Stock Market Development and its Impact on the Financing Pattern of the Indian Corporate Sector

— Parthapratim Pal*

Introduction

During the late 1980s, the developing countries started liberalizing their financial sectors. Increased emphasis was put on the development of equity markets. India also followed this path. Stock markets grew rapidly in India during the late 1980s and early 1990s. Capital markets have taken a prominent place in the developing countries' financial system during the last decade.

Given this backdrop, it is important to assess the impact of stock markets on a country's economic development. One of the most obvious and direct effect of the stock market is on the corporate sector of a country. This study intends to find out how the development of stock markets has affected the financing pattern of the Indian corporate sector. This paper is organized in the following way.

Section 1 surveys the literature on the subject of stock market development and its impact on the capital structure of the firms in developing countries. This survey will prepare the groundwork for the empirical analysis in section 2. Section 2 empirically investigates how the financing pattern of Indian firms has changed with the development of stock markets in the country. The results from this section will then be compared with the results from the earlier studies. Section 3 tries to explain the findings of section 2 in the Indian context.

Section 1: Corporate Financing Pattern in Developing Countries – A Literature Survey.

This section reviews the empirical literature on stock market development and firm financing choices in developing countries. This section will not review the theoretical works on corporate finance and capital structures. There are several studies that have reviewed this vast theoretical literature on capital structure. Some of the most extensive ones are Harris and Raviv (1991) and Samuel (1996)[i]. This section will report the empirical findings of the capital structure of the developing countries. However, before proceeding further we briefly look at some of the aspects of corporate finance.

Theory of Corporate Finance

According to the neo-classical irrelevance theorems (Modigilani and Miller, 1958), the financial structure should not matter at all in determining either the valuation of

* Assistant Professor Indian Institute of Foreign Trade. The author gratefully acknowledges the research grant obtained from NSE for this paper. The views expressed in this paper and approach suggested are of the author & not necessarily of NSE.

[i] Cherian Samuel (1996): *Internal Finance and Investment: Another Look*, World Bank Policy Research Working Paper, 1663.
Harris, M. and A. Raviv (1991): "The Theory of Optimal Capital Structure" Journal of Finance, 48: 297-356. March

the firm, or more generally, the pattern of investment. This theory shows that in fully developed capital markets, under neo-classical assumptions of perfect competition, no transactions cost and no taxation, even in a world of uncertainty, the stock market valuation of the firm is independent of its financing decisions and the pattern of investment. This is because in perfectly competitive markets the same product (a firm) will be priced equally in separate markets (debt and equity). Therefore there can be no advantage to firms or their asset holders derived from the firms' capital structure. Therefore, with taxes favoring debt, firms would tend to choose 100% debt structure. This result was at great variance with the actual behavior of firms. Subsequent studies and models attempted to reconcile this conclusion with reality by relaxing various assumptions of the MM mode and incorporating the concept of imperfect information into the model. It has been recognized that apart from imperfect information, three other factors are important in determining the capital structure: taxes, agency costs, and bankruptcy costs.

However, since then significant progress has been made in the area of imperfect information in financial markets. This has given birth to various new theories of corporate finance which has modified the conclusions of the Modigilani and Miller. The new theories of corporate finance recognize the importance of the capital structure on the real economy. One of the most prominent theories of capital structure, based on asymmetric information is the 'Pecking Order theory of Finance'. We briefly summarize the main conclusions of this theory here.

Pecking Order theory of Finance

Based on asymmetric information, that managers of a firm have more knowledge than investors, S. C. Myers (1984)[ii] has developed the pecking-order theory of corporate finance. The pecking-order theory can be summarized as

1. Firms prefer internal finance.
2. If external finance is required, firms issue the safest security first. That is, they start with debt, then possibly hybrid securities like convertible bonds, then as a last resort equity.

According to the Pecking Order theory, retentions are the most efficient way to finance a firm as the only cost they incur is that because of paying lower dividends, the share price may be kept lower than it otherwise could be but dividends are not the only factor which determines stock prices. However, very often, especially for start-up and rapidly growing firms, retentions as well as marketable securities can provide only a small portion of needed investment. Then the enterprise has a choice: whether to borrow more long-term, short-term or issue equity and in what proportion. There are many types of long term debt and short term debt, such as bank loans, bonds, convertible bonds, commercial paper, trade credits and there are two main types of equity: common

[ii] S. C. Myres, "The Capital Structure Puzzle" Journal of Finance, July 1984.

and preferred. To choose the right financing mix, the enterprise will assess costs and benefits, risks and returns of various types of instruments and choose the best one using its own experience and external advice from a commercial or investment bank. It is impossible to say in absolute terms what is better: debt or equity, short-term debt or long-term debt. Each has its unique advantages and disadvantages which are exposed in different ways in various environments and at various times and which play an important and unique role. It can be said though that in terms of issuance costs (which is one of the key factors under normal conditions) retentions are the cheapest, then come trade credits, them short-term credits, then bank loans, then private issues of bonds, convertible bonds, and equities and finally public issues of bonds, convertible bonds and equity, in that order. This generally corresponds to the pecking order described above.

Literature Survey on Financing Pattern of Developing Countries

Empirical research in the filed of financing pattern of companies is pioneered by Colin Mayer. In a series of papers **Mayer (Mayer 1988, 1989, 1990** [iii]) empirically investigated, on a comparable basis, corporate financial structures for the period between 1970 and 1985 for 8 (5 countries for the 1988 study) industrialized economies.

He found the following stylized facts about corporate finance in developed countries:

- Retentions are the dominant source of finance in all countries, especially in the UK, Canada and US. In the UK and USA more than three-quarters of investment is funded from retentions.
- Companies do not raise a substantial amount of finance from the securities market in any country. On a net basis, the contribution of short-term securities, bonds and shares taken together is only about 13% in USA. In Germany and USA net amounts raised from these three sources were negative.
- Despite having very developed capital markets, according to Mayer (1988), in UK and USA, the stock market has made the lowest net funding contribution among the five countries studied.
- Securities markets have declined in significance, as a source of finance, for industries in UK. Results by Taggart, quoted in Mayer (1989), also shows that similar conclusions can be drawn about the US industries also.

[iii] Mayer, Colin (1988), "New Issues in Corporate Finance" in European Economic Review, 32, 1167-1189.

Mayer, Colin (1989), "Myths of the West: Lessons from Developed Countries for Development Finance" World Bank Working Paper no. 301.

Mayer, Colin (1990), "Financial Systems, Corporate Finance and Economic Development" in *Asymmetric Information, Corporate Finance and Investment,* R. Glen Hubbard, Editor, The University of Chicago Press, Chicago and London.

- Banks are the dominant source of external finance in all countries, particularly in continental Europe and Japan.
- There is a strong inverse relationship between shares of retentions and bank credit (both are mainly used for long-term investment).
- Securities markets have declined and trade credits have grown in importance over the post-war period, bond markets are relatively significant source of finance only in the US and Canada while equity markets' contribution to funding industry has been insignificant or negative (as in the US and UK due to net repurchases of shares by corporations).
- Small and medium-size firms are considerably more reliant on external finance than large firms, but obtain a lesser share of funds from securities markets and a greater share from commercial banks.

These observations can describe a corporate financial pattern of a 'typical' developed country firm. Table 1 gives Mayer's findings.

Table 1: Industrial Countries Unweighted Average Net Financing of Non-financial Enterprises (1970-85)

	Canada	Finland	France	Germany	Italy	Japan	UK	USA
Retentions	76.4	64.4	61.4	70.9	51.9	57.9	102.4	85.9
Capital Transfers	0	0.2	2.0	8.6	7.7	0	4.1	0
Short-term Securities	-0.8	3.7	-0.1	-0.1	-1.3	NA	1.7	0.4
Loans	15.2	28.1	37.3	12.1	27.7	50.4	7.6	24.4
Trade Credit	-4.4	-1.4	-0.6	-2.1	0	-11.2	-1.1	-1.4
Bonds	8.5	2.8	1.6	-1.0	1.6	2.1	-1.1	11.6
Shares	2.5	-0.1	6.3	0.6	8.2	4.6	-3.3	1.1
Other	1.3	7.4	-1.4	10.9	1.0	-3.8	3.2	-16.9
Statistical Adjustment	1.2	-5.0	-6.4	0	3.2	NA	-13.4	-5.1
Total	***99.9***	***100.1***	***100.1***	***99.9***	***100***	***100***	***100.1***	***100***

Source: Mayer (1990)

Another study by **Corbett and Jenkinson (1994)**[iv] investigates the financing pattern in developed countries for the period 1970-89. The major findings of this study are

[iv] Corbett, J. and T. Jenkinson (1994): "The financing of Industry, 1970-89: an International Comparison", CEPR Discussion Paper 948.

- The most important source for all firms in all countries is internal finance.
- Issues of securities and bonds do not provide large amounts of finance in any country.
- The most important source of external finance is bank lending to firms
- Internal finance is more important in the US and in the UK than countries like Japan
- Italy and France, where bank credit is more important.

Table 2 gives a summary of Corbett and Jenkinson's findings.

Table 2: Gross Sources of Finance (Percentage of Total Finance)

Period 1970-89	Germany	Japan	U. K.	U.S.
Internal Finance	62.4	40.0	60.4	62.7
Bank Finance	18.0	34.5	23.3	14.7
Bonds	0.9	3.9	2.3	12.8
New Equity	2.3	3.9	7.0	-4.9
Trade Credit	1.8	15.6	1.9	8.8
Capital Transfers	6.6	0	2.3	0
Other	8.0	2.1	2.9	5.9

Source: Corbett and Jenkinson.

IFC (1991)[v] analyzes the corporate financial structure in developed and developing countries. It also examines corporate financing pattern within the developing countries. This analysis is based on flow of funds data for G-7 group of developed countries and balance sheet data for nine developing countries for the period 1980-88. Data for top 50 publicly traded firms are used in this analysis. Regarding the financing pattern of developing countries, this study has reached following conclusions.

- Retentions are less important in developing countries than developed countries. This study finds out that the highest internal finance ratios in developing countries are well below the average in the developed world[vi] .
- Firms in developing countries rely to a much greater extent on external finance than firms in developed countries.

Firms in developing countries are found to be more dependent on new equity finance for their corporate growth. Moreover, the importance of equity, according to this paper, is rising in the developing countries, while it is falling in the developed world.

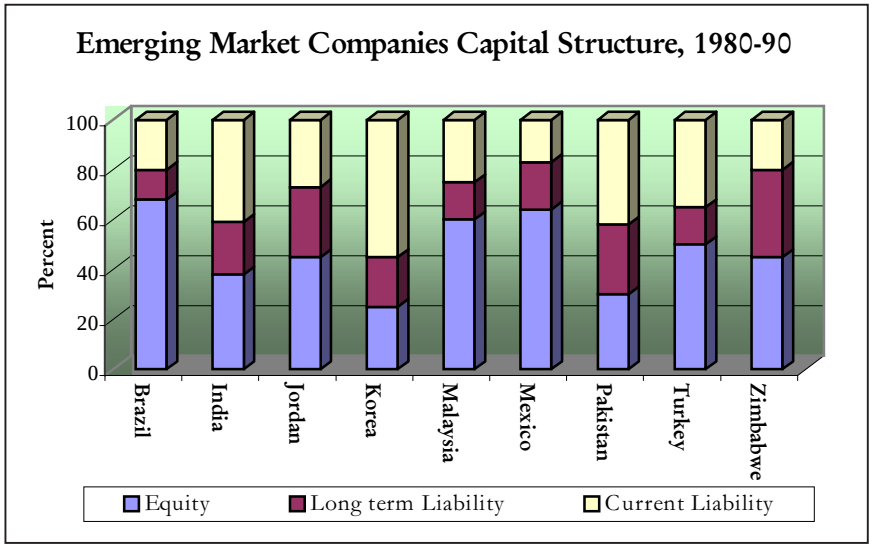
[v] IFC (1991): Financing Corporate Growth in the Developing World, IFC Discussion Paper, No.12.
[vi] One study by Atkin and Glen (1992) of a set of developing countries has found that internally generated finance accounts for about 12 to 58% of total financing in these countries.

