty per cent on that day) is the best example in this regard.
27. India is afraid of FII's. In the year May 2006, when the Government of India was planning to introduce a small tax for FII's, the BSE sensex dropped twenty per cent which made the stock market panicky. Countries like Malaysia could impose a small tax for the money FII's expatriate. This is a market based exit tax. This can be good revenue for the government provided we have to convince FIIs about the need of the tax and only with their consent we can impose that. China imposed the tax on short-term foreign inflows.

28. Stock market has become a veritable cesspool of innumerable and wide varieties of unscrupulous, illegal practices, murky deals and enough frauds. It has become a big man's casino in which small investors are not treated properly.
29. Stock market work in a perfectly competitive market. But it has become oligopolistic in nature because of limited membership.
30. Brokers deal in 'Dhavari Counter'. Here brokers deal in shares, which are newly listed. This is done without informing the Exchanges. This type of practices results in huge profits for brokers and huge loses for their clients.
31. Absence of genuine investors: In different stock exchanges, only very negligible fraction of transactions represents purchase or sale by genuine investors. Most of the transactions are with speculative motive of deriving benefits from short term fluctuations. Out of the turnover, say forty five thousand crores daily by NSE and BSE (including F&O turnover), 85 per cent of the turnover is contributed by speculators. On an average actual delivery is something around fifteen to twenty per cent only.
32. Poor response of Indian house holds: People loose money either through greed or fear. Most of the Indian households have fear of loosing money. Only two per cent of Indian population engaged in stock market activity against 15 per cent in China and 50 per cent in the USA. Dr.L.C.Gupta has made a detailed study on this issue.
33. Investors grievances were very common till SEBI came in to existence. Redressel cell was not very active and now we could overcome the difficulty to a certain extent.

34. **Insider trading:** Insider trading has been accepted as normal routine practice in India. Insider traders are those who access to unpublished price sensitive information by virtue of their position in the company and who use such information in their best advantage. It is an undesirable activity. The SEBI has introduced stringent values and regulations to curb insider trading. The maximum beneficiaries of insider trading are company top executives and mutual funds. There is a saying that 'controlling insider trading is similar to controlling black money'.
35. **Scarcity of floating stocks:** Before screen based trading and paper less trading, some companies used to promote artificial scarcity of stocks. Now, institutional investors are collecting over seventy five percentage of equity in the form of public issue subscription and placement. Since they have money power, they take the delivery of shares. They retain their holdings with themselves without offering them for trading, as on the other hand individual investors are not exposed to portfolio investment and they have sticky portfolio habits. These two reasons will make the market liquidity highly volatile and manipulations of share prices can be done easily.
36. **Lack of professionalism:** Before liberalization and globalisation, Indian stock market was not professionalized. Many brokers were lacking professional standards. Brokers without adequate financial support and skill or experience land up in big catastrophe.
37. **Unhealthy competition of merchant bankers:** More than 900 merchant bankers rendering their services in the capital market. The increasing number of merchant bankers indulge in unhealthy competition affected the quality of issues. Moreover, merchant bankers tend to show a definite bias towards the issuing company rather than protecting the interest of the investors. They help the unscrupulous promoters to raise funds for dubious projects at unjustifiable premium. Investors will suffer and lose

money by paying high premium and most of the time, when market is depressed, the market rate is lower than the offer rate. This makes general investors unhappy and they will lose confidence in the capital market. The collapse of CRB Capital Markets is the best example in this regard.

38. In India, investors' association is weak. SEBI registers and supports investors' association engaged in education of investors and redressal of investor complaints. There are only seven associations registered with SEBI. They are: a) Consumer Education and Research Society, Ahmedabad, b) Consumers Unity and Trust Society, Jaipur, c) Ghatkoper Investors' Welfare Association, Bombay, d) Investors' Grievances Forum, Bombay, e) Jagryt Grahk Mandal, Pattani. Gujarat, f) Kolahapur Investors' Association, Kolahapur, and g) Midas Touch Investors' Association, Kanpur. While discussing with authorities in SEBI, the researcher has convinced that most of the associations are either from Gujarat or from Maharashtra. There was not a single registered association from South India. SEBI authorities opined that more and more investors' club must come forward and they must bring more ideas to SEBI. Then only they can serve people better. The most important point in this regard is that, the investors' association in India has to be strengthened at the earliest.
39. On par with Euronext exchange in Europe, Government of India is planning to set up a stock exchange to revive regional stock exchanges in the country called Indonext exchange (IE). But the interconnected stock exchange was not a success because the BSE and NSE did not leave space for regional stock exchanges to grow. Regional stock exchanges could not face the competition from the BSE and NSE. The regional stock exchanges (RSE's) have a theoretical basis in a vast country like India, a decentralized development of stock market is supposed to be good for balanced regional development. When this matter was discussed with a

Professor in IIM Ahmedabad, he opined that ‘the business model should be viable’. When the same topic was discussed with the senior official of SEBI, he also opined that the regional stock exchanges could become ‘financial super markets’. Susan Thomas, Professor of IGDR, is also not supporting the revival of stock exchanges. According to her, when the trading terminals are there in every nook and corner of India, there is no need of revival of regional stock exchanges. As opined by IIM professor, Government of India should find a ‘viable business model’ to revive the regional stock exchanges.

40. In order to revive the stock market in India, we have invited foreigners to invest in India. FII’s have pumped more than 5000 crores dollars in Indian stock market, and number of FIIs have gone up to 1044 as on 31st December 2006, but most of the money comes to India through FIIs are Participatory Notes (PNs). But this money is diverted through tax heaven countries and rerouted to Mauritius and coming back to India as Participatory Notes. The most important thing is that there is no need of showing the source of money and it is a short term money also (In India KYC - Know Your Customer norms- are not followed). If there is any political calamity or economic disturbances, there will be sudden withdrawal of this money and will make macro-economic imbalance. This is a serious draw back in our financial system. RBI is against PN but the Finance Ministry is supporting it (refer FII flows and capital markets - four research papers- EPW, January 14, 2006).
41. Though most of the companies make profit, their attitudes toward the general public is not good. Only few companies are doing welfare activities to the general public. Along with making profits, protecting employees and enhancing share holders’ wealth, they have the moral obligation to increase the general welfare of the people and protect the environment also. The only exception here is TATA Group of Companies.

MEASURES TO DEVELOP EQUITY CULTURE IN INDIA

Though we have liberalized and globalised our economy, the equity culture in India is still in an infant stage. Out of more than 100 crores of population, only 2 per cent of the people are investors. It is necessary to bring more people under the ambit of stock market. Government of India has been taking a lot of initiatives to improve equity culture. Let us discuss some of the major institutional and fiscal measures implemented to develop the Indian stock market.

1. In February 1997, the SEBI approved the creation of Trade Guarantee Funds (TGF) by the Bombay stock exchange. This will guarantee settlement of bonafide transactions of BSE members for the corpus of Rs.172.5 crores. The trade guarantee fund became operational since 12th May 1997.
2. The HDFC and ICICI have evolved a programme to form a common clearing bank to facilitate money movement between SEs for inter-market settlements in the ISESC. The clearing bank would receive the margin money on a daily basis, and it would be adjusted during pay-session. Along with that, it would also constitute an additional control to audit the timely collection of margins by the local exchanges.
3. BSE bank has been set up by Bombay stock exchange to meet the financial requirements of stock brokers.
4. Another most important measure was the introduction of Stock Lending Scheme (SLS). It enables the seller of securities to borrow them physically for a fixed or specified period from the entities who possess them and to deliver them to the buyer at the time of settlement against the outstanding commitments. Here, the borrower has to pay the interest to the lender on the value of stocks borrowed. In this method, normally institutional investors, FIIs, Mutual funds and high net worth individuals

are the lenders and brokers, speculators, market makers and jobbers are the borrowers. From February 1997 SEBI made certain guidelines to make it operational.

5. In order to bring professionalism in the working of stock market, the authorities decided to increase the corporate membership in stock exchanges. The corporate members have adequate capital base and infrastructure. FIIs generally prefer to route their order through this kind of professionalized broking houses. Government of India allowed the institutional and foreign membership in stock exchanges.
6. CSDL and NSDL are the depositories in India. This depositories and custodial services have been created to facilitate the securities trading transactions more simple.
7. FIIs have more professionalism and they bring foreign exchange to India.

Because of these reasons, FIIs have been permitted to invest in Indian capital market since September 1992. The number of FIIs has increased tremendously. The buying and selling of shares by FIIs have made a major impact on the movement of share prices in India. More over volatility has also increased due to FIIs participation in Indian stock market.

8. The Government of India has set up a National Securities Clearing Corporation (NSCC) to guarantee all trades in the national stock exchange since July 1996.
9. From 1997 onwards, all stock exchanges have switched over from open out cry system to screen based trading.
10. The abolition of long term capital gain tax was made to bring more people in to the equity market.

11. Short term capital gain tax has been slashed to 10 per cent.
12. Corporate tax has been reduced to 30 per cent.
13. The minimum percentage of public issues to be offered to public has been reduced to 60 to 25 per cent.
14. The minimum number of mutual funds units which can be applied has been increased from 100 to 500.
15. Mutual funds and other financial institutions are allowed to apply for allotments in the public issue.
16. It is made mandatory that companies are required to disclose all material facts and specific risk factors associated with the project at the time of public issue.
17. Buy-back of shares has been permitted by companies from 1997. This can be done from their free reserves, securities premium account and the proceeds of prior issue made specifically for the purpose of a buy-back.
18. More integration has been done to integrate money and capital market through a free flow funds of banks, LIC, GIC, Mutual funds, Provident funds, Pension funds and other trusts to the share market.
19. Banks have been allowed to make investment in the stock market. They are encouraged to involve themselves more and more in the primary and secondary market. The ceilings on their investments in PSU bonds have been removed.
20. Companies are allowed to issue non-voting shares up to 25 per cent of their share capital.
21. Financial engineering is 'in vogue' in Indian securities market.

22. Companies are allowed to fix the prices of their shares. SEBI has introduced a market based pricing. Earlier, companies could issue shares only at par. So the fixation of prices of shares and premium on them has been decontrolled.
23. All the intermediaries, agencies and organizations concerned with the functioning of the capital market are brought within the regulatory framework of the SEBI. Prudential norms are introduced, procedures for public issues, securities transfer etc. have been simplified. With regard to stock exchanges, governing bodies have been reconstituted. In order to avoid solvency risk, capital adequacy norms for brokers have been introduced and guidelines for pre-issue and post-issue obligations, under writing and capital structure have been given.

Conclusion

Globalisation has made Indian stock market on par with international standards with respect to all parameters. A number of measures have been initiated to develop equity culture in India. Since small investors are the ambit of stock market, government must make more measures to bring more retail investors into the stock market arena. Government must plug all loopholes in the system and bring novel ideas so that more and more people will be attracted to this opportunity. Educating the general public is the ideal solution to develop equity culture in India.