Jack Glen and Brian Pinto (1994)[vii] argue that LDC corporations are found to be cost-minimizing, but subject to some specific government-related constraints. Government controls not only limit the potential menu of instruments, but frequently circumscribe the issue and pricing of permitted instruments. However, these constraints are disappearing with financial markets development.

This study also investigated the capital structure for seven developing countries for the period 1980-92. For each country they used the financial statement information for the top 100 publicly traded companies. They find that the use of capital markets as a source of external finance has soared in the 1990s. According to their calculations, for these seven developing countries, new issues of equity and corporate debt were 19 and 41% higher in 1992 than in 1990.

However, empirical evidence suggests that there remains significant difference in the capital structure of the sample countries. In Brazil, more than two-third of total financing is accounted for by equity whereas India, Pakistan and Korea carried relatively low levels of equity. Figure 1 illustrates the difference in capital structure for the sample firms in the seven developing countries. According to Glen and Pinto, the variations in the capital structures across countries over time reflect the diversity of financial markets, tax codes and investor preferences.

Figure 1



Source: Glen and Pinto.

[vii] Glen, Jack and Brian Pinto (1994): "Debt or Equity? How Firms in Developing Countries Choose", IFC Discussion Paper 22.

Singh and Hamid (1992)[viii] examine financing patterns of the top 50 listed manufacturing corporations in nine developing countries in the eighties. They are: India, Republic of Korea, Jordan, Pakistan, Thailand, Mexico, Malaysia, Turkey and Zimbabwe. The main conclusions of Singh and Hamid's work are:

- Developing country corporations depend heavily on external funds
- Developing country corporations depend on new issues of shares to finance their growth of net assets.

These results are at variance with Mayer's findings concerning the financing patterns of developed country corporations. According to Singh and Hamid, LDC corporations use both external finance and equity finance to a much greater extent than developed country corporations. These conclusions show almost an inverse "pecking order" in developing countries. Table 3 shows capital structures of top 50 manufacturing companies across developing countries. Table 4 shows financing pattern of top Indian firms.

Table 3: Capital Structure Across Developing Countries for top 50 listed Manufacturing Companies. *(In per cent)*

Countries	Internal Finance	Equity	Debt
Thailand (1983-87)	17.3	N A	N A
Korea (1980-87)	12.8	40.3	45.4
India (1980-88)	36.1	11.0	45.6
Turkey (1982-87)	18.1	60.5	15.5
Pakistan (1980-86)	58.3	12.3	16.1
Mexico (1984-88)	17.1	76.0	2.9
Jordan (1980-87)	5.8	84.1	16.4
Zimbabwe (1980-87)	58.5	43.0	0.0
Malaysia (1983-87)	42.4	31.4	2.1

Source: Singh and Hamid (1992)

Note: These are the median values averaged over the sample period.

Table 4: Financing Pattern for Top 50 Indian Manufacturing Companies (1980-88) *(In per cent)*

Size	Internal Finance	Equity	Debt
Quartile 1	49.2	9.9	35.4
Quartile 2	32.0	17.8	50.0
Quartile 3	36.1	9.3	50.7
Quartile 4	30.9	11.8	45.8

Source: Singh and Hamid (1992)

[viii] Singh, A and Hamid, J (1992), *"Corporate Financial Structures in Developing Countries"*, IFC Technical Paper 1, Washington D. C.

An extension of this work is done by **Singh (1995)**[ix]**.** Singh includes Brazil in the sample and increased the sample size by taking the top 100 manufacturing companies in these countries. The basic conclusions of the two studies remain the same. However, this study points out that as far as the top 100 Indian manufacturing corporations are concerned, they use much more debt than equity. Table 5 shows the findings.

This study also points out that while in the UK and the US large issues of stock by large corporations are likely in the periods of high takeover activity, LDC countries' corporations use the proceeds to finance their regular investments.

Table 6 shows the quartile distribution of financing patterns of top 100 Indian firms.

Table 5: All Countries: Top Listed Companies in Manufacturing. Financing of Corporate Growth.

Median Values *(In per cent)*

Countries	Internal Finance	Equity	Debt
Rep of Korea	15.8	46.9	30.4
Pakistan	67.5	5.2	23.9
Jordan	54.8	25.5	5.8
Thailand	14.7	NA	NA
Mexico	23.1	64.7	1.0
India (1980-88)	38.1	16.3	38.9
Turkey (1982-87)	13.4	66.6	16.9
Malaysia (1983-87)	29.7	48.0	12.0
Zimbabwe (1980-87)	57.0	43.5	0.0
Brazil	46.0	37.2	5.6

Source: Singh (1995)

Table 6: India: Top 100 Companies in Manufacturing, 1980-1990. Quartile Distributions of Indicators of Financing of Corporate Growth: After Tax Retention Ratio, Internal and external financing of Growth *(In per cent)*

	Retention Ratio	Internal Finance	External Equity	External Debt
Minimum	14.8	-89.5	-31.8	-9.8
Lower Quartile (Q1)	55	23.9	3.6	24.2
Median (Q2)	68	38.1	16.3	38.9
Upper Quartile (Q3)	76.2	62	31.5	57.8
Maximum (Q4)	99.9	113	79.6	110
Mean	65.7	40.5	19.6	39.9
Standard Deviation	15	32.8	21.9	24.4
Skewness	-0.6	-0.8	0.67	0.29
Kurtosis	0.59	3.1	0.57	-0.01

Source: Table B-2, Singh (1995)

[ix] Singh, Ajit (1995)*: Corporate Financial Patterns in Industrializing Countries: A Comparative International Study.* IFC Technical Paper No. 2.

Using Singh and Hamid's (1992) data, **Demirgrüç-Kunt (1992)**[x] investigated the relationship between stock market development and financing pattern of corporations in developing countries. The question posed in the paper is whether debt and equity finance are complements or substitutes. Based on IFC data, Demirgrüç-Kunt suggests that there exists a positive and very significant correlation between firm leverage and extent of stock market development. From this observation, the paper concludes that equity and debt finance are complementary and the existence of active stock markets results in an increased volume of business for the financial intermediaries.

Demirgrüç-Kunt and Maksimovic (1994)[xi] test and find support for agency-theory and tax-based models of capital structure for the sample of the same ten countries used in Singh (1995). They have used annual data for the period 1980-91. It is found that total indebtedness is negatively related to the proportion of Net Fixed Assets in Total Assets. It is also found that firms, with assets that could be used as collateral, do not, in general issue long-term debt. They use retained earnings or issue equities to finance themselves. According to Demirgrüç-Kunt and Maksimovic this implies that long-term credit markets do not function effectively in the sample countries .

Demirgrüç-Kunt and Maksimovic (1995, 1996)[xii] in a series of papers explore the effect of the level of financial market development on the financial choices of the firms. In this study, they use data for thirty industrial and developing countries for the period 1980-1991. These studies use some indicators as proxy measures of financial and specially equity market development. Then it is examined how these indicators affect firms' financial choices.

The findings of these studies suggest that stock market development, for developing countries and especially at its early stage of development, does not lead to lesser leverage — instead, the development of the stock market leads to risk sharing and better aggregation of information for the firms. This allows firms to increase their borrowings. Thus, equity finance and debt finance have been found to be complements for developing countries. According to these studies, for developing countries, stock market development is not an obstacle on the way of obtaining debt, but, on the contrary, it promotes the increase of debt in the capital structure of the firms. However, for developed countries it has been found out in this study that further development of equity market leads to a substitution of equity financing for debt financing.

[x] Asli Demirgrüç-Kunt (1992): *"Developing Country Capital Structures and Emerging Stock Markets"*- World Bank Policy Research Working Paper 933.
[xi] Asli Demirgrüç-Kunt and Vojislav Maksimovic (1994): "*Capital Structures in Developing Countries: Evidence from Ten Countries"* – World Bank Policy Research Working Paper no. 1320.
[xii] Asli Demirgrüç-Kunt and Vojislav Maksimovic (1995): "Stock Market Development and Firm Financing Choices" – World Bank Policy Research Working Paper 1461.
Asli Demirgrüç-Kunt and Vojislav Maksimovic (1996): "Stock Market Development and Financing Choices of Firms" in The World bank Economic Review. Vol. 10, No. 2.

Unlike Singh (1995) and Singh and Hamid (1992) who use accounting data for 100 largest manufacturing firms, **Cobham and Subramaniam (1995)**[xiii] use aggregate accounting data for 1500 firms from the Reserve Bank of India (RBI) data set. Using this dataset based on sectoral and cumulative firm-level data for India, this study finds that:

a. there was no difference in the financing of large and small corporations
b. smaller Indian companies, including companies that are not listed, issue large amounts of equity to finance their investment.

Based on these observations, the study concludes that bank loans and internal finance are more important sources of corporate financing for Indian firms. It also finds out that India is not very different from the low internal finance developed countries and that, since a large part of equity issues are by unlisted firms, the gains from the promotion of stock markets may be limited.

Table 7 presents Cobham and Subramaniam's findings.

Table 7: Averages of Annual Sources of Finance as a Percentage of Total Finance for the Period 1981-90.

Source	All Firms	Large Firms	Small Firms
Internal	43.7	46.9	34.0
Equity	7.1	7.2	7.0
Total Borrowings	49.1	45.9	59.0
Debentures	12.3	13.7	7.0
Bank Loans	16.7	13.9	26.0

Source: Cobham and Subramaniam (1994)

Total Borrowings =Debentures + Bank Loans + Other Borrowings.

Samuel (1996)[xiv] has done a comparative study of financing pattern of Indian and U.S. firms. For India, Samuel's analysis is based on two sets of data. The first set of data is from the publication titled "Report on Currency and Finance" published by the Reserve Bank of India (RBI). RBI data for medium and large firms for the period 1972-1991 is used for the analysis. The second set of data is from the Industrial Credit and Investment Corporation of India (ICICI). These data are taken for the period 1972-93. For U.S. data Samuel has used COMPUSTAT database. This database consists of data of 510 firms for the period 1972-1992.

The main conclusions of Samuel's study are as follows:

- Indian firms are more dependent on external funds than their U.S. counterparts.

[xiii] David Cobham and Ramesh Subramaniam (1995): *"Corporate Finance in Developing Countries: New Evidence for India"* CRIEFF Discussion Paper Series no 9512, University of St. Andrews, Scotland.
[xiv] Cherian Samuel (1996), *"The Stock Market as a Source of Finance: A Comparison of U.S. and Indian Firms"* World Bank Policy Research Working Paper 1592.

- External debt, debentures and creditors are more important to Indian firms as a source of finance, while for U.S. firms, current liabilities are more important.
- The role of the stock market as a source of finance is broadly similar for Indian and U.S. firms. Table 8 gives the summary of the financing pattern data for the U.S. and Indian firms.
- For Indian firms, external debt is an extremely important source of finance. While for U.S. firms internal finance is the most important source of finance. According to Samuel, this is an indication that Indian financial system is a bank-oriented one.

Table 8: Summary of Financing Patterns of Indian and U. S. firms

(In per cent)

	Medium firms (RBI)	Large firms (RBI)	All firms (ICICI)	All firms-USA (COMPUSTAT)
Internal finance	41.7	38.4	37.6	51.0
External debt	29.1	33.1	20.4	9.8
External Equity	3.7	6.1	4.5	4.0
Time-period	***1972-91***	***1977-93***	***1981-93***	***1972-92***

Source: Samuel (1996).

Though there are some methodological differences between the studies done by Samuel and Singh and Singh and Hamid, the broad conclusions are on similar lines.

Conclusions

The above discussion shows that there are significant differences between the financing pattern of firms of developed and developing countries. Firms of developing countries tend to rely much more on external finance than their developed country counterparts. Also, the contribution of equity market, as a source of finance, is much higher in the developing country firms. These observations tend to go against the theoretical predictions. It is expected that an underdeveloped and imperfect capital market will discourage the firms from raising stock market finance and should induce the corporate sector to largely grow from internal sources. In a paper Tirole (1981) has suggested that in an emerging market, where information gathering and dissemination activity is not adequately developed, the pricing of most firms' shares will tend to be arbitrary and volatile. However, corporate sector of the developing countries has shown remarkably high degree of reliance on the stock market for their financing. Singh (1995) has advanced some explanations for this apparently contradictory behaviour of the Indian corporate sector. According to Singh, this apparent anomaly can be explained in terms of the following facts:

The stock markets in developing countries grew rapidly in the 1980s and early 1990s. This growth was a direct consequence of the active role played by the

developing country governments to promote the stock market. International financial institutions were actively encouraging stock market growth also.

Several domestic and international factors also contributed to this rapid growth of the stock markets. Due to large increases in share prices and Price-Earning ratios the relative cost of equity capital fell significantly.

During the 1980s there was a worldwide trend towards financial liberalization and globalization of the stock markets. Due to domestic and international compulsions most of the developing countries liberalized their financial markets during this period. Financial liberalization increased the relative cost of debt capital. This made equity financing even more attractive.

To reconcile the apparent disparity between theory and empirical observations, another explanation has been forwarded. Historically, it has been observed that firms in the US were using equity much more intensively as a source of finance at the beginning of the century. Using flow of funds data for the non-financial sector, Taggart (1985)[xv] has shown that during the period 1923-1929, US companies financed about 19% of their investments through the new equity issues. There has been a long-term decline in the equity financing of US corporations since then. In the 1970s contribution of equity in total sources has come down to about 3%. To explain this phenomenon it has been pointed out that under-developed financial markets do not offer a freedom of choice of corporate financing instruments. This forces the firms to accept second-best, sub-optimal capital structures. However, as capital markets and banking systems evolve over time, the financing choices expand and firms' corporate financing patterns approximate the optimal pecking order as predicted in the theory.

Most of the studies mentioned in the above discussion have covered the period upto 1992-93. However, there has been a significant change in the behaviour of the capital market in India after this period. In particular, the entry of the Foreign Institutional Investors (FII) had a huge impact on the domestic stock market of India. This study now investigates the corporate financing pattern of Indian firms for the period 1989-1998.

Section 2: Empirical Findings

This section studies the corporate financing pattern of Indian firms for the period 1989-1998. All the previous studies done on the corporate financing pattern of Indian firms have used either the ICICI sample or the RBI sample. IFC-World Bank studies are done on the basis of the top 50 companies only. Also most of the studies have covered the period upto 1994-95. From the aggregate level data it can be observed that there has been a significant change in

[xv] Quoted in Singh (1995), page 62.

the behaviour of the capital market after 1994-95. This set of samples not only covers the period upto 1998, it also provides a wider coverage.

For the analysis in this section balance sheet data for the companies has been used. Six sets of sample have been used. First, companies that made the Bombay Stock Exchange Sensitivity Index (BSE Sensex) have been selected. This sample is called the **'Sensex'**. In a related sample, we have removed three companies from this sample that are financial service providers. This has been done to remove any bias that might have crept in the analysis of sources and uses of funds. This modified sample is called the **'Modified Sensex'**. To assess the role of stock market on the smaller companies, data of CNX Mid-Cap companies have been used as the third sample. CNX Mid Cap is an index that covers the companies with an average market capitalization (over the preceding 12 months) between Rs.1500 million and Rs.15, 000 million. This sample is called '**Mid Cap**'. Another two samples have been taken to focus exclusively on the manufacturing sector. The first sample here is the total manufacturing sector, as reported by CMIE. This sample is called '**Total Mfg**'. Secondly, the CMIE index of manufacturing sector has also been used. This sample is called '**CMIE Mfg**'. Data for Sensex, Modified Sensex Mid-Cap and CMIE Mfg is collected from the 'Prowess' database by CMIE. Finally, a sample of top 50 Indian business houses has been taken. This sample is called **'Top 50'.**

Table 1 gives brief description of the samples. It should be mentioned here that for the discussion of this section, year indicates fiscal year (i.e. 1989 means fiscal year ending at March 1989). All the ratios for sources of funds calculated from PROWESS are weighted averages of company-wise ratios.

Table 1: Brief Description of the Samples used in this Study

Sample	Characteristics
1. **Mfg. Total**	All companies from CMIE dataset. Contains both listed and non-listed companies from the manufacturing sector. Data taken from CMIE Economic Intelligence Service publication titled 'Corporate Sector' May 1999. Data for the period 1989-91 is taken from CMIE PROWESS database.
2. **Mfg Index**	A sample of listed companies from 'Mfg Total'. These companies constitute the CMIE manufacturing index. This has companies from various size groups. Data taken from CMIE PROWESS database.
3. **Sensex**	A set of large companies used by Bombay Stock Exchange to calculate the 'BSE Sensex 30' index. Contains companies from both manufacturing and other sectors. Data taken from 'PROWESS'.
4. **Modified Sensex**	A subset of Sensex without three companies which are financial service providers. They are ICICI, IDBI and State Bank of India. Data taken from 'PROWESS'. It is to be noted that before 1992, Sensex and Modified Sensex are the same set of companies.
5. **CNX Mid Cap**	A set of medium sized companies. These companies constitute the 'CNX CRISIL MidCap 200' Index. The average annual market capitalization of a company, for inclusion in the Index, must range between Rs. 1.5 billion (US$ 35 million) and Rs.15 billion (US$ 353 million). Data taken from 'PROWESS'.
6. **Top 50.**	A set of top fifty companies reported by CMIE 'Corporate Sector' May 1999. The top companies are chosen on the basis of sales and the asset of a company over a three-year period. Data taken from CMIE Economic Intelligence Service publication titled 'Corporate Sector' May 1999.

Table 2 gives the descriptive statistics of the samples. Here 'Total Assets' of a company is taken as a proxy for the size of a company. Descriptive statistics for the sample 'Top 50' is not available, as it has not been reported in the source publication.

Table 2: Descriptive Statistics of 'Total Assets' of the Samples

(in Rs. crore)

Sensex	**1998**	**1994**	**1989**
Mean	12105.92	6326.89	902.27
Median	4539.08	2257.24	1428.76
Standard Deviation	32976.44	20199.87	1034.87
Minimum	198.66	28.63	15.28
Maximum	179672.66	111531.33	3723.03

Modified Sensex	**1998**	**1994**	**1989**
Mean	4909.51	2223.2	902.27
Median	3565.5	1187.9	1428.76
Standard Deviation	5528.54	2668.64	1034.87
Minimum	198.66	28.63	15.28
Maximum	24387.9	10198.74	3723.03

Mid-Cap Companies	**1998**	**1994**	**1989**
Mean	1348.94	632.62	174.95
Median	340.61	194.41	23.34
Standard Deviation	2466.8	1159.94	197.03
Minimum	19.61	0.17	3.88
Maximum	21040.85	10254.95	920.67

Mfg Total	**1998**	**1994**	**1989**
Mean	179.24	106.94	102.42
Median	12.48	49.1	20.75
Standard Deviation	1060.6	623.46	457.14
Minimum	0.01	0.01	0.01
Maximum	34712.07	22374.15	10531.09

Mfg Index	1998	1994	1989
Mean	624.5	336.67	226.17
Median	77.25	142.28	44.84
Standard Deviation	2288.98	1291.72	771.76
Minimum	0.06	0.01	3.51
Maximum	34712.07	22374.15	10531.09

Source: CMIE PROWESS Database

Results on Sources of Funds

The previous section has shown that developing countries rely much more on external finance than developing countries. Data from our sample tend to support this hypothesis. The following table gives the share of external finance in total financing for sample companies.

Table 3: Share of External Finance in Total Finance

(In per cent)

	1989	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*
Sensex Companies	61.9	69.0	59.0	80.5	75.4	72.3	70.4	73.5	70.3	61.2
Modified Sensex	61.9	69.0	59.0	72.1	72.0	67.5	66.0	54.9	61.6	39.1
CNX Mid Cap	74.5	71.3	66.7	74.1	74.2	79.4	72.1	63.9	71.6	72.7
CMIE Mfg	67.6	71.6	62.6	69.2	71.0	72.9	69.6	66.5	71.2	62.7
Total Mfg CMIE	61.8	73.7	69.3	75.1	75.7	77.4	74.7	71.6	73.8	68.1
Top 50				71.0	76.3	74.4	75.1	67.6	68.5	63.8

Table 3 shows that external finance has remained the dominant source of financing for all the samples. Though there is a slight decline in its share in post 1995 era, on an average basis, external finance accounted for more than 60% of a firm's total financing for all the samples. This result is consistent with the findings of the studies cited in Section 1.

However, the statistical analysis of table 2 reveals that though these samples are highly correlated, there exist statistically significant differences between the sample means.

Therefore to conclude it can be said that:

Indian firms, irrespective of size, are more reliant on external sources for their financing needs.

It is also important to understand how the different components of external finance have changed over the years. In PROWESS database external finance is an aggregate of financing from three broad sources, *viz.* capital markets, borrowing and current liabilities. To understand how the development of stock market in India has influenced the financing pattern, it is important to investigate financing through capital markets and borrowings.

Capital Market as a Source of Finance.

The Indian capital market has experienced rapid growth during the late 1980s and early 1990s. It was expected that this rapid development of capital market in India would help the corporate sector to raise cheap capital to finance their investment.

'Capital Market' as defined by the PROWESS database is an aggregate of finance raised through four channels. They are a) Fresh capital (excluding Bonus issue) b) Share premium c) Debentures/bonds and d) Fixed deposits.

The following figure shows the percentage of finance raised through the capital market.

Figure 1

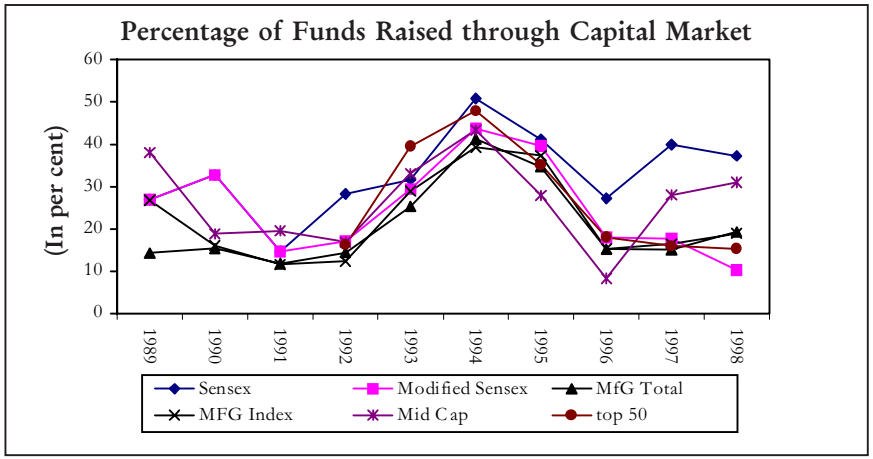


Figure 1 reveals that there has been a spurt in the percentage of funds raised through capital markets during the period 19991-94. However, after 1994, a declining trend can be observed. On an annual average basis, for the period 1994-98, the samples show marginal and sometimes even negative rate of growth. For this period, annual average rate of growth of percentage of funds raised through capital market is 5.46% for Sensex, -3.85% for Modified Sensex, 4.22% for Mfg Total, 1.25% for Mfg Index and –0.09% for Mid Cap.