CHAPTER 9

SUMMARY OF FINDINGS, SUGGESTIONS AND CONCLUSION

A well organized, well regulated and internationally competitive capital market is an essential prerequisite for the economic growth of a country like India. Rapid economic growth through globalisation of financial market is an accepted norm in recent years. Global economies have welcomed the idea of free flow of capital. In India, though liberalization policies started in the mid of 1980s, the real momentum started only in 1991, when India had restructured the financial and real sectors. The Structural Adjustment Programme (SAP) has made remarkable developments in Indian financial sector.

The financial system plays a crucial role in economic development through capital formation. Many financial sector reforms were undertaken to improve the efficiency and stability of the Indian financial system. Government of India has set up SEBI in 1992 with a view to develop a vibrant and internationally competitive financial market. SEBI is constituted on par with Securities Exchange Commission of the USA which is an independent body, whereas SEBI is a regulatory body under the control of Ministry of Finance.

A developed stock market is crucial to national economic growth, since it is working along with banks and other financial institutions for encouraging and mobilizing domestic savings. At the same time, it ensures improvements in the productivity of investment through market allocation of capital and also increases managerial discipline through the market for corporate control. The stock markets influence national savings and ultimately lead to economic growth.

Investment climate increases the opportunities and incentives for firms to invest productively, create jobs and expand their business. . A congenial

investment climate is a key to sustainable progress in attacking poverty and improving living standards. Good investment climate helps to reduce the cost of goods consumed by poor people and improves the living conditions of people directly. This will lead to an enhanced tax base and ultimately enable the government to invest in health and other welfare projects of the people. According to the Greenwood and Jovanovic's model (1990), "as income level rises, financial structure becomes more expensive, economic growth becomes more rapid and income inequality across the rich and poor widens. As the economy fully develops, countries will have stable distribution of income."

In the case of India, since we are in the verge of take-off, income distribution is unequal. If the Greenwood and Jovanovic model is true, India can expect stable distribution of income in the near future. According to W.W.Rostow, after the take - off stage, the next stage is high level of mass consumption. Indian economic scenario is changing very fast. The IT and IT enabled services helped India very much in the wake of globalisation of our economy. More over, India did not have any set backs and had consecutive monsoon for the past fourteen years. The general income of the people has increased and the attitude of the people has also changed. Double income families and small families are becoming popular. So, India can be considered as a developed country, if we follow the same financial sector and real sector reforms in a continuous manner. We must also keep ten per cent growth rate consecutively.

The investors, the issuer of securities and the market intermediaries also play a vital role in the development of the capital market. In addition, various micro and macro factors contribute towards the development of corporate securities market. The development and supervisory role of the regulatory body must be in tandem with the major conditions required for the orderly growth and development of capital market. Within a short span of time, the regulatory body has done wonders with reference to investors, issuers of securities, market

intermediaries and also provide market infrastructure, institutional infrastructure, legal infrastructure etc. They had done laudable efforts to bring Indian corporate securities markets on par with international standards.

As stock market is a barometer of economic performance of a country, it is pertinent to probe into the development of stock markets in India after globalisation. More than two decades of reforms and initiatives in the financial sector have made remarkable impact in the macro- economic environment of our country, especially on stock market investment. A review of the works on the impact of globalisation on stock market, one can find many cross-country studies. The country specific studies are very rare. In the Indian context, only a very few efforts were made to analyse the relationship between stock market development and economic development. Hence, the researcher has made an attempt to study the macro- economic impact of globalisation on stock market and try to analyse if there is any relationship between stock market development and consequent growth in Indian economy.

The major objectives of the study are: **(i)** to analyse the structure and patterns of investment in financial securities in India, **(ii)** to assess the impact of investment in financial securities on the macro performance of the economy, **(iii)** to analyse the extent of market capitalisation and performance of selected companies since globalisation, and **(iv)** to identify the constraints for growth of financial securities in India.

In order to get proper direction to the study, we have formulated a few hypotheses, viz., **(i)** liberalization and globalisation have significant impact on Indian stock market, **(ii)** there is a significant relationship between macro-economic variables and economic growth, **(iii)** stock market index is having significant impact on economic growth, and **(iv)** firm level performance is a good indicator for economic prosperity of the country.

The study is primarily based on secondary data. Secondary data have been collected in two stages. In the first stage, data from publications of Government of India, Central Statistical Organization (CSO), Reserve Bank of India (RBI), Stock Exchanges, Securities and Exchange Board of India (SEBI) and from relevant reports, periodicals, and news papers are collected and analysed. In the second stage, firm level data have been collected from Prowess, CMIE publications and annual report of companies.

For collecting the firm level data, the listed companies are divided into five sectors viz., Manufacturing and Construction, Information Technology (IT), Health Care, Fast Moving Consumer Goods (FMCG), and Banks. Two companies are selected from each sector on the basis of the highest market capitalization and performance as indicated by the Sensex. Firm level data have been collected from the annual reports and a ten years' analysis is done.

Discussions have also been held with the share brokers, portfolio managers, officials of SEBI, officials of BSE, NSE, UTI capital markets, professors of leading business schools and other experts in the field to get an insight into the problems of stock market investment.

Time series analysis and co-integration techniques were used to find out the relationship between real GDP and other macro-economic variables. Boyce index is used to find out the growth pattern of pre-globalisation period and post-globalisation period.

The study is presented in nine chapters. The first chapter introduces the topic, discusses the importance of the study, methodology, objectives and limitations. The second chapter reviews the related literature and the findings are arranged in three sections viz., capital market and investment, stock market and economic growth (cross country studies) and India specific studies. The third chapter deals with the theoretical framework in which different tools of technical analysis, efficient market theory and portfolio theories are explained at length.

The fourth chapter provides a detailed explanation of Indian financial sector reforms and resource allocation. An overview of the evolution and growth of Indian capital market is given in the fifth chapter. It covers trends in resource mobilisation in the primary market, major indicators of stock market developments, recent developments in stock market, growth in the investor population in the country and their geographical distribution. The growth of BSE, NSE and degradation of regional stock exchanges are also explained in detail. The sixth chapter deals with Indian securities market and its emerging issues and challenges. The measures to develop equity culture in India are also discussed here.

The seventh chapter discusses the relationship between stock market development and economic growth. Real GDP is taken as a proxy for economic development and few macro- economic variables are used to find out the relationship between these two.

The eighth chapter deals with growth and performance of companies whose market capitalisation / profits have grown up tremendously after the globalisation period. Five sectors were selected and two companies from each sector have been selected using a convenience sampling method. All the selected companies have flourished extremely well after the globalisation period. Most of the companies rewarded maximum to the investors. Companies like Reliance and Infosys are worth mentioning. Infosys is the company which gave maximum bonus shares to its investors. The concluding chapter gives the summary of findings of the study with suggestions for improving the stock market development.

MAJOR FINDINGS OF THE STUDY

- Resource mobilisation through primary capital market has experienced a substantial jump in nineties due to globalisation of stock market, spurring

from Rs. 14219 crores in 1990-1991 to Rs.105944 crores in 2004-05. This is a quantum jump compared to seventies and eighties.

- The pattern of resource mobilization through primary market has undergone a sea change in the nineties, particularly, in the later half of the nineties, with the private placement route eclipsing the Initial Public offer (IPO) route.
- The corporate sector's dependence on the securities market for external financing increased from 19.35 per cent in 1990-91 to 33.58 per cent in 1999-2000.
- Due to the increase in the fiscal deficits of the Central Government, its dependence on market borrowings to finance fiscal deficit has increased from 17.9 per cent in 1990-91 to 69.4 per cent in 2000-01. This is because of the cheap and perennial source of finance from investors.
- Market capitalisation ratio has increased significantly and now it is on par with international standards.
- The liquidity ratios (value traded ratio and turnover ratio) reached their peak in 2000-01 and started declining due to subdued stock market conditions.
- The Boyce index has shown that economic growth has increased after globalisation. The exponential growth rate of real GDP before globalisation, say 1991 was 5.3 and post globalisation showed 6 per cent growth rate. This shows that the real GDP has increased after globalisation. The results of co-integration (EG method) for the impact of macro-economic variables on real GDP show that M1 and Sindex have large significance. The inference is that along with increase in money supply, government must boost up the activities in the stock market.

- The Finance Ratio has increased from 0.17 to 0.49 per cent. This indicates a deepening of the financial markets leading to a marked rise in the institutionalisation of financing investment.
- The Financial Inter-relations Ratio reflects the relation between financial asset and real asset structure. It has averaged around 2.4 since 1991, though it has exhibited year to year fluctuation. This indicates that the financial structure in India grew more rapidly than national income.
- The New Issue Ratio, the ratio of primary issues to net domestic capital formation, was at a high of 1.62 in 1991-92, declined to 1.16 in 1994-95, before increasing to 1.33 in 1995-96. A downward movement in the ratio (from 1992-93 to 1995-96) would reflect the continued role of financial intermediation in capital formation, because this ratio is indicative of the extent of dependence on non-financial sector on its own funds in financing the capital formation.
- The Intermediation Ratio, the ratio between financial instruments issued by non-financial units, touched a high of 0.91 in 1994-95 but declined to 0.70 in 1995-96. This ratio also reflects the importance of banks and also other financial institutions in the financing activities
- The return on investments (ROI) in software industry is 30 to 45 per cent. Investors are benefited maximum by investing in software companies.
- Reliance Industries is the largest private sector company in India and it has the highest investor friendly share in the market. RIL is the largest dividend distributor among all corporate securities.
- Infosys is the only company which gave maximum bonus shares and increased the share holder's wealth. After globalisation Infosys has become a global company with very high potential.

- The government had taken a number of stock market friendly decisions in 2001. As a result, the book values and market values of companies started showing quantum jump from 2001 onwards.
- Firm level performance is a good indicator of economic prosperity of the country. Firm level analysis also shows that wealth creation of investors have increased tremendously after globalisation. Many Indian companies have become globalised companies after the introduction of globalisation in India. Indian companies have started acquiring foreign companies and Indian companies have become highly competitive.
- The transaction cost in stock market has come down from 4.75 per cent to 0.60 per cent.
- The Sindex is the stock market development index which is more prominent compared to sensx which is only a price index. The Sindex was 0.15 in 1979-80, increased to 1.02 in 2000-2001 and declined to 0.59 in 2004-05 due to subdued stock market conditions. .
- Indian capital market, the oldest and largest capital markets in the world, began to develop since independence and underwent rapid growth in 1980s and 1990s because of liberalization and globalisation. In the year 2007 BSE Sensex touched 20000, first time in the history.
- The volume of resources mobilized in the primary market has increased significantly. But, the share of the household sector in shares and debentures account for only a meagre portion of the total savings in financial assets.
- On account of the liberalisation and globalisation measures, the stock market has achieved all round development in terms of number of listed companies, volume of turnover, market capitalization of listed companies

etc. The number of investing households and individual investors has also increased significantly.