Though the samples cover a wide range of companies, the figure shows that there is a similarity in movement for all the samples over the concerned period. Statistical analysis shows that all these samples are highly correlated. Table 4 shows the correlation coefficients between percentage of funds raised through capital markets for various samples.

Table 4: Correlation Coefficients for the Samples

	Sensex	Modified Sensex	MfG Total	MFG Index	Mid Cap	Top 50
Sensex	1.00					
Modified Sensex	0.59	1.00				
MfG Total	0.78	0.59	1.00			
MFG Index	0.69	0.78	0.91	1.00		
Mid Cap	0.57	0.69	0.60	0.75	1.00	
Top 50*	0.59	0.93	0.92	0.93	0.69	1.00

** For this sample the correlation coefficients are based on 1992-98 data*

Statistical analysis also shows that the differences of sample means between most of the samples are statistically not significant. Some statistically significant differences exist between the sample mean of Sensex with that of Mfg Index and Mfg Total. However, as these differences are not there for Modified Sensex, it can be presumed that this is caused by the presence of three financial service providers, ICICI, IDBI and SBI, in Sensex.

From the above observations it can be said that the capital market has not performed too well as a source of finance in the later part of 1990s. After 1995 there has been a decline in the importance of capital market as a source of finance for Indian firms. However, capital market has remained an important source of finance for most of the samples. Except for 'Modified Sensex' and 'Top 50' the capital market contributes about 20% or more for other samples.

To conclude it can be said that:

1. All the samples in this analysis show that the after a spurt during 1992-94, the importance of the capital market as a source of finance has declined for Indian firms. However, the capital market still has important contribution in a firm's financing choice in India.

As mentioned before, the source 'Capital Market' is an aggregation of several instruments. Table 5 gives the breakup of each sample for the period 1989-98. Table 5 shows that for all the samples, debentures and bonds are the most important source of finance from the capital market. During 1992-93 to 1994-95, the share of external equity (fresh capital + share premium) shot up significantly. However, after that there has been a decline in its importance.

Table 5: Share of Different Capital Market Instruments in Total Source *(In per cent)*

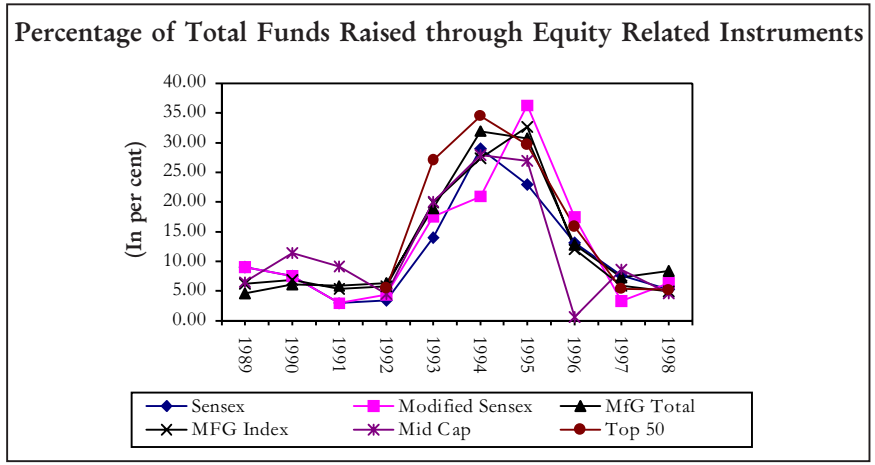
Sensex	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**
Fresh capital	2.41	1.35	0.47	1.06	2.53	6.00	1.17	0.40	-0.26	2.67
Share premium	6.64	6.23	2.48	2.37	11.47	23.00	21.77	12.80	7.92	2.53
Debentures/bonds	7.27	24.48	13.16	25.05	17.45	21.61	18.18	14.05	32.02	27.63
Fixed deposits	10.58	0.71	-1.44	-0.18	0.21	0.24	0.06	0.02	0.28	0.64
Modified Sensex	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**
Fresh capital	2.41	1.35	0.47	0.86	2.82	1.63	5.46	0.15	-0.73	1.15
Share premium	6.64	6.23	2.48	3.50	14.73	19.30	30.78	17.30	4.07	5.21
Debentures/bonds	7.27	24.48	13.16	13.10	11.54	22.52	3.32	0.50	13.87	2.53
Fixed deposits	10.58	0.71	-1.44	-0.30	0.28	0.35	0.09	0.03	0.47	1.36
MfG Total	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**
Fresh capital	2.34	3.44	2.97	4.00	6.50	13.50	9.80	3.60	2.90	5.40
Share premium	2.28	2.70	2.89	2.30	12.40	18.40	20.90	9.20	4.40	3.00
Debentures/bonds	4.68	8.22	4.95	6.10	8.00	7.80	2.90	2.10	6.40	8.70
Fixed deposits	5.02	1.01	0.97	2.00	-1.50	1.50	1.10	0.30	1.40	2.20
MFG Index	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**
Fresh capital	2.35	2.28	2.50	3.33	4.95	7.38	7.67	2.19	1.55	3.20
Share premium	3.86	4.61	2.85	2.50	14.97	19.94	24.98	9.81	4.40	1.77
Debentures/bonds	15.84	7.87	5.27	6.72	8.38	10.22	3.28	2.95	8.98	11.64
Fixed deposits	4.68	1.34	0.97	-0.21	0.68	1.70	1.42	0.36	1.50	2.34
Mid Cap	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**
Fresh capital	3.06	3.69	4.17	2.89	6.56	6.21	0.92	-6.80	2.11	2.85
Share premium	3.44	7.73	5.00	1.64	13.47	21.72	26.04	7.43	6.54	1.74
Debentures/bonds	29.78	7.39	10.15	11.29	12.24	13.79	0.08	6.53	15.51	24.23
Fixed deposits	1.77	0.06	0.24	1.02	0.83	1.60	0.90	1.20	3.88	2.14
Top 50	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**			
Fresh capital	2.4	6.9	7.4	3.6	5.1	0.9	4.3			
Share premium	3.1	20.1	27.1	26.0	10.7	4.5	0.9			
Debentures/bonds	11.1	12.1	12.5	5.0	1.7	9.3	9.2			
Fixed deposits	-0.4	0.4	0.9	0.6	0.5	1.3	0.9			

The Equity Market as a Source of Finance

It has been noted above that there has been a sign of recovery in the share of capital market in total source of finance. However, Table 5 shows that for all the samples, the contributions of equity related instruments have declined sharply during 1995-98.

Figure 2 shows the percentage of funds that has been mobilized through equity related instruments, *viz.* funds raised through fresh capital and share premium for all our samples for the period 1989-998. Detailed data for each sample is given in Table 5.

Figure 2



From figure 2 it can be seen that there has been a steep decline in proportion of funds raised through equity related instruments in the post 1994-95 phase. On an annual average basis, for the period 1994-98, the Sensex has declined by 45.3%, Modified Sensex by 47.6%, Mid Cap by 47.5%, Mfg Index by 51.08%, Mfg Total by 41.05% and Top 50 by 54.9%.

The pattern is similar for all the samples. Equity related instruments now contribute for less than 10% of total funds raised by all our samples.

Statistical analysis of the samples shows that all the samples are highly correlated and the difference between the sample means are not statistically significant.

Table 6: Correlation Coefficients for the Samples

	Sensex	Modified Sensex	MfG Total	MFG Index	Mid Cap	Top 50
Sensex	1.00					
Modified Sensex	0.85	1.00				
MfG Total	0.95	0.89	1.00			
MFG Index	0.93	0.94	0.98	1.00		
Mid Cap	0.82	0.72	0.88	0.89	1.00	
Top 50	0.94	0.84	0.96	0.95	0.88	1.00

In India borrowing, debentures and other forms of debt have remained the major source of finance for the corporate sector. We define funds mobilized through debentures, bonds, fixed deposits and borrowing as 'external debt'. Tables 7 and 7A show the importance of external debt in the context of Indian corporate financing.

Table 7: External Debt as a percentage of Total Sources *(In per cent)*

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Sensex	35.75	44.83	21.64	61.99	41.93	1.55	38.73	33.13	41.55	46.50
Modified Sensex	35.75	44.83	21.64	46.31	32.07	23.50	13.95	16.03	34.53	17.09
MfG Total	31.85	43.50	37.00	34.60	39.20	23.10	25.80	34.20	48.30	44.40
MFG Index	42.11	41.82	33.56	32.01	42.86	23.28	24.12	32.87	48.34	48.22
Mid Cap	49.73	30.26	35.83	52.19	47.06	23.71	34.47	43.97	46.00	55.57
Top 50				42.3	39.1	19.2	30.2	31.3	49.3	48.3

Table 7A: External Debt as a percentage of External Sources *(In per cent)*

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Sensex	57.8	64.9	36.7	77.0	55.6	2.1	55.0	45.1	59.1	76.0
Modified Sensex	57.8	64.9	36.7	64.3	44.5	34.8	21.1	29.2	56.1	43.7
MfG Total	42.8	61.0	55.4	46.7	52.9	29.1	35.8	53.5	67.4	61.0
MFG Index	62.3	58.4	53.6	46.3	60.3	31.9	34.7	49.4	67.9	76.9
Mid Cap	80.5	41.1	51.7	69.5	62.2	30.6	46.1	61.4	62.3	81.6
Top 50				59.6	51.2	25.8	40.2	46.3	72.0	75.7

Tables 7 and 7A show that the debt related instruments and borrowings has remained the most important source of finance for the Indian corporate sector. This result is consistent with Samuel's observations.

From figure 2 and table 7 and 7a it seems that in the years after 1995, for financing of Indian corporate sector, there has been a shift away from equity related instruments to external debt.

Table 8 shows that the correlation coefficients between the share of external debt and equity related instruments are negative for all the samples.

Tables 8: Correlation Coefficient between External Debt and External Equity*

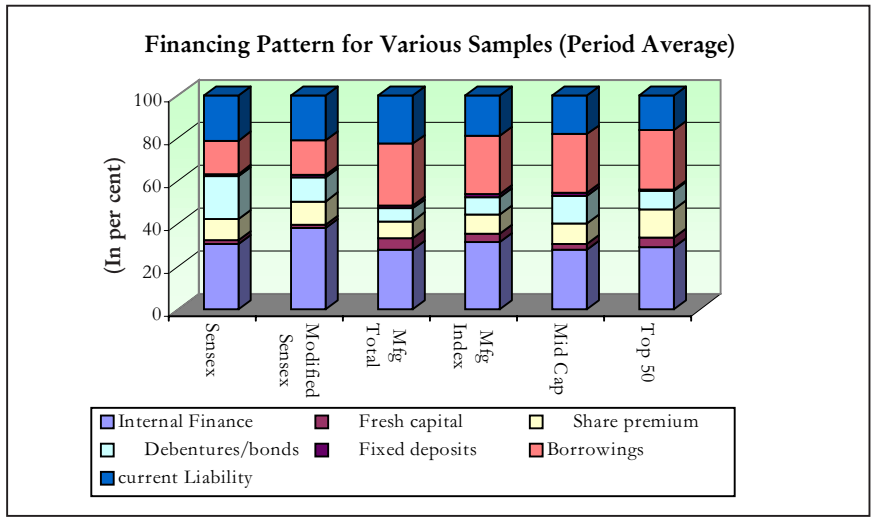
	Sensex	Modified Sensex	MfG Total	MFG Index	Mid Cap	Top 50
Correlation Coefficient	-0.62	-0.54	-0.70	-0.69	-0.66	-0.85

* Share premium + New Issues.