- Mutual funds have emerged as an investment vehicle and have become popular among investors. At present, there are over 50 mutual funds operating in India and they offer more than five hundred mutual fund schemes, results in wider choices to investors.
- The introduction of screen based trading, establishment of depositories and dematerialization, rolling settlement, derivative trading, T+2 settlements etc. are the major developments in the capital market. These developments have resulted in better transparency in dealing, marked improvement in market infrastructure, easy operation and quick settlement of transactions.
- Among the various capital market instruments available, equity shares are the most preferred instruments among the investors, followed by mutual fund schemes and debentures.
- Capital gain is the highest motive of investors followed by dividends, rights and bonus shares.
- People prefer secondary market rather than primary market. This is because it is easy to pick shares from secondary market. In primary market, allotment is based on lottery method due to over subscription of public issues.
- Investors are willing to invest in capital market instruments because of the falling saving rates in the commercial banks.
- Investors are exposed to unsystematic risk because of their inadequate diversification in capital market assets. Diversification will always help investors to have reduced risk and increase the chance of making profit.

- Investment decision in the secondary market is primarily based on the result of fundamental analysis and also the movement of market indices.
- Though NSE and BSE terminals are available in every nook and corner of the country, people prefer NSE terminals because of their competency.
- Along with genuine transactions, people engage in speculative transactions also. More than 80 per cent of the transactions in India are speculative in nature. But, only minority of the speculators experienced speculation as rewarding. Only long term investors are benefited the maximum.
- The overall experience of investors on capital market investment is that it is rewarding to majority of investors. For speculators, it is a ‘shock market’ and for long term investors, it is a ‘gold mine’.
- The liberalization and globalisation has made Indian stock market on par with international standards.

Financial indicators are related to financial markets i.e., stock markets; support the hypothesis that the financial sector development causes output growth. Hence we conclude that better functioning stock markets result in better informed investment decisions and thereby accelerate economic growth. This research is in line with the research outcome of World Bank Group (1996).

SUGGESTIONS

From the findings of the study, a number of suggestions have emerged which are helpful for policy formulations. The main suggestions are presented here.

1. In India only two percentages of the people are investors. To increase the equity cult, the investor needs to be educated through appropriate

policy measures and short term courses. Such programmes should be sponsored by companies and institutions.

2. With the help of ESOP, companies can retain sincere and dedicated employees. So when ESOP is given, its price must be fifty per cent of the market price. Reverse ESOP also must be followed if the market rate falls less than the rate at which ESOP is issued.
3. Book building process is a novel concept in India and it must be encouraged the maximum. The premium, which companies receive, is cheap money for the company and it can be effectively utilized for their business expansion. The premium must be justifiable.
4. Small investors must be issued shares at a lower price than the price arrived through the book building process. This will encourage small investors to invest in equities.
5. Revitalise regional stock exchanges, so that there can be balanced growth of equity market. Now Gujarat and Maharashtra are having the highest volume and other states have very less participation in the equity market.
6. Put a cap on credit allowed from commercial banks to enterprises and if lower the effective interest rate on bank deposits, it will push up the capital users and investors to the capital market.
7. Stimulate liquidity in securities by applying a low or zero capital gain tax and by taxing other unearned income.
8. If brokerage cost is reduced, companies will prefer to issue securities to public. Otherwise they will prefer to go for private placement, which is a better and easy method to raise capital.
9. Tax incentives and tax holidays must be given to companies to encourage them to list in stock exchanges.

- 10.** Indonext stock exchange must be rejuvenated on par with Euronext exchange in Europe. All companies whose paid up capital is below 20 crores should not be allowed to list in BSE and NSE.
- 11.** Banks must accept credits for payment of new issue application fee. This will boost up primary market.
- 12.** Banks must advance money to general public to apply for securities. This advance must be given at a subsidised rate.
- 13.** Government of India must consider ways to increase market trading volumes. Only when market is buoyant, new issues will get subscribed and investor confidence will increase. At the same time, companies can go for expansion activities.
- 14.** Starting up of investors club at college level is a step in the right direction. Students, teachers and all others can be benefited.
- 15.** Companies must encourage dividend reinvestment plan (DRI). This is a common practice in western countries. When dividends accumulate, the investors can be given further shares at a discount rate.
- 16.** Government must give tax concession to general public for their purchase of mutual funds. This will boost up the mutual fund industry.
- 17.** Since the stock market is working in a macro- economic environment, it is necessary that this environment must be an enabling one in order to realize its full potential.
- 18.** The demand for the service of the stock market is a derived demand. With the existence of positive relationship between stock market development and economic growth, it is recommended that there should be sustained efforts to stimulate productivity in the public sector as well as private sector.

19. The determination of stock prices should be regulated. Market forces should be allowed to operate without any hindrance. Interference in securities pricing is incinal to the growth of the market.
20. The stock market is the place (primary market) where cheap sources of funds are available in abundance compared to money market and other sources. Since industrialization is the back bone of any economy, all policy decisions must be always in favour of stock market.
21. Since service tax on brokerage houses and securities transactions (SST) are very good revenue to the government, stock market boom is a boon to the exchequer.
22. Given the present political dispensation, all the tires of the government should be encouraged to fund their realistic developmental programmes through stock market. This will serve as a leeway to freeing the resources that may be used in other spheres of the economy.
23. Sincere and continuous efforts must be done by the government to enhance the market capitalization ratio from the present level of 1.11 per cent to over 2 per cent.
24. Banks must be permitted to invest small percentage of their funds in the capital market. A step in this direction has already been taken and it should be continued with still higher percentage of stock market exposure.
25. Exposure limit of stock market investment of LIC and GIC must be brought in line with global norms. Provident funds may also be permitted to invest 5 to 10 per cent of their corpus in equities. The large market volatility caused by FIIs can be neutralized by the exposure of LIC, GIC and provident fund exposures. Pension funds must be allowed to invest in stock market

- 26.** As per the global trends, there should be 24 hours trading, cross broader listing and trading. Increasing internet usage and plummeting brokerage cost should be achieved. There should be alliance with other stock exchanges of the world.
- 27.** A Judicial forum is required to redress investors' grievances concerning award of compensation.
- 28.** Individual foreign investment in Indian equities should be permitted. All over the world, capital flows vastly exceed trade flows. India must tap full potential of capital flows. Foreign individuals should be allowed to invest in government securities also.
- 29.** BSE became the first stock exchange in the country to introduce derivatives trading and the options on index, covered warrant futures on sectoral indices etc. Later it was introduced at NSE. There is a need for development of derivatives trading to more advanced stage in order to hedge risk, especially faced by small investors, in view of large volatility in the prices of equity due to FIIs, liberalization and global integration. For trading and derivatives, the accounting has to be maintained in the best possible manner as per international standards. The derivatives trading will further reduce the transaction costs and improve market efficiency. The hedging instrument can also be used against volatility and risks in the foreign exchange market.
- 30.** Statutory standing committee must be created by amending SEBI Act on investor protection, market operation and standards setting.
- 31.** The buy back of shares of companies must be encouraged at the maximum.

32. Regular training programme must be arranged for brokers, sub brokers and other financial intermediaries in order to have improved professional competence.
33. Since consumer confidence and investor confidence are very important for the market, steps must be taken by the government to check and publish consumer confidence index and investor confidence index on a regular basis preferably on a month to month basis.
34. The lower the direct individual taxes and corporate taxes, greater will be the disposable income and the available surplus with the corporate and individuals for investment. Low tax rate encourages larger savings and investment activities in the economy. Low tax rates are positively correlated with capital market development.
35. In order to improve the corporate governance of listed firms, the government should allow eligible private firms to list their shares at the domestic stock exchanges. Before that, domestic stock exchanges must be revived. An apex body must be set up like Euronext stock exchange of UK, to revive regional stock exchanges and to have better corporate governance of listed firms. It is easy for regional stock exchanges to monitor and give proper guidance to companies. Decentralization is always good for the capital market and industry. BSE and NSE cannot monitor all the companies working in India.
36. Government can insist companies selling domestic and foreign shares on public markets, to sell additional shares equivalent to ten per cent of the original offer size and that the proceeds should be transferred to National Social Security Fund as it is applied in China since October 2001.
37. Government must encourage Equity Linked Tax Savings Schemes (ELSS), so that it is beneficial to the investors by way of tax exemption and by way of capital appreciation.

- 38.** Securities market and portfolio management must be a part of syllabus for students from Plus Two level onwards.
- 39.** Since Government of India received adequate foreign exchange reserves through the globalisation, there can be some restrictions on Participatory Notes (PNs) and FII inflows. Government can gradually increase the registration fees or put a small tax on inflows or short term out flows. This can be a revenue source for the government. Certain countries, like Malaysia, are doing it and when it is implemented in India we must make sure that it will not hamper the foreign flow all of a sudden. It can be done only with consensus of FIIs. Otherwise, May 11, 2006 attack will be repeated. So it should be treated with sufficient caution.
- 40.** Investors have suffered a lot due to investment in vanishing companies. Existing SEBI regulation are too inadequate to effectively deal with such companies. Such companies should be warned with more penalties. The promoters and directors of such companies should be made personally responsible for the loss and be permanently banned from promoting another company.
- 41.** Liquidity problem is a major grievance of investors. Trading in major stock exchanges are mainly confined to speculative scrips and those of companies with larger market capitalization. Medium size companies with growth potential are either thinly traded or not traded at all. With vast spread of NSE and BSE trading terminals in the country, the volume of trading in regional stock exchanges has gone down heavily. To promote liquidity of medium size companies, their listing should be transferred to regional stock exchanges. This will result in revival of regional stock exchanges and increased liquidity to more number of securities. At the same time, the authorities can think of starting future and options (F&O), which can lead to more transactions and thereby increase the revenue of regional stock exchanges.

42. There are many instances of diversion of funds mobilized through public issue. The best example is in China. Hence, an arrangement must be done for monitoring the post issue working of the companies through SEBI.
43. Stringent actions must be taken by SEBI against those companies which make unnecessary delay in dispatch of allotment letters and refund orders.
44. The introduction of repricing norms by SEBI has given an opportunity to many fraudulent company promoters, to charge excessive premium on capital issues. Since book building mechanism is introduced in India (it is considered as the best price discovery mechanism in the world) government should introduce a 'safety net' system where by the company can undertake to buyback of the shares, if the share price falls below its issued price or a certain minimum level. This will increase the investor confidence.
45. Every stock exchange should set up an efficient market surveillance system in line with SEBI to curb excessive price volatility and price rigging.
46. Increased risk and fear of loosing money are the major factors, which discourage investors from committing fresh funds in the capital market. Hence appropriate risk awareness programmes through print and visual media should be provided to improve the risk perception of investors.
47. Powers of multiple regulators like SEBI, Department of Company Affairs, Company law Boards, Reserve Bank of India and Ministry of Finance get overlap in many cases, which create confusion among investors. Therefore, government should effectively coordinate the activities of those regulators. An apex body of all of them is suggested just like the Financial Services Authority of UK.