The above analysis indicates that external debt has remained the most important source of external finance for all the samples. It has become more important in the post 1995 era. It seems from the data that Indian firms have substituted external equity by external debt as their most important source of external finance.

Figure 3 shows the period averages of financing pattern for all the samples. For Top 50 the relevant time period is 1992-98. For rest of the samples it is 1989-98.

Figure 3



A Brief Look At the Financing Pattern of Different Industries in India

In the previous analysis, samples were taken on a cross section basis from all the industries. The intention was to get a picture of the financing pattern of the corporate sector as a whole. However, the samples were of overlapping nature and the possibility of bias due to strong presence of a few companies in all the

samples cannot be ruled out. To eliminate that source of bias, this study briefly investigates the industry specific financing pattern of the Indian corporate sector. This set of sample is also taken from the PROWESS database.

The Sample

In the PROWESS database, the total manufacturing sector is divided into nine different industry groups. They are: Food & Beverages, Chemicals, Diversified, Machinery, Metal, Non Metal, Textiles, Transport and Miscellaneous. Data is taken for the period 1991-1998. Like the previous set of samples, balance sheet data are used here. A possible problem with this set of samples is that the samples will be affected by industry specific factors. However, this study will not go into the details of this factor, as the objective here is only to supplement the results derived with the earlier sample and to check whether this set of sample broadly conforms to the results derived from the earlier section.

Results

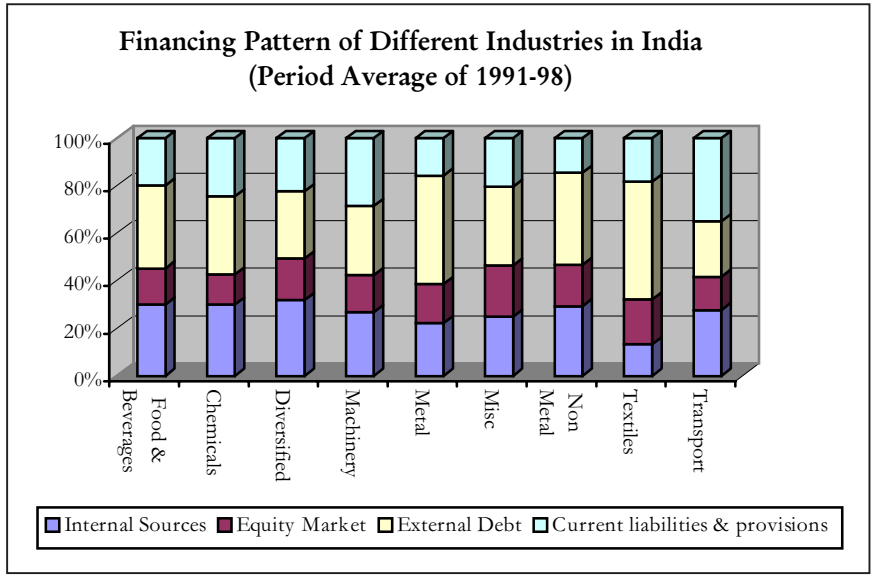
1. Average Financing Pattern for the Period 1991-98:

The average financing patterns of different industries broadly conform to the results derived in the earlier analysis. Though results from this set of sample are less uniform than the previous set of samples. Fig 4 shows the financing pattern of the samples of different industries for the period 1991-98. Following observations can be made from Figure 4.

1. External finance is more important than internal finance for all the industries. On an average basis, for the period 1991-98, the contribution of External Finance varies between 68% for Diversified to more than 86% for Textiles.
2. External debt is an important source of finance for all the industries. It contributes more than 20% of total financing for all the industries. The contribution of External debt has been more than 45% for samples from Metal and Textiles industries.
3. Current liabilities play an important role for the financing of the industries[1].
4. For the sample period, the average contribution of the equity market varies from a low of around 12% for Chemicals to more than 21% for 'Miscellaneous' industries.

[1] According to the PROWESS database Current liabilities and Provisions include all liabilities that are due within 12 months. It includes funds from sundry creditors, bills payable/acceptances, interest accrued, provisions for taxation and dividend and share application amount among other things.

Figure 4



2. Trend in the Financing Pattern

The details of the financing patterns of these industries are given in Table 9[2]. The results are summarized here.

1. External source of finance has remained the dominant source of finance for all the industries during all the years in this time period. Contribution of external finance has remained stable over the years. On a trend basis, all the samples exhibit less than 5% variation over the sample period 1991-98.

2. The contribution of capital markets peaked during 1993-95. For some industries like Machinery and Textiles the contribution of the capital market was highest in 1993 but for others it peaked in 1994-95. For all the industries, the contribution of the capital market has declined after 1995. However, for a few industry groups like Diversified, Metal and Non-Metal, the declining trend has been reversed in 1998.

3. As far as the contribution of equity markets is concerned, the trend is very similar to the previous analysis. After reaching a peak in 1994-95, there has been a decline in the contribution of equity market in almost all the industries. Figure 5 shows the contribution of equity market for different industry groups. Figure 5 shows that there is a similarity in movement for all the samples over the concerned period. Statistical analysis shows that movements for all these samples are highly correlated. Table 10 shows the correlation coefficients for the samples.

[2] Table 9 is given at the end of this section on pages 25-26.

However, significant inter-industry differences exist in the level of financing through the equity market. For Chemicals and Diversified the contribution of equity market is about 5% of its total financing whereas for Miscellaneous it is more than 15% in 1998.

Figure 5

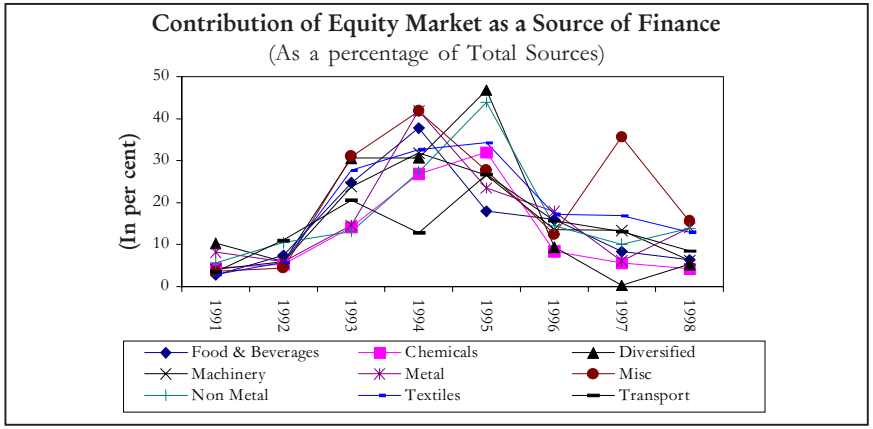


Table 10: Correlation Coefficients for the Samples

	Food & Beverages	Che-micals	Diver-sified	Machi-nery	Metal	Misc	Non Metal	Text-iles	Tran-sport
Food & Beverages	1.00								
Chemicals	0.93	1.00							
Diversified	0.75	0.67	1.00						
Machinery	0.90	0.83	0.92	1.00					
Metal	0.80	0.65	0.88	0.81	1.00				
Misc	0.62	0.48	0.74	0.83	0.60	1.00			
Non Metal	0.93	0.84	0.53	0.74	0.67	0.47	1.00		
Textiles	0.89	0.83	0.83	0.97	0.76	0.83	0.81	1.00	
Transport	0.72	0.75	0.48	0.71	0.32	0.50	0.74	0.81	1.00

4. External debt plays an important role for all the industries. The contribution of external debt has increased for all the industries after 1994-95. However in some industries (like Transport and Machinery) significant year-to-year variation is observed. Correlation coefficients among the samples in this case are low and sometimes negative.

   This set of samples also shows negative correlations between the contribution of external debt and external equity over the sample period. Table 11 shows the results

Table 11: Correlation Between the Contribution of External Debt and External Equity for Different Industry Groups (1991-98)

Food & Beverages	Chemi-cals	Divers-ified	Mach-inery	Metal	Misc	Non Metal	Tex-tiles	Tran-sport
-0.41	-0.39	-0.63	-0.61	-0.48	-0.37	-0.29	-0.39	-0.55

5. Current liability and provisions play a very important role in the financing of the industries. For certain industries like Food and Beverages, Transport, Machinery and Textiles the contribution of Current Liabilities have been very high. However, as mentioned before, this component of financing consists of many short-term liabilities and it is difficult to analyze this component of financing.

Conclusions

Therefore, to sum up, this section finds out that the financing pattern of the corporate sector in India shows some broad similarity across the samples. The findings in this section are in similar lines with the findings of the earlier studies discussed in section 1. The main results are obtained from these two sets of samples are:

1. *External finance is more important as a source of finance for Indian firms.*
2. *The Importance of the capital market has declined as a source of finance after 1995. However, the capital market still contributes significantly in the financing of Indian firms.*
3. *The contribution of external equity has declined after 1995.*
4. *External debt has remained an important source of finance for Indian firms. The importance of external debt has increased over the years.*
5. *Samples show negative correlations between the contribution of External Debt and External Equity.*

These results indicate that equity related finance got a spurt in the early 1990s. The importance of equity as a source of finance peaked around 1994. After that there has been a shift away from equity related financing towards external debt. The next section will try to explain some of the findings of this section in the context of stock market development in India.

Table 9: Contribution of Major Sources of Financing (as a percentage of total financing) for Different Industry Groups

External Sources	1991	1992	1993	1994	1995	1996	1997	1998	Average (91-98)
Food & Beverages	68.47	72.87	71.11	69.31	82.13	68.52	67.02	60.02	69.93
Chemicals	65.79	64.67	71.57	74.27	61.29	71.47	79.30	71.86	70.03
Diversified	58.47	69.67	71.69	75.32	78.26	69.33	70.23	51.82	68.10
Machinery	76.68	81.77	75.14	71.36	76.85	77.00	66.45	60.84	73.26
Metal	80.87	84.73	78.10	82.35	72.49	66.08	78.24	80.04	77.86
Miscellaneous	45.86	76.57	81.76	92.69	86.68	65.96	64.49	86.21	75.03
Non Metal	55.10	57.41	75.96	81.11	73.50	63.73	76.11	82.46	70.67
Textiles	69.65	79.68	82.65	85.73	89.14	88.00	99.07	99.87	86.73
Transport	70.15	76.20	83.81	78.74	78.32	70.96	59.98	60.15	72.29

Capital Markets	1991	1992	1993	1994	1995	1996	1997	1998	Average (91-98)
Food & Beverages	10.89	13.38	26.28	40.70	24.07	13.11	14.40	14.29	19.64
Chemicals	11.30	10.81	19.76	32.65	39.94	10.77	13.67	17.03	19.49
Diversified	11.28	14.21	40.20	45.13	50.60	13.81	10.91	15.55	25.21
Machinery	9.43	1.41	37.54	30.76	28.47	16.31	19.23	16.92	20.01
Metal	21.03	20.54	16.92	69.07	26.17	23.92	20.72	28.84	28.40
Miscellaneous	4.07	22.96	33.52	48.07	34.80	10.66	42.19	28.90	28.15
Non Metal	4.70	7.55	26.28	37.14	47.08	18.90	17.89	35.93	24.43
Textiles	6.36	15.37	40.35	36.24	40.09	19.81	25.12	14.87	24.78
Transport	6.63	28.81	22.33	16.92	25.41	16.32	21.49	21.30	19.90

Equity Market	1991	1992	1993	1994	1995	1996	1997	1998	Average (91-98)
Food & Beverages	2.79	7.44	24.73	37.75	17.91	15.98	8.34	6.40	15.17
Chemicals	4.36	5.32	14.14	26.87	31.94	8.43	5.62	4.28	12.62
Diversified	10.33	6.03	30.54	30.66	46.77	9.42	0.32	5.29	17.42
Machinery	4.06	5.88	23.75	31.75	26.53	13.61	13.37	6.28	15.65
Metal	8.20	5.91	14.57	41.84	23.47	17.87	6.13	14.02	16.50
Miscellaneous	3.67	4.53	30.96	41.78	27.64	12.50	35.59	15.61	21.54
Non Metal	5.60	10.47	13.12	27.31	43.87	14.46	10.09	13.83	17.35
Textiles	2.90	5.76	27.70	32.61	34.29	17.22	16.87	13.03	18.80
Transport	3.61	11.03	20.57	12.90	26.67	15.70	13.11	8.54	14.02

External Debt	1991	1992	1993	1994	1995	1996	1997	1998	Average (91-98)
Food & Beverages	44.32	32.50	35.64	20.96	45.21	41.66	25.35	32.85	34.81
Chemicals	38.71	4.83	42.98	18.96	23.53	35.11	49.06	49.96	32.89
Diversified	16.95	36.85	27.23	16.94	20.18	37.12	45.28	26.59	28.39
Machinery	30.97	39.44	40.34	3.12	19.93	33.16	38.80	27.62	29.17
Metal	49.08	52.89	40.99	43.98	29.44	39.61	52.63	56.67	45.66
Miscellaneous	21.32	42.72	22.62	14.48	40.86	35.66	36.67	50.83	33.14
Non Metal	28.57	22.50	48.57	34.98	25.27	29.17	57.12	64.69	38.86
Textiles	45.26	50.09	35.55	41.43	44.37	43.16	64.78	72.42	49.63
Transport	36.43	36.15	26.15	-1.23	-3.41	10.52	53.59	27.74	23.24

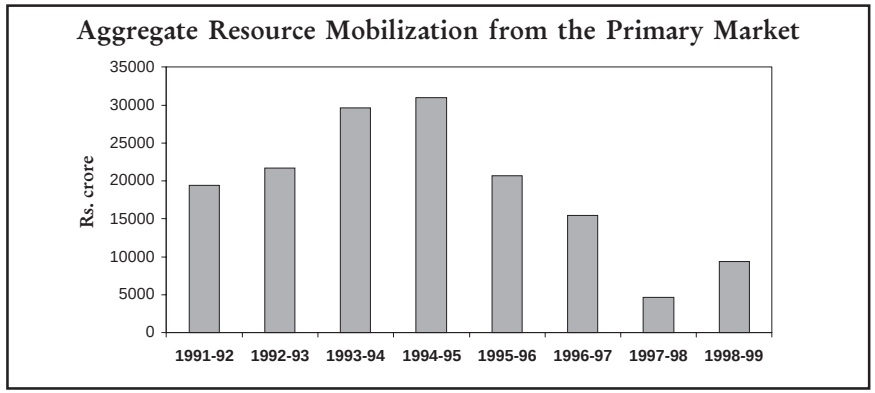
Current liabilities & provisions	1991	1992	1993	1994	1995	1996	1997	1998	Average (91-98)
Food & Beverages	21.35	32.93	10.74	10.60	19.01	10.88	33.33	20.77	19.95
Chemicals	22.72	54.52	14.45	28.44	5.82	27.93	24.62	17.61	24.51
Diversified	31.19	26.78	13.92	27.72	11.32	22.79	24.63	19.94	22.29
Machinery	41.65	36.45	11.05	36.49	30.40	30.22	14.29	26.94	28.44
Metal	23.60	25.93	22.55	-3.47	19.58	8.60	19.48	9.36	15.70
Miscellaneous	20.87	29.33	28.18	36.43	18.18	17.80	-7.77	19.77	20.35
Non Metal	20.93	24.43	14.26	18.81	4.36	20.10	8.90	3.94	14.47
Textiles	21.50	23.83	19.40	11.69	10.49	27.62	17.42	14.43	18.30
Transport	30.11	29.01	37.09	67.07	55.06	44.75	-6.72	23.87	35.03

Source: CMIE PROWESS Database

Section 3: Primary Issues Market: The Indian Experience

Primary capital markets are the direct links between investors and issuers with investment needs. Therefore it is extremely important to understand how Indian primary security markets has helped companies to mobilize resources.

Figure 1



Source: RBI Annual Report, several issues.

Figure 1 shows that the Indian primary market really picked up in the early 1990s. This upward trend continued upto 1994-95. In 1994-95, the aggregate resource mobilization[1] from the primary market reached a peak of 31, 014 crore. However, from 1995-96, there has been a steep decline in both the number of new issues as well as the amount of money raised through them. In 1997-98, only Rs 4,657 crore rupees were raised through the primary market. This declining trend in the mobilization of resources in the primary market was reversed in 1998-99. In 1998-99 Rs 9,365 crore was mobilized through the primary market. This increase in the resource mobilized through the primary market was due to the higher level of capital mobilization by banks and financial institutions. Banks and financial institutions raised about 85 % of the total capital raised during 1998-99.

Money raised by non-government public limited companies (the private corporate sector) also shows a similar trend. Figure 2 shows new capital issues by non-government public limited companies. From the figure it can be seen that during the early 1990s there has been a huge jump in new capital issues by non-government companies. Free pricing of equities and buoyant conditions of the secondary market are the said to be the main factors behind this massive increase in the primary market activity.

[1] Including funds mobilized by banks, private placements, non government public limited companies and PSU bonds.

Before 1992, Indian firms were required to obtain approval from the office of Controller of Capital Issues (CCI) for raising capital. New companies were allowed to issue shares only at par values. Only existing companies with substantial reserves were allowed to issue shares at a premium. This premium was decided on an estimated 'fair value'. This act was repealed in May 1992. This allowed firms to price their issues without any intervention from authorities. This resulted in a sharp increase of capital mobilized through equity related instruments in the post 1992 phase. Money raised through new capital Issues by non-government public limited companies grew at an annual average rate of more than 43 % during 1991-92 to 1994-95 phase.

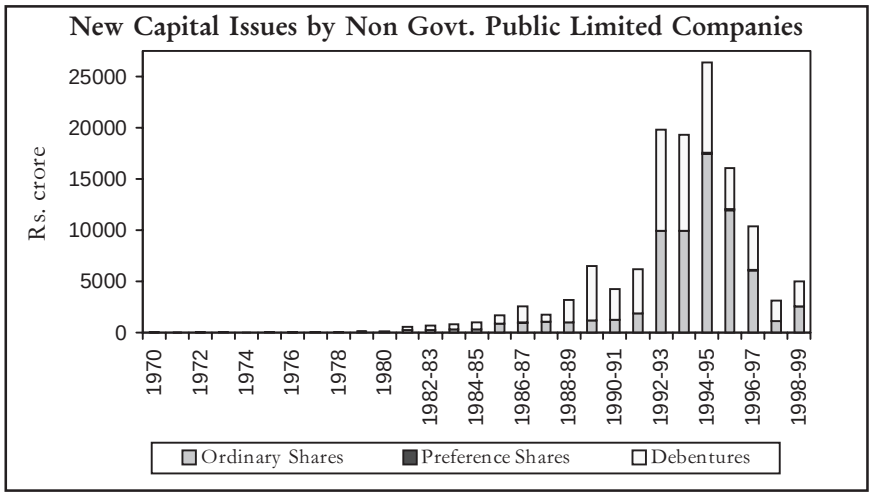
The amount raised through new issues peaked during 1994-95, after that there has been a sharp declining trend in the capitalization by the Indian corporate sector. Table 1 shows the growth rates of the capital mobilized for different periods.

Table 1: Growth Rates of New Capital Issues by Non Govt. Public Limited Companies

	1970-79	1980-90	1990-95	1995-99
Period Growth Rate	9.51%	32.39%	47.63%	-49.61

Source: RBI Handbook of Statistics on Indian Economy, 1999

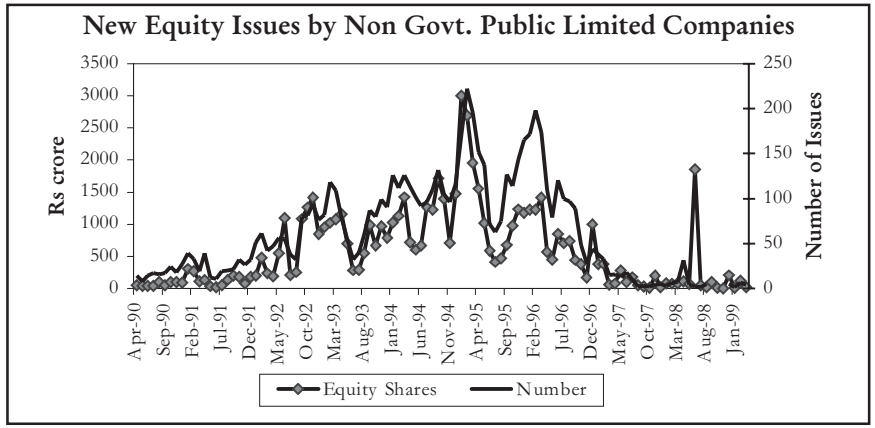
Figure 2



Source: RBI Handbook of Statistics on Indian Economy, 1999

Monthly data for new issues by non-government public limited companies are available from the RBI publication titled 'Handbook of Statistics on Indian Economy 1999' for the period April 1993 to March 1999. Figure 3 shows these data

Figure 3



Source: Handbook of Statistics on Indian Economy, 1999

This data show that the primary market has plummeted after 1996. Both the number of new issues and the amount raised through them has declined sharply in recent years.

To have a better idea of how the new issues market has plummeted, it has been benchmarked against the gross domestic capital formation and gross capital formation by the private corporate sector. Table 2 shows the results.

Table. 2: New Issues as a Percentage of Gross Domestic Capital Formation (GDCF) and Gross Domestic Capital Formation by the Corporate Sector

Period	New Capital Issues by Non Govt. Public Ltd. Companies				GDCF		New Issues as a % of	
	Ordinary Shares	Preference Shares	Debentures	Total	Aggregate	Corporate Sector	GDCF	GDCF (Corporate Sector)
	(In Rs. crore)				(In Rs. crore)		(In per cent)	
1981-82	305.2	2.8	290.4	598.4	34208.0	9118.0	1.75	6.56
1982-83	258.7	2.3	445.0	706.0	36340.0	10085.0	1.94	7.00
1983-84	381.6	1.7	454.2	837.5	41811.0	6956.0	2.00	12.04
1984-85	363.0	0.1	693.3	1056.4	45470.0	10111.0	2.32	10.45
1985-86	898.4	1.2	845.7	1745.3	58167.0	14405.0	3.00	12.12
1986-87	1007.5	0.7	1573.2	2581.4	61156.0	15506.0	4.22	16.65
1987-88	1105.2	6.8	675.7	1787.7	76456.0	12025.0	2.34	14.87
1988-89	1033.6	3.3	2187.9	3224.8	96972.0	15978.0	3.33	20.18
1989-90	1220.1	7.9	5281.9	6509.9	114649.0	19330.0	5.68	33.68
1990-91	1284.3	13.1	3014.8	4312.2	148195.0	23082.0	2.91	18.68
1991-92	1916.2	1.5	4275.4	6193.1	144628.0	36311.0	4.28	17.06
1992-93	9952.6	0.5	9850.3	19803.4	169041.0	47463.0	11.72	41.72
1993-94	9959.7	0.3	9370.3	19330.3	196379.0	48734.0	9.84	39.66
1994-95	17414.4	131.4	8870.9	26416.7	263415.0	69751.0	10.03	37.87
1995-96	11954.5	150.1	3970.1	16074.7	314340.0	109191.0	5.11	14.72
1996-97	6101.4	74.9	4233.2	10409.5	361687.0	105386.0	2.88	9.88
1997-98	1152.4	4.3	1971.6	3128.3	387377.0	131531.0	0.81	2.38