48. In the book building process, prominence is given to the interest of issuing companies and institutional investors. Such regulation should be modified taking in to consideration the interest of small and individual investors. Shares must be allotted to retail investors at ten per cent discount, since only twenty five per cent of the allotment is issued to retail investors, by doing so we can make retail investors more benefited.
49. There is a need of organizing the investors through investor associations, so that they can contribute creatively to the development of capital market. Such association can help in providing legal advice for redressing grievances and initiating collective action on problems, which affect the investors. In fact SEBI is encouraging people to start investors clubs so that they get the correct feed back in time to improve further.
50. SEBI must be given more autonomy. If it is made an independent organisation just like SEC of the USA, SEBI can do wonders. SEBI must positively be separated from Ministry of Finance and it should be treated as an autonomous body for the entire welfare and growth of the country.
51. There is a contention that BSE Sensex has only 30 scrips and NSE Nifty has only 50 scrips which do not indicate the correct performance of the economy. It is necessary that the number of scrips should be increased to 100 as it is used in Dow Jons index of the USA.
52. The disinvestment process must be speeded up. When more disinvestment takes place, more people get opportunity to become share holders of those companies.
53. Allow FIIs to go for short selling and cover their positions in the same day itself. This can enhance higher liquidity and more trading taxes can be collected by the government. FIIs normally go for higher volume and the revenue also will be higher.

54. Sindex is an index of capital market development and not a price index like Sensex. A price index of sensex does not necessarily imply capital market development. Since the results show that Sindex is more prominent than Sensex, government must give more importance to Sindex.

CONCLUSION

The stock market in India made a quantum jump after 1991. BSE sensex moved from 3000 to 20000 levels. Financial sector measures have made positive impact in the capital market at the national level. Countries foreign exchange kitty has enlarged to the tune of US \$ 260 billion. The economic growth reached more than nine per cent level because of the financial sector and real sector reforms. The corporate sector as a whole is also performing extremely well because of the increased productivity and better technology and management. The firm-level analysis also shows that the financial sector liberalization and globalisation have made drastic changes in the activities of companies. Companies like Infosys were even unknown to public before globalisation. Since companies are making huge profits, private sector is the largest employer in the country. Moreover, companies are paying huge dividends, bonuses etc. through which the wealth effect of the people are also increasing. Globalisation has made Indian stock market, the third best in the world. Screen based trading, dematerialization of shares, starting of CSDL and NSDL, T +2 settlements, real time transactions etc., are worth mentioning. This study has concluded that the financial liberalization measures introduced as a part of globalisation and liberalization has made favourable impact on India's economic growth.

Analysis of companies specifies that the strong fundamentals are promoted by strong performance of companies. These strong fundamentals are promoted and provided by the government by way of globalisation and liberalization measures, which allowed companies to get adequate resources from overseas and now they are in a position to compete with multi-national

companies. Indian companies started acquiring foreign firms and there is still a room for liberalisation measures. According to Narayana Murthy, chief mentor of Infosys, “firms should become corporations and corporations must last for centuries”.

India has forty crores of middle class people and there is a transition to working couples and small family system. They will have a lot of disposable income, which will enable them to acquire quality products from the market. Since this is an opportunity for corporate sector in India, in the days ahead, in a free market economy, many firms will come up and they can flourish by having more sales and profit. Share holders also will be benefited by way of more dividends, rights and bonus shares. Government also will be benefited by way of employment creation by the private sector and government can enjoy more money to their exchequer.

Last but not the least, in order to support the thesis, the researcher reproduce a report published by Goldman Sachs on 1st October, 2003. It is exhibited in Table 9.1.

Table 9.1
Goldman Sachs Report

<p>Goldman Sachs Report of 1 October, 2003 – “Dreaming with BRICs: The path to 2050”</p> <p>India’s GDP will reach \$ 1 trillion by 2011, @ 2 trillion by 2020, @ 3 trillion by 2025, @ 6 trillion by 2032, @ 10 trillion by 2038, and @ 27 trillion by 2050, Becoming the 3rd largest economy after USA and China.</p> <p>In terms of GDP, India will overtake Italy by the year 2016, France by 2019, UK by 2022, Germany by 2023 and Japan by 2032.</p>
--

The Hindu growth rate was three to four percentage in India. From 1994, the average GDP growth was 6.4 per cent. Now, India has 8 to 9 per cent growth rate. By 2025, India's GDP will touch 11 per cent as per the Goldman Sachs Report. This will make India the third position in the world after US and China. During this time, India will surpass many countries in the European Union as it is evident from the report. All these are indications of the impact of globalisation on stock market investment and economic growth of our country.

BIBLIOGRAPHY

BOOKS

- Akinifesi Oln (1987): *The Role and Performance of Capital Market in Adedotun Philips and Eddy Ndekwu (eds), Economic Policy and Development in Nigeria*, NISER, Ibedan Nigeria.
- Anand Mittal (2003): *Economic Reforms and Capital Market in India*, Galgotia Publishing Company, Karolbagh, New Delhi.
- Avadhani V.A (1995): *Investment and Securities Market in India*, Himalaya Publishing House, New Delhi.
- Balakrishnan and Nartha S.S (1987): *Security Markets in India*, Kanishka Publishers and Distributors, New Delhi.
- Baumol William. J (1965): *The Stock Market and Economic Efficiency*, Fordhan University Press, New York.
- Bhole L.M (2005): *Financial Institutions and Markets - Structure, Growth and Innovations*, Tata McGraw Hill Publishing Company Limited, New Delhi.
- Cameron Rondo (1967): *Banking in the Early Stages of Industrialization*, Oxford University Press, New York.
- Chitale V.P (1983): *Risk Capital for Industry*, Economic and Scientific Research Foundation, Allied Publishers Pvt. Ltd., New Delhi.
- Cirvante V.R (1956): *The Indian Capital Market*, Oxford University Press, Bombay.
- Crockett Andrew (1998): *Capital Market Innovations: Opportunities and Challenges*, in Raj Kapila and Uma Kapila (ed) pp. 19-33.

- Edwine J. Elton and Martin. J. Gruber (1994): *Modern Portfolio Theory and Investment Analysis*, 4th edition, p. 399, John Wiley & Sons Inc., Singapore.
- Eng William F (1984): *Stock Market Trading Rules*, Vision Publications, New Delhi.
- Francis J.C (1986): *Investment Analysis and Management*, 4th edition, Prentice-Hall of India, New Delhi.
- Fry Maxwell J (1988): *Money, Interest and Banking in Economic Development*, The John Hopkins University Press, London.
- Gerschenkron Alexander (1962): *Economic Backwardness in Historical Perspective*, Harvard University Press, Cambridge.
- Goldsmith Raymond W (1969): *Financial Structure and Development*, Yale University Press, New Haven.
- Gupta K.L (1984): *Finance and Economic Growth in Developing Countries*, Croom Helm Ltd., Kent, UK.
- Gupta Umrao Lal (1972): *Working of Stock Exchanges in India*, Thomson Press (India) Limited, New Delhi.
- Gupta L.C (1981): *Rate of Return on Equities: The Indian Experience*, Oxford University Press, New Delhi.
- Gupta L.C (1992): *The Stock Exchange Trading in India: Agenda for Reform*, Society for Capital Market Research and Development, Delhi.
- Gupta L.C (ed) 1999: *India's Financial Markets and Institutions*, Society for Capital Market, Research and Development, Delhi.
- Gurley John G (1967): Financial Structure in Developing Countries, in Krivine David (ed), *Fiscal and Monetary Problems in Developing Countries*, Praeger, New York, pp. 99-120.

- Hicks A. John (1969): *A Theory of Economic History*, Clarendon Press, Oxford, UK.
- Hirchey Mark (2001): *Investment: Theory and Applications*, Harcourt Inc.
- Indian Securities Markets (1994): *Agenda for Development and Reform: Discussion Paper of Securities and Exchange Board of India*, Bombay
- Indian Securities Markets (1998) : SEBI Discussion Paper in Raj Kapila and Uma Kapila (ed), pp 104-141
- Jalan Bimal (1995): *India's Economic Reforms*, Oxford University Press, UK.
- Jawahar Lal (1992): *Understanding Indian Investors*, Global Business Press, New Delhi.
- Keynes J.M (1936): *General Theory of Employment, Interest and Money*, McMillan Company, London.
- Khan Y.J (1980): *Indian Financial System, Theory and Practice*, Vikas Publishing House Pvt. Ltd, New Delhi.
- Khan M.Y (2000): *Indian Financial System*, Tata McGraw Hill Publishing Company Limited, New Delhi.
- Kindleberger Charles.P (1976): International Financial Intermediation for Developing Countries, in McKinnon Ronald I (ed), *Money & Finance in Economic Growth and Development*, Marcel Dekker Inc., New York, pp.127-137
- Machiraju H.R (1995): *The Working of Stock Exchanges In India*, Wiley Eastern Limited, New Delhi.
- Machiraju H.R (1998): *Indian Financial System*, Vikas Publishing House Pvt. Ltd, New Delhi.
- Malhotra Sagar Vijay (1994): *Determination of Share Prices in India*, Kanishka Publishers and Distributors, Delhi.

- McKinnon Ronald I (1973): *Money and Capital in Economic Development*,
Brookings Institution, Washington DC.
- Misra B.M (1995): *Fifty Years of The Indian Capital Market: 1947-97*, Reserve
Bank of India Occasional Papers, Vol. 18, No. 2 & 3, Mumbai.
- Mittal Anand (2003): *Economic Reforms and Capital Market in India*, Galgotia
Publishing Company, New Delhi.
- Nartha S.S (1992): *Capital Issues in India*, Kanishka Publishers and Distributors,
New Delhi,
- Osinubi Tokunbo S (1998): *Stock Market Development and Long-Run Growth in
Nigeria*, Unpublished Ph.D Dissertation, University of Ibadan, Nigeria.
- Pathak Bharati.V (2005): *Indian Financial System*, Pearson Education
Publications, Delhi.
- Patinkin Don (1965): *Money, Interest and Prices*, Second Edition, Harper &
Row, New York.
- Prasanna Chandra (1993): *The Investment Game, How to Win*, Tata McGraw Hill
Publishing Company Limited, New Delhi.
- Raghunathan V (1994): *Stock Exchanges and Investments*, Tata McGraw Hill
Publishing Company Limited, New Delhi.
- Raj Kapila and Uma Kapila (Ed) (1998): *Banking and Financial Sector Reforms
in India*, Academic Foundation, Delhi.
- Ranganatham.M and R.Madhumathi (2005): *Investment Analysis and Portfolio
management*, Pearson Education Publications, New Delhi.
- Rangarajan C (1998): *The Indian Capital Market, Problems, Prospects, and
Agenda for Reforms*, in Raj Kapila and Uma Kapila (Ed), Academic
Foundation, Delhi, pp. 97-103,

- Sangal Sreejata (1997): *Regulation of Securities Market in India*, Unpublished Ph.D Dissertation, University of Madras.
- Saroja S (Ed) (1991): *Emerging Trends in the Capital Market in India*, Global Business Press, New Delhi.
- Schumpeter J.A. *Theorie der Wirtschaftlichen Entwicklung* (German Version) (1911): *The Theory of Economic Development* (English Version) (1934): U.S.A.
- Sehwert William G and Smith Clifford W (1992): *Empirical Research in Capital Markets*, McGraw-Hill Inc., New York.
- Sharma A.K and Batra G.S (2000): *Indian Stock Market Regulation, Performance and Policy Perspective*, Deep and Deep Publications Pvt. Ltd., New Delhi.
- Shaw Edward S (1973): *Financial Deepening in Economic Development*, Oxford University Press, New York.
- Singh Ajith (1998): Liberalization, the Stock Market and the Market for Corporate Control: A Bridge too far for the Indian Economy in I.J. Ahluvalia and IMD Little (eds), *India's Economic Reforms and Development*, pp. 169-199, Oxford University Press, New York.
- Singh Pyarelal (1994): *Indian capital Market- A Functional Analysis*, Kanishka Publishers and Distributors, Delhi.
- Subramanian V (1993): *A Test of Weak Form of Efficient Market Hypothesis Under Indian Conditions*, Unpublished PhD Dissertation, University of Madras.
- Sulaiman Jasser Muhammad (1986): *The Role of Financial Development in Economic Development: The case of Saudi Arabia*, UMI Dissertation Services, Michigan.

Tomy Varghese (1999): *A Study of Individual Investors in The Capital Market in Kerala*, Unpublished Doctoral Dissertation, Cochin University of Science and Technology.

Uma Sasikanth and Arumugan S (Ed) (2000): *Indian Capital Market; Trends and Dimensions*, Tata McGraw-Hill Publishing Company Ltd, New Delhi.

Veliyath Poringu (2006): *How to Reap Gain in Share Market*, Dhanam Publications, Cochin.

Vinayakam N (1994): *Case for separate Legislation on Investor's protection*, in Vinayakam N (Ed), Kanishka Publishers and Distributors, New Delhi, pp. 85-95.

Yasaswy N.J (2006): *Intelligent Stock Market Investing*, Vision Books, New Delhi.

JOURNALS AND PERIODICALS

Abhay Peethee and Karnik Ajith (2000): “Do Indian Stock Market Matters, Stock Market Indices and Macro-Economic Variables”, *Economic and Political Weekly*, Vol. XXX5, No.5, 29 January.

Agrawal R N (2003): “Capital Market Development, Corporate Financing Pattern and Economic Growth in India”, *Asian Economic Review*, Vol. 45, No.1, pp. 22 – 33.

Aiteken Brain (1996): “How Institutional Investors Destabilised Emerging Markets”, Working paper, No.96/34, *International Monetary Fund*, Washington

Ajay Shah (1999): “Institutional Change in India’s Capital Markets”, *Economic and Political Weekly*, Vol. XXXIV, No.3 and 4.

- Alimov A. Azizjon Debasingh Chakraborty M, Raymond A K, Cox and Adiswar K Jain (2004): “The Random Walk Hypothesis in Bombay Stock Exchange”, *Finance India*, Vol. XVIII, No.13, September, pp.1251-1258.
- Asli Demirguc-Kunt and Levine Ross (1996): “Stock Market Development and Financial Intermediaries: Stylized Facts”, *The World Bank Economic Review*, Vol.10, No.2, May, pp. 291-322.
- Asli Demirguc-Kunt and Vojislav Maksimovic (1996): “Stock market Development and Financing Choice of Firms”, *The World Bank Economic Review*, Vol.10, No.2, May, pp. 341-370.
- Bagchi Amya Kumar (1999): “Globalisation, Liberalisation and Vulnerability-India and Third World”, *Economic and Political Weekly*, Vol. XXXIV, No.45.
- Bakert Greet and Campbell Harvey (1995): “Time Varying World Market Integration”, *Journal of Finance*, Vol. 50, No.2, pp. 403-444.
- Belgaumi M S (1995): “Efficiency of the Indian Stock Market: An Empirical Study, *Vikalpa*, Volume 20, No.2.
- Bencivenga Valaria R, Bruce D Smith and Rosse M Starr (1996): “Equity Markets, Transaction Cost and Capital Accumulation: An Illustration”, *The World Bank Economic Review*, Volume 10, No.2, pp. 241-265.
- Bhatia Rattan and Deena Khatkhate (1975): “Financial Intermediation, Savings Mobilisation and Entrepreneurial Development, The African Experience”, *IMF Staff Papers*, Volume XXII, No.1 March, pp. 130-158.
- Bhole L M (1995): “Efficiency of the Indian Security Market: An Empirical Study, *Vikalpa*, Volume 20, No.2.
- Bhole L M (1995): “The Indian Capital Market at Crossroads”, *Vikalpa*, Volume 20, No.2.

- Boyd John and Smith Bruce (1996): “The Co- Evolution of Real and Financial Sectors in the Growth Process”, *The World Bank Economic Review*, Volume 10, No.2, pp. 371-396.
- Chitale R P (1995): “Regulatory Frame Work for Securities Market”, *Chartered Secretary*, Vol. 25, No.10.
- Cho Y J (1986): “Inefficiencies from Financial Liberalisation in the Absence of Well Functioning Equity Markets”, *Journal of Money, Credit and Banking*, Vol. 18, No.2, May.
- Classens Stijin (1995): “The Emergence of Equity Investment in Developing Countries: An Overview”, *The World Bank Economic Review*, Vol. 9, No.1, pp. 1-17.
- Classens Stijin, Susmitha Das Gupta and Jack Glen (1985): “Return Behaviour in Emerging Stock Market, *The World Bank Economic Review*. Vol.10.
- Clemente Lilia (1994): “Investing in Asia’s Emerging Equity Market”, *The Columbia Journal of World Business*, Summer.
- Cooper Jo B (1982): “World Stock Markets: Some Random Walk Tests”, *Applied Economics*, Vol.14, No.5, pp.515-531.
- Dailami Mansoor and Atkin Michael (1990): “Share Market in Developing Countries: Key Issues and Research Agenda”, *World Bank Working Paper*, No.515, World Bank, Washington DC.
- De Gregorio Jose and Pablo E Guidotti (1999): “Financial Development and Economic Growth”, *World Development*, Vol.23, No.3, pp. 433-448.
- Delong J.B, Anderi Shleifier, Lawrence Summers and R.J. Waldmann (1989): “The Size and Incidence of Losses from Noise Trading”, *Journal of Finance*, 44(3), pp. 681-696.

- Demeriguc Kunt and Levine Ross (1996): “Stock Market Development and Financial Intermediaries: Stylized Facts”, *The World Bank Economic Review*, Vol.10, No.2, pp. 291-321.
- Demeriguc Kunt and Maksimovic Vojislav (1996): “Stock Market Development and Financing Choice of Firms”, *The World Bank Economic Review*, Vol.10, No.2, pp.341.-369.
- Demirguc-Kunt, Asli and Levine Ross (1996): “Stock Market, Corporate Finance and Economic Growth: An Overview”, *The World Bank Economic Review*, 10(2), pp. 223 -239.
- Desai Ashok. V (2000): “Capital Markets in India, Issues and Agenda for Reforms” in (Raj Kapila and Uma Kapila (Ed.), Monthly update – Vol. 16, pp. 35-59.
- Devereux, Michel B and Gregor W Smith (1994): “International Risk Sharing and Economic Growth”, *International Economic Review*, Vol. 35, No. 4, pp. 535-550.
- Emenuga Chidocie (1998): “Nigerian Economic Performance” at one day Seminar Organised by Nigerian Economic Society at the Institute of International Affairs, Lagos 21st January edited in the ICFAI, *Journal of Applied Finance*, March 2004, Vol.10, No. 3, pp. 17-33.
- Eric J Pentacost (2006): “Financial Liberalisation in India and a New Test of Complementarity Hypothesis”, *Economic Development and Cultural Change*, Vol.54, No.2, pp.487-501.
- Fama E.F (1970): “Efficient Capital Market: A Review of Theory and Empirical Work”, *Journal of Finance*, Vol. 25, No.2, pp. 383-417.
- Fama E.F (1991): “Efficient Capital Market: II”, *Journal of Finance*, Vol.46, No.5, December, pp.1617-1675.

- Fama E. F (1965): "The Behaviour of Stock Market Prices", *Journal of Business*, Vol.38, No.1, pp.34-105.
- Feldman Robert and Kumar Manmohan. S (1995): "Growth Benefits and Policy Concerns", *The World Bank Research Observer*, Vol.10, No.2.
- Fischer Irving (1993): "The Debt Inflation Theory of Great Depressions", *Econometrica*, Vol.1, No.4, October, pp. 337-350.
- Francois Outreville J (2005): "Financial Development, Human Development, Human Capital and Political Instability", *Finance India*, Vol.XIX, No.2, June, pp. 481-492.
- Friend Irwin (1972): "Economic Consequences of the Stock Market", *American Economic Review*, May, pp. 212-2219.
- Fry Maxwell J (1978): "Money and Capital or Financial Deepening in Economic Development", *Journal of Money, Credit and Banking*, Vol.10, No.4, November, pp. 464-475.
- Galbis Vincent (1977): "Financial Intermediation and Economic Growth in Less Developed Countries: A Theoretical Approach", *Journal of Development Studies*, Vol.13, No.2, January, pp. 58-72.
- Gilles Saint Paul (1992): "Technological Choice, Financial markets and Economic Development", *European Economical Review*, 36, pp. 763-781.
- "Global Stock Markets Fact Book", Standard Poor, USA, Various issues.
- Gokarn S (1996): "Indian Capital Market: An Assessment", *Economic and Political Weekly*, Vol.31, No.15, April, pp.956-996.
- Greenwood Jeremy and Boyan Jovanovic (1990): "Financial Development, Growth and the Distribution of Income", *Journal of Political Economy*, Vol. 98, No.5, pp. 1076-1107.