Source: RBI Annual Report and Economic Survey, various issues

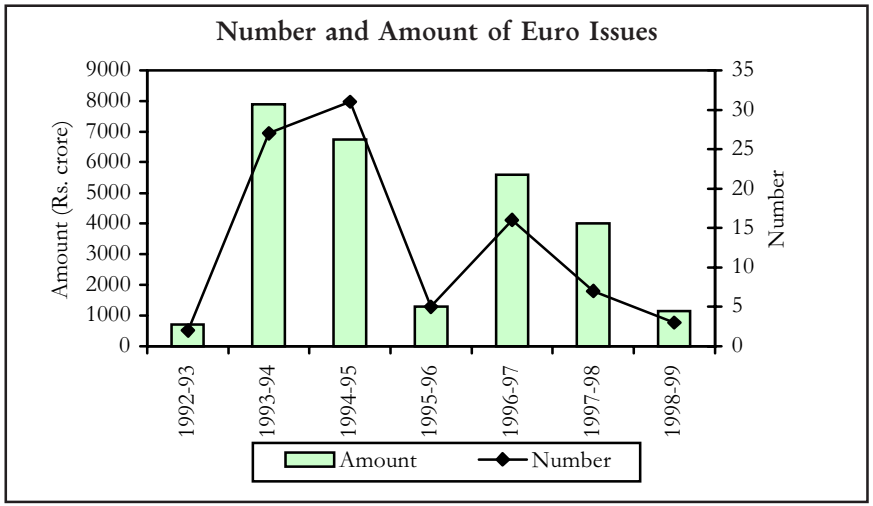
Table 2 shows that during 1992-93, capital raised through the primary market reached a level of more than 40% of total gross domestic capital formation by the private corporate sector and about 12% of GDCF in India. After that there has been a steep decline. In 1997-98, the primary market contributed only 2.4%of gross domestic capital formation by the private corporate sector. The contribution of new issues has come down to 0.81% of GDCF in 1997-98.

According to the SEBI Annual Report of 1998-99, among the first 500 top companies in India, only a handful of companies (excluding the banks and FIs) have entered the Indian market in the last three years for raising fresh capital. This shows the overall negative sentiment and the lack of confidence about the new issues market in general.

Euro Issues

From 1992, Indian firms with good track records have also been allowed to issue convertible debentures (Foreign Currency Convertible Bonds- FCCB) and equity (Global Depository Receipts) on foreign stock markets. The amounts raised by such companies from foreign market have remained modest. During 1998-99, only three issues aggregating Rs.1,148 crore were floated as against seven issues aggregating Rs.4,009 crore during 1997-98. Figure 4 shows the number and amount raised through Euro issues for the period 1992-99.

Figure 4



Source: Handbook of Statistics on Indian Economy, RBI, 1999.

From the aggregate level data, it is apparent that the primary market has not mobilized enough resources for the corporate sector during the last few years.

Reasons Behind the Poor Performance of the Primary Market

The analysis in this section has shown that the primary market activities in India have declined in the second half of the 1990s. Resource mobilizations through the new issues of shares and debentures have plummeted. Findings of section 2 has shown that from 1994, across all the samples, equity has declined sharply as a source of financing for the corporate sector. The findings of this section corroborate the results of section 2. The Annual Report of the Securities and Exchange Board of India (SEBI) for the year 1998-99 mentioned the following possible reasons for this depressed condition of the primary market. They are:

1. Sluggish secondary market conditions are said to be the main reason behind the poor performance of the primary market.
2. Poor performance and uncertainties of the secondary markets have induced retail investors to look to other avenues of investment at the expense of equity.
3. The poor performance of the country in the macroeconomic front has adversely affected the performance of the primary market.
4. The East Asian crisis has affected the sentiments of investors, both domestic and FIIs, in Indian markets.
5. Institutional problems also had a negative impact on the primary issue market.

These issues will now be discussed in a greater detail.

1. Secondary Market Behaviour

The financial liberalization and active government support for the development and fostering of the stock markets in the late 1980s and early 1990s led to a vibrant stock market in India. As a result share prices, increased rapidly in the initial phase. The BSE Sensex rose from a level of 123.6 in 1980 to cross 4000 in 1994. But after 1994, the share prices have stagnated and data upto March 1999 shows that the Sensex has remained in the 4000-45000 band. The average Price-Income ratio of the BSE Sensex rose from about 17 in April 1990 to cross 50 by the middle of 1992. However, after 1994, there has been a decline in the PE ratio.

Cost of Equity Capital

Secondary market activities have a strong influence on the performance of the primary market. One of the most important determinants of the financing decision of a firm is the cost of equity capital. The main criterion affecting the financing decision of a firm is generally the minimization of the weighted average cost of capital. High stock prices in the secondary market allow corporates to charge high premia in the primary market, thereby reducing the cost of equity capital. Upward movements of stock prices influence firms' decisions to issue new capital as the pricing of new issues depends on the level and trend of stock

prices at the time of issue. Issuing equities at a high premium reduces the cost of capital for a firm and makes it an ideal financing choice. As a secondary effect, a reduction in the cost of equity capital is likely to transform some investment projects that had a negative net present value (NPV) before into positive NPV projects[2], thereby inducing more investment. Therefore, the performance of primary market is crucially dependent upon the level and trend of share prices in the secondary market.

The stock market liberalization of the late 1980s and the entry of large number of domestic and foreign investors into the capital market in the early 1990s were expected to lower the cost of capital for the Indian corporate sector[3].

This section will empirically investigate whether the cost of capital for the Indian corporate sector has declined and whether the cost of capital has a statistically significant influence on new equity issues in India. Monthly data of BSE Sensex and monthly data of the Price-Earning Ratio of Sensex companies are used as measures of cost of capital in this analysis.

Price Earning ratio (P/E ratio) of a company is taken as a better proxy of the cost of capital of a company, than share prices[4]. A company's P/E ratio is computed by dividing the current market price of a company's stock by that company's per share earnings. A company's per share earning is a company's after tax profit divided by the number of outstanding shares.

Cost of capital (K) is related with the Price Earning ratio (P/E ratio) according to the formula:

$K = \frac{1-(por)}{P/E} + g$…where por is the payout ratio and g is the growth rate of earnings.

Thus for given earnings growth prospects, the lower the P/E, the higher the cost of capital and the lesser the incentive to make primary equity issues.

Figure 5 shows that the average P/E ratio has declined sharply after May 1994 and as a result of this, the supposed reduction in the cost of capital for companies has not taken place. Figure 1 shows the value of Bombay Stock Exchange sensitivity index (BSE Sensex) and the average Price-Earning Ratio (P/E Ratio) of the BSE Sensex. From the figure it can be seen that since October 1994, on a

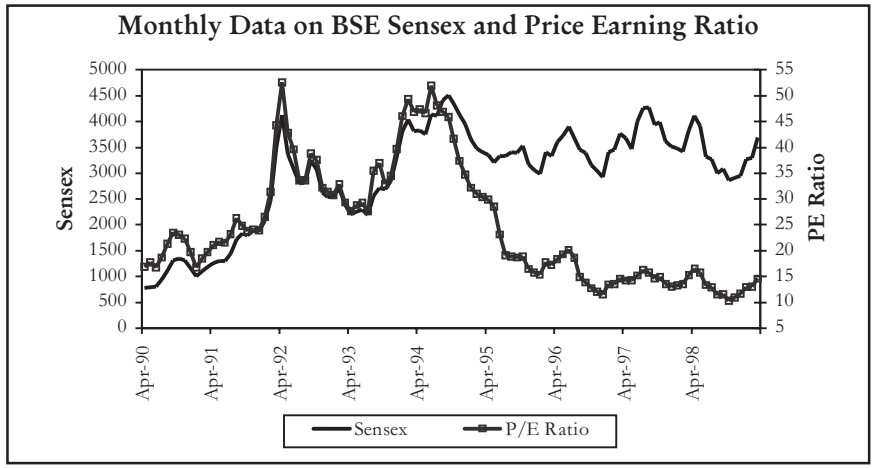
[2] See Henry (2000) for an empirical confirmation of this assertion.

[3] See Levine and Zervos (1998) and Henry (2000b) for a discussion on why stock market liberalization can lead to decline in the cost of capital.

[4] Equating the cost of capital to a firm with its price/earning ratio is an approximate measure. This simplification does not include the role of expected growth in earnings. Also, as Singh (1995) points out, the cost of capital is a complex issue as a firm's shareholders may have different interests and circumstances. No single measure of cost of capital can capture the perspective of different groups of the firm's shareholders.

trend basis, the Sensex has not shown a positive growth and there has been a steep decline of the P/E ratio. This decline in the P/E ratio seems to be instrumental in dampening the primary issues market.

Figure 5



Source: Bombay Stock Exchange.

The RBI Annual Report 1995-96 finds strong two-way causal relationships between Sensex and new capital Issues by non-government public limited companies. This section will try to verify these findings with more recent data. Additionally, this section will use data on PE ratios as an alternate measure of cost of capital.

Statistical Analysis

Methodology

First the correlation between NEI and other variables will be tested. It is expected that the NEI will be related with these variables with some amount of lag. This is so because if the share price or the PE ratio of a firm in month t is influencing the decision to issue new equities, then it will take the firm some time to actually issue the new equities. For this reason various lags (upto three months) have been used to determine the relationship between NEI and other variables.

Correlation analysis only shows the degree of association between the two variables and it does not necessarily imply causation. To test whether there are any causal relationships between the NEI and other variables, the Granger Causality test is used here.

It is important to mention here that application of econometric tools on time series data is allowed only if the data fulfills certain conditions. The first condition is that a series has to be stationary for the application of any econometric tool. However, as a special case, econometric tools can be applied on two sets of non-stationary time series data, subject to the condition that they are cointegrated. If two variables show different statistical properties and are not cointegrated, suitable statistical adjustments have to be done before econometric tests can be applied on these variables.

This section will test each variable for its stationarity. For those variables which are integrated of the same order as NEI, i.e. have similar statistical properties, a further check for co-integration will be made. If co-integration is discovered, the Granger Causality Test will be applied. However, if the variables show different statistical properties, then suitable adjustments are required to use time series applications on them.

Variables

Monthly data on new equity issues by non-government public limited companies are used here to capture the primary market activities. Data are available for the period April 1990 to March 1999. This series is called NEI.

Monthly data of BSE Sensex are used in this section as a measure of cost of capital. Monthly data is used for the period April 1990 to March 1999. This gives 108 observations for the variable. This series is called 'SENSEX 1'.

As mentioned before, the CCI Act was abolished in May 1992. It is expected that the abolition of CCI should have some impact on new equity issues. To capture this, monthly data for the period June 1992 to March 1999 is used as a separate case. 82 observations are available for each variable in this case. This series is called 'SENSEX 2'.

Sensex 1 and Sensex 2 show the nominal share price values. To eliminate the inflation component in Sensex 2, it has been deflated by the monthly Wholesale Price Index series. This gives us the series 'SENSEX 3'. This series covers the period June 1992 to March 1999.

Monthly data on the Price-Income Ratio (P/E ratio) of the BSE Sensex companies have been used here to have an alternate measure of the cost of capital. This series is called PE and it covers the period June 1992 to March 1999.

Results

Table 3 shows the correlation between NEI and other variables with different lags.