- Gupta L.C and J.L. Rohatgi (1973): “The Stock Market Liquidity: How much? For Whom?”, *Economic and Political Weekly*, Review of Management, August, pp. M85-M96.
- Gupta L.C and Utpal Choudhari K (2000): “Return in Indian Equities, 1980-1999, The Sensex Portfolio”, *Economic and Political Weekly*, Vol.XXXV, No.5.
- Gupta K.L (1987): “Aggregate Savings, Financial Intermediation and Interest Rate”, *Review of Economics and Statistics*, Vol. 69, No. 2, pp. 303-311.
- Gurley John. G and Edward S. Shaw (1955): “Financial Aspects of Economic Development”, *American Economic Review*, Vol.45, pp.515-538.
- Heather D. Gibson and Euclid Tsakalotos (1994): “The Scope and Limits of Financial Liberalisation in Developing Countries: A Critical Survey”, *The Journal of Development Studies*, Vol.30, No.3, April, pp.578-628.
- Henry Peter Blair (2000): “Stock Market Liberalisation, Economic Reforms and Emerging Equity Prices”, *Journal of Finance*, Vol.55, No.2, pp. 529-564.
- Jaffee D.M and Russel (1976): “Imperfect Information, Uncertainty and Credit Rationing”, *Quarterly Journal of Economics*, Vol. 90, No. 4, pp. 651-666.
- Jao Y.C (1976): “Financial Deepening and Economic growth: A Cross section Analysis”, *Malaysian Economic Review*, Vol.21, No.1, April, pp. 47-58.
- Jensen M.C (1972): “Capital Market Theory and Evidence”, *Bell Journal of Economics and Management Science*, Autumn, pp.357-398.
- Jha Rathbendry and Hari Nagaran. K (1999): “Market Integration, Price Efficiency and Short run Dynamics. A Tale of Two National Stock Markets”, *Economic and Political Weekly*, Vol.XXXIV, No.3 and 4.

- John G. Gurley and E. W Shaw (1967): “Financial Structure and Economic Development”, *Economic Development and Cultural Change*, Vol.15, No.3, April, pp. 257-268.
- Joseph E. Stiglitz (2000): “Capital Market Liberalisation, Economic Growth and Instability”, *World Development Report*, Vol.28, No.6, June, pp. 1075-1086.
- Joydeep Biswas (2005): “Foreign Portfolio Investments and Stock Market Behaviour in a Liberalized Economy: An Indian Experience”, *Asian Economic Review*, Vol.47, No.2, August, pp.221-231.
- Jung W.S (1986): “Financial Development and Economic Growth: International Evidence”, *Economic Development and Cultural Change*, Vol. 34, No. 2, pp. 333-346.
- Kapur Basant (1976): “Alternative Stabilisation Policies for Less Developed Economies”, *Journal of Political Economy*, Vol.84, No.4, pp.777-795.
- King Robert G and Ross Leveine (1993): “Finance and Growth: Schumpeter Might be Right”, *The Quarterly Journal of Economics*, Vol.108, No.3, pp. 717-737.
- Kirakul S. J Jantarangs and Chantanahom. P (1993): “Economic Development and the Role of Financial Deepening in Thailand”, Papers in Policy Analysis and Assessment, Economic Research Department, Bank of Thailand pp. 39-51.
- Kishore Samal C (1997): “Emerging Equity Market in India, Role of Foreign Institutional Investors”, *Economic and Political Weekly*, Vol. XXX11, No.42, October.
- Kishore C. Samal (1997): “Do Emerging Stock Markets Affect Economic Growth Through Creation of Liquidity, The Case of India”, Occasional Paper,

No. 34, Nabakrushna Chowdhury Centre for Development Studies,
Orissa.

Korajczyk Robert A (1996): “A Measure of Stock Market Integration for Developed and Emerging Markets”, *The World Bank Economic Review*, Vo.10, No.2, pp.267-289.

Krishna Rao N (1988): “Stock Market Efficiency: Indian Experience”, Proceedings of National Seminar on Indian Securities Markets: Thrust and Challenge, March 24-26, University of Delhi.

Lamba, Asjeet S (1999): “How Isolated is the Indian Stock Market: Empirical Research Findings”, *Journal of Financial Management and Analysis*, Vol.12, No.1.

Levine Ross (1991): “Stock Markets Growth and Tax Policy, *Journal of Finance*, 46(4), pp.1145-1165.

Levine Ross and Davil Renelt (1992): “A Sensitivity Analysis of Cross Country Growth Regressions”, *American Economic Review*, 4, September, pp. 940-963.

Levine Ross and Sara Zervos (1995): “Capital Control Liberalisation and Stock Market Development”, *World Bank Policy Research Department*, Washington D.C.

Levine Ross and Sara Zervos (1996): “Stock Market Development and Long Run Growth”, *The World Bank Economic Review*, Vol.10, No.2, pp. 323-329.

Linter J (1965): “The Valuation of Risk Assets and Selection of Risky Investments in Stock Portfolios and Capital Budgets”, *Review of Economics and Statistics*, February, 47, pp. 13-47.

Madusudanan Karmakar (2006): “Stock Market Volatility in the Long Run, 1961-2005”, *Economic and Political Weekly*, May, pp. 1796 -1802.

- Maiti Sjal Kumar (1997): “Indian Capital Market – Some Emerging Trends”
Finance India, Vol.XI, No.3.
- Malay K Roy and Madhusudhanan Karmakar (1995): “Stock Market Volatility: Roots and Results”, *Vikalpa*, Vol.20, No.1, January-March, pp.37-48.
- Markovitz H.M (1952): “Portfolio Selection”, *Journal of Finance*, March, Vol.7, pp.77-91.
- Matheison D.J (1980): “Financial Reform and Stabilisation Policy in a Developing Economy”, *Journal of Development Economics*, Vol.7, No.3, pp.359-395.
- Maxwell J. Fry (1997): “In Favour of Financial Liberalisation”, *The Economic Journal*, Vol.107, May, pp.754-770.
- Mayya M R (1999): “Reflections on Reforms in Capital Market” *Chartered Secretary*, Vol. XXIX, No.9.
- Melina Dristaki (2005): “Linkages between Stock Market and Macro-Economic Fundamentals: Case Study of Athens Stock Exchange”, *Journal of Financial Management and Analysis*, Vol.28, No, 1, pp.38-47.
- Miller Merton II and F Modigliani (1961): “Dividend Policy, Growth and Valuation of Shares”, *Journal of Business*, 34, October, pp.411-433.
- Minhsien Chiang and Wen Hsiu Kuo Esq (2004): "Impact of Opening up of the Taiwan Future Markets to Foreign Investors: Price Effects of Foreign Investment Liberalisation, Empirical Analysis”, *Journal of Financial Management and Analysis*, Vol.17, No.2, pp.1-11.
- Mittal R.K (1995): “Weak Form Market Efficiency: Empirical Test on Indian Stock Markets”, *Prajan*, Vol.23, No.3, and pp.104-123.

- Modigliani F and Miller M.H (1958): “The Cost of Capital, Corporation Finance and Theory of Investment”, *American Economic Review*, Vol.48, pp. 261- 297.
- Mohanty Basudev (1997): “Slump in Securities Market”, *Economic and Political Weekly*, Vol. XXXII, No.2, October, pp.2733-2746.
- Moorie G.H (1975): “Stock Price and the Business Cycles”, *Journal of Portfolio Management*, pp.59-64.
- Mossin J (1966): “Equilibrium in a Capital Asset Market”, *Econometrica*, October, Vol. 34, pp.768-783.
- Murinde V and Eng F.S.H (1994): “Financial Restructuring and Economic Growth in Singapore”, *Saving and Development*, Quarterly Review, Vol.XVII, No.2, pp.225-245.
- Myers Stewart C and Nichollas S. Majinf (1984): “Corporate Financing and Investment Decisions when Firms have Information, Investors do not have” *Journal of Financial Economics*, Vol.13, pp.187-221.
- Nagaishi Makoto (1999): “Stock Market Development and Economic Growth-Dubious Relationship”, *Economic and Political Weekly*, Vol.XXIV, No.29, July, pp. 2004-2011.
- Nagaraj R (1996): “India’s Capital Market Growth; Trends, Explanations and Evidence”, *Economic and Political Weekly*, Vol.XXXI, No. 35, 36, 37, pp. 2553-2561.
- Nandi Sasikumar (1995): “Some Critical Issues on the Globalisation of Indian Capital Market”, *Finance India*, Vol.IX, No.4.
- Narasimham M (1995): “Financial Sector Reforms: The Unfinished Agenda” A.D.Shroff Memorial Lecture 1995, *Conference Volume of the Indian Economic Association*, pp.1-5.

- Narayana Rao and Bhole L M (1980): "Inflation and Equity Returns", *Economic and Political Weekly*, May 26.
- Obaidullah M (1989): "The Price/Earnings Ratio Anomalies in Indian Stock Markets", *Decision*, 18, pp. 131-139.
- Obedan M I (1998): Presidential Address Presented in the "Capital Market and Nigeria's Economic Development", One day Seminar Organised by Nigerian Economic Society at the Institute of International Affairs, Lagos, 21st January (ed) in the ICFAI *Journal of Applied Finance*, March 2004 ,Vol.10 No.3, 2005.pp.17-35.
- Obstfeld Maurice (1994): "Risk Taking, Global Diversification and Growth", *American Economic Review*, 85, December, pp.1310-1329.
- Onosode G.O (1998): "The Capital Market and Nigeria's Economic Development" at One Day Seminar organised by Nigerian Economic Society at the Institute of International Affairs, Lagos, 21st January, edited in the *ICFAI Journal of Applied Finance*, Vo. 10, No.3, March 2004.
- Osinubi Tokunbo Simbowale (2004): "Stock Market and Economic Growth in Nigeria", *The ICFAI Journal of Applied Finance*, Vol.10, No.3 March.
- Pagano Marco (1989): "Trading Volume and Asset Liquidity", *Quarterly Journal of Economics*, Vol.104, pp.255-274.
- Pagano Marco (1993): "Financial Markets and Growth: An Overview", *European Economic Review*, No.37, pp.617-322.
- Panda J (1980): "Changing Pattern of Business Finance in India – A Study of the Role of Stock Exchanges", *The Journal of Commerce*, Vol.XXXIII, Part IV, No.125, pp. 121-122.
- Partha Prathim Pal (1998): "Foreign Portfolio Investment in Indian Equity Market, Has the Economy Benefited?", *Economic and Political Weekly*, Vol.XXXIII, No.11.

- Patil R.H (2000): “The Capital Market in 21st Century”, *Economic and Political Weekly*, Vol.XXXV. No.45, November, pp. 4097-4102.
- Patil R.H (2001): “Industrial Finance and Capital Market: Changing Scenario”, *Economic and Political Weekly*, Vol.XXXIV, No.4.
- Patric Huth T (1966): “Financial Development and Economic Growth in Under Developed Countries”, *Economic Development and Cultural Change*, Vol.14, No.2, January, pp. 174-189.
- Philip Arestis and Panicos Demetriads (1997): “Financial Development and Economic Growth: Assessing the Evidence”, *The Economic Journal*, Royal Economic Society, Vol.107, pp.783-799.
- Pratap Chandra Biswal and Veera Sharappa (2002): “Stock Market Development and Economic Growth in India”, *Indian Journal of Economics*, No. 327, Vol. LXXXII, pp. 459-464.
- Pratap Chandra Biswal, Kamaiah B (2001): “On Stock Market Development, Banks and Economic Growth in India”, *Journal of Social and Economic Development*, Vol. III, No. 1, pp. 40-55.
- Pratap Chandra Biswal, Kamiaha B (2001): “Stock Market Development in India, Is There Any Trend Break”, *Economic and Political Weekly*, pp.377-384.
- Rajagopala Nair and Elsamma Joseph (1999): “Risk Management of Investment in Corporate Securities”, *The Management Accountant*, Vol.XXIV, No.10.
- Ramasastri A.S (2000): “Market Efficiency in the Ninties: Testing Through Unit Roots”, *Prajan*, Vol.XXXVIII, No.2, p.155.
- Ranganatham M and Subrahmanian V (1993): “Long Run Dependence in Indian Stock Prices-An Empirical Test Using R/S Analysis”, *Decision*, Vol.20, No.1, pp.45-50.

- Rangarajan C (1994): “The Indian Capital Market: Problems Prospects and Prescriptions”, *Reserve Bank of India Bulletin*, Vol. XLVIII, No.2.
- Rao Nageswara. E (1989): “Risk, Trading, Global Diversification and Growth”, *American Economic Review*, 85, 5 December, pp. 1310 – 1329.
- Raymond Atje and Jovanovic B (1993): “Stock Market and Development”, *European Economic Review*, 37, pp. 632-640.
- Reddy Y.B (2001): “Issues in Choosing Between Single and Multiple Regulation of Financial System”, *Reserve Bank of India Bulletin*, Vol. 55, No.6.
- Reghuram G Rajan and Luigui Zingales (1998): “Financial Development and Growth”, *American Economic Review*, June, Vol.88, No.3, pp.559-586.
- Remganathan M and Subramanian V (1993): “Weak Form of Efficient Market Hypothesis: A Spectral Analytic Investigation”, *Vikalpa*, Vol.18, No.2, pp.25-30.
- Rengarajan C (1998): “The Indian Capital Market, Problems, Prospects and Prescriptions”, *RBI Bulletin*, Vol.XLVIII, No.7.
- Richard Friberg and Stefan Nydah (1999): “Openness and the Exchange Rates Exposure of National Stock Markets”, *International Journal of Finance and Economics*, Vol. 4, pp. 55-62.
- Robert A. Koracjzyk (1996): “A Measure of Stock Market Intergration for Developed and Emerging Markets”, *The World Bank Economic Review*, May, Vol.10, No.2, pp.267-290.
- Ross Levine and Sara Zervos (1996): “Stock Market Development and Long Run Growth”, *The World Bank Economic Review*, May, Vol. 10, No. 2, pp. 323-340.
- Ross S.A (1976): “The Arbitrage Theory of Capital Asset Pricing”, *Journal of Economic Theory*, December, Vol.13, pp.341-360.

- Roy M.K (2001): “Stock Market in a Liberalised Economy”, *Economic and Political Weekly*, Vol.XXXIV, No. 4, January 27, pp.367-376.
- Roy Malay K, and Krmakr Madhusoodhan (1995): “Stock Market Volatility, Roots and Results”, *Vikalpa*, Vol.20, No.1.
- Rudolph J (1972): “The Money Supply and Common Stock Prices”, *Jornal of Economic Theory*, December, 13, pp. 341-360.
- Samir Barua K et al (1994): “Research in Indian Capital Market a Review”, *Vikalpa*, Vol.19, No.1.
- Samuel Cherian (1996): “The Stock Market and Investment: The Governance Role of the Market”, *The World Economic Review*, Vol.10, No.2.
- Samuel Cherian (1996): “The Stock Market as a Source of Finance, A Comparison of US and Indian Firms”, Policy Research Working Paper 1592, *The World Bank*.
- Shandre M Thangavelu, Ang Bng Jaiunn, and James (2005): “Financial Development and Economic Growth in Australia: An Empirical Analysis”, *Empirical Economics*, Vol.29, No. 2, June pp. 239-259.
- Sharp W.E (1964): “Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk”, *Journal of Finance*, September, pp. 425-444.
- Shiller Robert J (1981): “Do Stock Prices Move too Much to be Justified by Subsequent Changes in Dividends?” *American Economic Review*, 71, pp. 421-456.
- Singh Ajith (1997): “Financial Liberlisation, Stock Markets, and Economic Development”, *The Economic Journal*, Vol. 107, pp. 771-782.
- Stigler and George J (1964): “Public Regulation of Securities Market, *Journal of Business*, Vol.37, No.2, April, pp.117-142.

- Stiglitz J.E and Weiss A (1981): “Credit Rationing in Market with Imperfect Information”, *American Economic Review*, Vol.71, No.3, pp. 393-410.
- Sucheta Dalal (1999): “Setting the Agenda for Change in Indian Capital Market – Five Years of National Stock Exchange”, *Economic and Political Weekly*, Vol.XXXIV, No.36.
- Sulaiman Jasser Muhammed (1986): “The Role of Financial Development in Economic Development. The Case of Saudi Arabia”, *UMI Dissertation Services*, Michigan.
- Sundaran S.M (1991): “Soaring Stock Prices”, *Economic and Political Weekly*, Vol.16, p.1184.
- Suyash Goswamy and Golaka Nath (2005): “Market Efficiency and Linkages of Indian Stock Market”, *The ICAFI Journal of Applied Finance*, January.
- Thronton John (1990): “A Test of McKinnon’s Complimentarity Hypothesis”, *Saving and Development*, Vol. 14, No.2, pp.153-157.
- Thronton John and Shri Ram Poudyal (1990): “Money and Capital in Economic Development: A Test of the McKinnon Hypothesis for Nepal”, *Journal of Money, Credit and Banking*, Vol.22, No.3, August, pp.395-399.
- Tobin J (1968): “Liquidity Preference as Behaviour towards Risk”, *Review of Economic Studies*, Vol.16, February, pp.65-86.
- Valerie R.Bencivenga, Bruce D. Smith and Ross M.Starr (1995): “Transaction Costs, Technological Choices and Endogenous Growth”, *Journal of Economic Theory*, Vol. 67, pp. 153-177.
- Vinayakam N and Charumati B (1995): “Globalisation of Emerging Equity Markets”, *Finance India*, Vol.IX, No.3, pp.655-666.
- Warner J.B, Watts R.L and Wrak K.H (1988): “Stock Prices and Top Management Changes”, *Journal of Financial Economics*, 20, pp.461-492.

Zahir M.A and Khaanna Y (1982): “Determinant of Stock Prices in India”, *The Chartered Accountant*, 30, February, pp. 521-523.

REPORTS

Annual Report, Various Issues, Mumbai, Reserve Bank of India.

Annual Report, Various Issues, Mumbai, Securities and Exchange Board of India.

BSE Annual Capital Market Review (2004): Mumbai, The Stock Exchange Foundation.

Government of India, Ministry of Finance, Economic Survey, Various Issues.

Gupta L.C (1987): Shareholder, Survey, Geographic Distribution: Delhi, Manas Publications.

Gupta L.C (1991): India Shareowners, A Survey, Delhi, Society for Capital Market Research Department.

Gupta L.C (1991): Indian Share Owners, A Survey, Society for Capital Market Research and Development, New Delhi.

Gupta L.C (1993): Mutual Funds and Asset Performance: Household Investor Survey, Delhi, Society for Capital Market Research and Development.

Gupta L.C (1997) : India’s Stock Market Crisis, Research Monograph – No. 5, Society for Capital Market Research and Development, New Delhi.

Gupta L.C et al (1998) Indian Stock Market P/E Ratios, Society for Capital Market Research and Development, New Delhi.

Gupta. L.C (1992): Stock Exchange Trading in India, Agenda for Reform, Society for Capital Market Research and Development, New Delhi.

- Gupta. L.C et al (1994): Shareowners Geographical Distribution: City-wise, Urban-Rural and State wise, Society for Capital Market Research and Development, New Delhi.
- Gupta L.C (1997): The Roots of India's Stock Market Prices 1995-97, Society for Capital Market Research and Development, Delhi.
- Hand Book of Statistics on Indian Economy, Various Issues, Reserve Bank of India, Mumbai.
- Indian Securities Market, A Review, Various Issues, National Stock Exchange of India Limited, Mumbai.
- Investor's Year Book 2000-2001, The Economic Times Knowledge Series, Mumbai.
- Mayya M.R (1992): An Overview of Indian Capital Market, Bombay Stock Exchange.
- Parekh Kirt S (ed) (1997): India Development Report, Indira Gandhi Institute of Development Research, New Delhi, Oxford University Press.
- Pradip Kar et al (2000), Survey of Indian Investors, Securities and Exchange Board of India, Mumbai.
- Report on Currency and Finance, Various Issues, Reserve Bank of India, Mumbai.
- Shah Ajay and Susan Thomas (1996) : Securities Markets towards Greater Efficiency, India Development Report, New Delhi, Oxford University Press
- State of the Capital Market 1989-90, (1990), Securities and Exchange Board of India, Mumbai.
- The Stock Exchange Official Directory: Various Issues, The Stock Exchange Foundation, Mumbai.

The Stock Market Today: Various Issues, The Stock Exchange Foundation
Mumbai.

APPENDIX- 1
Indicators Of Stock Market Development in Selected Economics in 1980-91

Economies	Stock Market Capitalisation to GDP (M)	Total Value of Traded Shares to GDP (V)	Total Value of Shares to Market Capitalisation (T)	Index (M + V + T) / 3
Hong Kong	1.26	0.51	0.41	0.73
Japan	0.98	0.53	0.51	0.67
Germany	0.24	0.29	1.23	0.59
United Kingdom	0.86	0.35	0.39	0.53
United States	0.61	0.36	0.58	0.52
Singapore	0.95	0.31	0.31	0.52
Switzerland	0.75	0.31	0.39	0.49
South Africa	1.35	0.07	0.05	0.49
Malaysia	0.88	0.16	0.16	0.40
Korea, Rep. of	0.22	0.17	0.69	0.36
Thailand	0.21	0.18	0.67	0.35
Netherlands	0.46	0.19	0.39	0.35
Australia	0.49	0.15	0.30	0.31
Canada	0.46	0.13	0.29	0.29
Sweden	0.43	0.10	0.25	0.26
Mexico	0.10	0.05	0.69	0.26
Jordan	0.48	0.07	0.14	0.23
India	0.07	0.04	0.59	0.23
Norway	0.18	0.08	0.42	0.23
Austria	0.08	0.05	0.51	0.22
Brazil	0.11	0.05	0.80	0.21
France	0.23	0.08	0.32	0.21
Spain	0.21	0.07	0.31	0.20
Newzealand	0.38	0.06	0.16	0.20
Belgium	0.31	0.04	0.12	0.15
Italy	0.15	0.04	0.23	0.14
Finland	0.17	0.08	0.18	0.13
Zimbabwe	0.10	0.01	0.08	0.06
Pakistan	0.04	0.01	0.11	0.06
Turkey	0.05	0.01	0.08	0.05

Note:

(a) Economies are in order of value for index, from the highest to the lowest.

(b) Index is the average of the ratio of stock market capitalisation to GDP, the ratio of total value of traded shares to GDP, and the ratio of total value of traded shares to market capitalisation.

Source: Demirguc Kunt and Vojislav Maksimovic, 1996, The World Bank Economic Review, Vol. 10, No.2, Table 2, Page 348.

APPENDIX- 2

Indicators of Stock Market Development, 1986-93 (Annual Average)

Economies	Market Capitalisation Value	Total Value Traded / GDP	No. of Listed Companies	Turnover	Volatility	Market Concentration
Argentina	0.06	0.02	187	0.34	0.34	0.64
Australia	0.54	0.17	1,184	0.31	0.04	--
Austria	0.10	0.07	90	0.69	0.05	--
Belgium	0.36	0.04	182	0.12	0.04	--
Brazil	0.11	0.05	579	0.48	0.25	0.26
Canada	0.48	0.15	1,118	0.31	0.04	0.27
Chile	0.52	0.04	225	0.08	0.06	0.50
Colombia	0.07	0.01	87	0.07	0.06	0.74
Denmark	0.28	0.07	267	0.24	--	--
Finland	0.19	0.04	62	0.21	0.05	--
France	0.27	0.09	641	0.35	0.05	0.26
Germany	0.24	0.35	551	1.47	0.04	0.41
Greece	0.12	0.02	126	0.13	0.10	0.47
Hong Kong	1.36	0.59	318	0.44	--	--
India	0.16	0.06	4,614	0.50	0.06	0.22
Indonesia	0.06	0.02	91	0.23	--	--
Ireland	--	--	--	--	0.06	--
Israel	0.21	0.11	312	0.72	0.06	--
Italy	0.16	0.04	227	0.24	0.06	--
Japan	1.08	0.62	2,027	0.54	0.04	0.19
Jordan	0.57	0.13	103	0.22	0.04	0.59
Korea, Rep. of	0.40	0.37	576	0.93	0.08	0.28
Luxembourg	--	--	205	--	--	--
Malaysia	1.28	0.46	291	0.24	0.05	0.36
Mexico	0.22	0.09	193	0.56	0.10	0.36
Netherlands	0.49	0.21	239	0.41	0.03	--
NewZealand	0.39	0.06	226	0.17	0.05	--
Nigeria	0.04	0.00	127	0.01	--	0.51
Norway	0.19	0.09	126	0.48	0.07	--
Pakistan	0.11	0.01	187	0.08	0.03	0.25
Philippines	0.24	0.04	152	0.23	0.08	0.52
Portugal	0.16	0.03	162	0.20	0.03	0.41
Singapore	1.04	0.35	147	0.34	--	--
South Africa	1.54	0.08	700	0.05	--	--
Spain	0.25	0.08	383	0.35	0.06	--
Sweden	0.46	0.10	133	0.24	0.06	--

Switzerland	0.77	0.31	176	0.39	0.04	0.50
Taiwan (China)	--	--	197	--	0.15	0.40
Thailand	0.36	0.22	210	0.70	0.07	0.36
Turkey	0.08	0.03	91	0.28	0.17	0.50
United Kingdom	0.92	0.41	1932	0.44	0.04	0.24
United States	0.64	0.41	7087	0.65	0.03	0.14
Venezuela	0.10	0.02	82	0.15	0.13	0.63
Zimbabwe	0.18	0.01	57	0.03	0.07	0.44
Avg. No. of Economies	0.41	0.15	627	0.36	0.08	0.40

Note: For each indicator, the stock market development of each economy is ranked from high to low. Thus, for market capitalisation, total value traded / GDP, number of listed companies, turnover, and institutional development, the ranking by a value of the indicator is from high to low. For volatility, market concentration, the ranking by value of the indicator is from low to high.

- a. Market capitalisation is the value of stocks divided by GDP.
- b. Total value traded / GDP is total value of traded shares divided by GDP.
- c. Number of companies listed represents the number of shares listed on the exchange.
- d. Turnover is given by total value traded divided by market capitalization.
- e. Volatility is the twelve-month rolling standard deviation estimate based on market returns.
- f. Market concentration is the share is the share of market capitalization held by the ten largest stocks.

Source: Demirguc-Kunt Asli and Ross Levine 1996: The World Bank Economic Review, Vol. 10, No. 2, Page 296-297.

APPENDIX- 3

SELECT ECONOMIC SITUATIONS AND INVESTMENT OPPORTUNITY

Bearish	Bullish
Economic situation	
Declining GDP combined with price increase. Withdrawal of international funds leading to trade imbalances.	Increasing GDP due to active industrial investment along with stable price levels.
Investment opportunity	
Buy shares of local dominant players in FMCG sector since these firms will cater to the immediate consumption needs of the economy.	A buoyant market attracts large players with high market participation. They tend to show a competitive edge over other small players. Blue chip companies tend to show a superior performance in such market situations.
Economic situation	
Expected higher inflation fuelled by wage increases, high-capacity utilisation. Corporate profits are very high.	Strong money attracts investors to the stock market. No fears of inflation because 1) Producers do not pass higher material costs to consumers 2) Inflation is falling and productivity is rising 3) Government keeps inflation in check. Corporate profits continue to rise.
Investment opportunity	
Buy shares in companies with low expectations, as bad economic news would not hurt these companies as the deviation from expectation would be very low.	Buy cyclical shares like automobiles, and invest in interest rate sensitive industries such as banking, insurance and financial services. These shares will show consistent growth rates.
Economic situation	
Fear of higher inflation because of (1) Higher unit-labour costs due to strong economy (2) Low unemployment. Interest rates rise because of higher inflation and because of greater borrowing demand by companies trying to meet product demand.	Inflation is not a foreseeable problem because the government budget deficit is falling and the government had made fighting inflation a high priority. Corporate profits remain stable and then rise due to strong economic growth overseas that in turn increase demand for local products.
Investment opportunity	
Since valuation levels (P/E, Price/Book value) fall, shares with lower valuations such as small capitalisation stocks are best investment.	Growth stocks, shares with substantial sales and earnings arising out of global markets are best investments. Cyclical shares are also suitable at this time.

Economic situation	
Inflation rises due to wage increase. Corporate profits are high as opportunity for lower inflation and the benefit out of low earnings are over. A strong money hinders exports and profits for local companies. Interest rates rise because of inflation.	Inflation rises due to wage increase, but belief that they would occur later. Able to identify opportunity for lower inflation and interest rates (due to falling deficit and government's watch over inflation) and higher corporate profits.
Investment opportunity	
Invest in commodities and infrastructure and other inflation-sensitive sectors.	Technology and financial services sectors with strong earnings growth is likely to exceed the growth of the economy.
Economic situation	
Concerns of market liquidity disappear as investors try to exit the market all at the same time after a substantial market correction. Market valuation measures extremely high by historical standards. Investors ignore risk and their reaction is to sell stocks immediately.	Inflation is under control. Interest rates steady or dropping. Corporate profits continue to rise. The market is fairly priced. Market valuations appear high only if the current environment of low interest rates is ignored.
Investment opportunity	
Underweight stocks. Should prefer bonds or short term instruments.	Smaller capitalisation stocks, since their valuations are not as high as large company stocks. Some cyclical stocks such as automobiles, airlines, and retailers would do well. Technology and financial services sectors can be preferred.
Economic situation	
Low levels of M1, declining personal savings, lower interest rates and saturation in housing construction activities.	Increased personal household savings and increase in housing construction activities.
Investment opportunity	
The household expenditures also decline; hence, there will be no overall sectoral performance in the capital market. However, small capitalisation stocks might be a good investment option since the impact on these will be less.	The fund availability from the household sector will increase the scope of business for the financial sector. Hence, financial services and real estate company shares will perform well in this economic situation.
Economic situation	
Decline in personal disposable income, high corporate taxes, and high interest rates. The rise in prices may be due to the inability of the corporate houses to	Increase in personal disposable income, low corporate tax rates, and low interest rates.

bear the additional operational cost burden.	
Investment opportunity	
The capital market might require a longer duration to recover. The high interest rates might attract the investors into the bond market than the equity market.	Shares in the capital goods sector register a good performance in such economic situations. Manufacturing and base industries will perform well.
Economic situation	
Negative balance of payment situation, high unemployment levels, and a weak rupee in the international market.	Surplus trade balances with a strong rupee in the forex market.
Investment opportunity	
There is a lot of strain on the government to service foreign debt and other expenditures and hence the market might not give attractive investment opportunities. However, small cap basic sectors might be undervalued and hence could give an investment opportunity to the investors.	Export-oriented company shares will give good investment opportunities.
Economic situation	
Economic recession with the characteristic of high unemployment levels, low savings, low interest rates, with a negative balance of trade.	Economic boom marked by positive balance of trade, low unemployment levels, high investments, and a strong rupee in the forex market.
Investment opportunity	
Both bond market and the equity market register a downtrend in such circumstances. Shares of companies with an international exposure can be preferred. International diversification will provide the necessary support to withstand economic recession.	In an economic boom situation, it is difficult to identify an undervalued stock, hence shares with fundamentally strong characteristics ought to be preferred. Shares that are expected to register supernormal growth rates should be selected for investment.

Note: These economic situations and investment opportunities are based on the following source: Hirschery Mark, Investment: Theory and Applications, Harcourt Inc., 2001.

APPENDIX- 4

GOLDEN RULES FOR INVESTORS

1. Invest only so much money in stock that you can afford to loose.
2. Avoid borrowing money to invest in stock market.
3. Don't be a passive investor who sits with stock endlessly.
4. Don't also be a hyper active investor who buys and sells too often.
5. Investors must constantly watch business news and read daily business papers and constantly become aware of changes happening around.
6. Book value (BV) is the base price of a share. In the market price is lesser than book value analyse and invest and if the market price is higher than the book value, invest only in quality stocks.
7. Stock market investors must keep an eye on the portfolio selection of mutual funds. If investors can move along with portfolio selection of mutual funds, more returns are assured.
8. When there is a tide, it will raise every ship. So watch the general movement. If the market is buoyant, there will be more buyers and the market has a tendency to go up. If the market is depressed there will be only few buyers and the market price may go down. So act accordingly to the market sentiment. If there is no change in the index, keep away from market.
9. Investors who have speculative tendencies should dabble in the options market rather than be a day trader in the cash market.
10. Invest in companies that are expected to give bonus shares.