Table 3: Correlation with NEI (with various lags)

	No Lags	Lag 1 month	Lag 2 months	Lag 3 months
Sensex 1	0.34	0.39	0.40	0.39
Sensex 2	0.02	0.12	0.13	0.13
Sensex 3	0.39	0.48	0.51	0.54
PE	0.52	0.55	0.57	0.61

The table shows that Sensex1 shows positive correlation with NEI. However, the correlation is significantly lower for Sensex 2. The correlation between NEI and Sensex in fact becomes negative if the data for the period December 1994 to March 1999 is taken. Therefore, no consistent pattern of association is found between nominal values of Sensex and NEI.

However, when the deflated value of Sensex (Sensex 3) or the PE ratio is used for calculations, the correlation is positive and significantly higher. It should be noted here that Sensex 2, Sensex 3 and PE refer to the same time period.

Next the Granger Causality Test has been applied to find out the causal relationships between NEI and other variables. Some statistical tests are required before the Granger Causality Test can be applied. Table 4 shows the results of the series order and cointegration with NEI

Table 4: Series Order and Cointegration with NEI: Summary

	Variable	Series Order	Co-integrated with NEI
1.	Sensex 1	I(1)	No
2.	Sensex 2	I(1)	No
3.	Sensex 3	I(1)	Yes
4.	PE	I(1)	Yes
5.	NEI	I(1)	-

Table 4 indicates that none these variables are stationary. All of them are I(1), i.e. they are integrated of order 1. Moreover, tests show that Sensex 1 and Sensex 2 are not cointegrated with NEI. Normal econometric tools cannot be applied on these series. However, econometric analysis can be done with the first differences of these variables (first difference of an I(1) series is stationary) . The application of Granger Causality Test on the first difference of these variables shows that the null hypothesis that D(NEI) does not Granger cause D(SENSEX1)[5] is rejected when two months' lag is used. This implies that a change in new equity issues Granger causes a change in the Sensex. However, the reverse hypothesis that change in Sensex 1 does not Granger cause change in NEI cannot be rejected.

[5] Where the D operator shows the first difference of the variables.

Causality tests with Sensex 2 and NEI produce identical results. As in the earlier case, both variables turn out to be integrated of order one and not cointegrated. This allows operations with first differences only. Results show that a change in new equity issues Granger causes a change in Sensex 2 when two months' lag is used. However, in this case also there is no evidence that changes in Sensex 2 cause changes in the new equity issues.

Therefore, based on this set of data, it cannot be statistically confirmed that changes in the Sensex cause changes in the new equity issues.

Table 4 shows that PE and Sensex 3 are both I(1) and are cointegrated with NEI. Normal econometric tools can be applied to these variables. The results of the Granger Causality test shows that the null hypothesis that PE ratio does not Granger cause New Issue is rejected. The results also show that the reverse is not true. That is, the null hypothesis that New Issue does not Granger cause PE ratio cannot be rejected. Granger Causality test also reveals that the null hypothesis that Sensex 3 does not Granger Cause NEI is rejected.

Therefore, from these results it can be said that cost of capital, when measured as the deflated value of share prices or as PE ratio, influences firms' decision to issue new equities. Figure 5 shows that the PE ratio increased substantially during early 1990s. This made equity capital relatively cheaper. Cheaper cost of equity capital induced the firms to raise money through the primary market. However, after 1994, there has been a sharp and sustained decline in the PE ratio of the Sensex firms. For example, the average PE ratio of the Sensex companies declined from 51.93 in July 1994 to 14.59 in March 1999. This has made the cost of equity financing higher for companies. Cheaper alternate sources of financing have induced firms to move away from financing their investments through stock markets.

Other Secondary Market Variables

Theoretically, the increased depth of a stock market, measured by the ratio of market capitalization to GDP, should have a favourable impact on the primary market. This ratio is viewed as a rough (and inverse) indicator of the transactions cost of the capital market[6] . The market capitalization to GDP ratio can also be viewed as a proxy for the level of development of a stock market.

On the other hand, the depth of the secondary market depends on the activity of the primary market because it is only when more corporate entities come into the market and raise funds, that more instruments are available in the secondary market. Therefore, a two-way causal relationship exists between stock market depth and primary market activities.

[6] Aylward and Glen (1999)

Stock markets may also induce investment through the creation of liquidity. Profitable investments often require long-term commitment of capital, but investors are generally reluctant to relinquish control of their savings for long periods. Liquid equity markets make investment less risky-and more attractive-because they allow savers to acquire an asset (equity) which can be sold quickly and cheaply if they need access to their savings or want to alter their portfolios. Levine and Zervos (1997) find that stock market liquidity is positively and significantly correlated with current and future rates of economic growth, capital accumulation, and productivity growth, even after controlling for economic and political factors.

The above discussion shows that a number of secondary market variables affect the activities of the primary market. The objective of this section is to empirically verify these causal relationships.

Monthly data on market capitalization and turnover will be used to estimate secondary market's impact on new equity issues. They will be called 'Mkap' and 'turn'.

This section will also try to estimate the impact of stock market depth and stock market liquidity on new equity issues. Stock market depth is traditionally taken as the ratio of market capitalization to GDP. However, monthly data on GDP is not available in India. Following Pethe and Karnik (2000), this section uses the Index of Industrial Production (IIP) as the proxy of GDP data. Therefore, in this section, stock market depth is measured as a ratio of market capitalization to the IIP. This series will be called 'Depth'.

As mentioned before, a liquid secondary market is supposed to act as an incentive to the primary market. To empirically verify this, three measures of liquidity suggested by Levine and Zervos (1996) are used here.

1. One commonly used measure is the total value of shares traded on a country's stock exchanges as a share of GDP. In the absence of monthly data on GDP, the monthly data on IIP will be used here. This ratio is called 'Liq1'.

   This ratio does not directly measure the costs of buying and selling securities at posted prices. Yet, averaged over a long time, the value of equity transactions as a share of national output is likely to vary with the ease of trading. In other words, if it is very costly or risky to trade, there will not be much trading.
2. The second measure of liquidity is the value of traded shares as a percentage of total market capitalization (the value of stocks listed on the exchange). This turnover ratio measures trading relative to the size of the stock market. This ratio is called 'Liq2'.
3. The third measure is the turnover divided by stock price volatility. Markets that are liquid should be able to handle heavy trading without large price swings.

   The coefficient of variation of daily stock prices[7] of the BSE is used as a measure of volatility. This ratio is called the 'Liq3'.

Data for the analysis for this section pertain to the period April 1993 to March 1999. Figures in chart A.1 in the Appendix show the movements of these six variables. These figures show that though market capitalization and stock market depth have not shown any sustained upward trend, turnover and other measures of liquidity have shown an increasing trend.

Summary of Statistical Results:

Table 5: Correlation Coefficients between NEI and Other Secondary Market Variables

	No Lags	Lag 1 month	Lag 2 months	Lag 3 months
Turnover	-0.56	-0.52	-0.49	-0.49
Market Capitalization	-0.32	-0.28	-0.28	-0.31
Liquidity1	-0.53	-0.50	-0.22	-0.17
Liquidity2	-0.55	-0.50	-0.45	-0.44
Liquidity3	-0.42	-0.37	-0.46	-0.41
Depth	-0.14	-0.06	-0.03	-0.05

The results shown in the table 5 are not on the expected lines. Secondary market variables like market capitalization, stock market depth and the liquidity measures are expected to have a positive influence on the activities of the primary market. But the results show that even with various lags, there is no evidence of any positive association between monthly data on new equity issues and these secondary market variables.

Table 6: Series Order and Cointegration with NEI: Summary

	Variable	Series Order	Co-integrated with NEI
1.	Mkap	I(1)	No
2.	Depth	I(0)	-
3.	Turnover	I(1)	Yes
4.	Liquidity 1	I(1)	Yes
5.	Liquidity 2	I(1)	Yes
6.	Liquidity 3	I(1)	Yes
7.	NEI	I(1)	

As the statistical properties of Market Capitalization and Depth are not similar to that of NEI, direct application of Granger Causality is not possible. However, as the above table indicates, all these variables are integrated of order 1 and normal econometric applications are allowed on the first differences of these variables.

Application of Granger Causality Test on the first differences of these variables indicate that

[7] Daily opening prices are used for the calculation.

1. There do not exist any statistically significant causal relationships between changes in market capitalization and changes in NEI.
2. There do not exist any statistically significant causal relationships between changes in market depth (market capitalization/IIP) and changes in NEI.

The statistical properties of turnover and Liq1, Liq2 and Liq3 are statistically similar to that of NEI. That is, individually these variables are cointegrated to NEI. Normal econometric exercises are allowed for these variables.

Applications of Granger Causality Test on these variables indicate that

1. NEI Granger causes Turnover, Liq1 and Liq2. No such statistically significant effect exists on Liq3. This implies that, according to this set of data, primary market activities affect the liquidity condition of the secondary market.
2. Also, there does not exist any statistical evidence that turnover, Liq1, Liq2 and Liq3 Granger causes NEI. This implies that data do not support the theoretical prediction that an increase in liquidity in the secondary market will have a positive impact on the activities of the primary market.

The statistical analysis done above suggest that from the data used here, it cannot be inferred that market capitalization, stock market depth, turnover and liquidity measures are positively correlated with the activities of the primary market. No causal effects of these variables on NEI have been found to be statistically significant. However, the results suggest that primary market activities have some feedback on the secondary market variables.

Conclusion

From the above analysis it can be seen that an increase in the cost of capital has been the most important reason for the decline in primary market activities in India. Among the various measures of the cost of capital, PE ratios have shown the strongest correlations and statistically significant causal relationships with primary market activities.

From this set of data it appears that other secondary market indicators like liquidity and the market capitalization do not have a statistically significant causal effect on the primary market. These results do not conform to the theoretical prediction that increase in liquidity and market depth of the secondary market will have a positive impact on the primary market.

To reconcile between the empirical findings and the theoretical predictions it can be mentioned that the time period used for the analysis in this section is about five to seven years. This is too a short period to warrant any definite conclusion. Analysis with a longer time period is likely to yield a more stable relationship.

However, one definite trend that is observable in the Indian equity markets is that activities in the equity markets are very much skewed in favour of the larger companies. In 1995-96, the top 50 companies with the highest turnover accounted for about 60% of the total turnover on the BSE while in 1997-98 they accounted for about 92%of it. In 1997-98, market capitalization of top 25 companies were more than 52% of total market capitalization of BSE. Detailed data is given in Table A.1 in the appendix. It is possible that dominance of the large companies in the Indian stock markets is creating a bias in the secondary market data.

Also it has been pointed out that a number of other factors can influence the behaviour of the primary market. For example, the cost of capital of alternate sources of financing and the sentiment of retail investors can affect the primary markets. This study will now look into these factors in a greater detail.

2. Rate of Interest

Prior to the financial liberalization, interest rates in India were administered. During this period, credit deployment by banks and financial institutions were at low rates of interests. Low rates of interest made industries more dependent upon the financial institutions for resource mobilization.

As a consequence of financial liberalization, interest rates shot up in India. In August 1991, the Government of India allowed all term lending institutions to charge interest rates according to the risk perception of the concerned project, subject to a minimum rate of 15%. Table 7 shows the Prime Lending Rates (PLR) charged by major financial institutions in India for the period 1977 to 1999. From the table it can be seen that immediately after the financial liberalization, there has been a spurt in the lending rates. For example, financial institutions raised their lending rates from 14.5% in 1990-91 to 19% in 1991-92.

Table 7: Interest Rate Structure of Some Major Financial Institutions*

Year	SBI Advance Rate	IDBI	IFCI	ICICI	Average of IDBI, IFCI and ICICI
1977-80	13.00	11.00	11.00	11.00	11.00
1980-90	16.50	14.00	14.00	14.00	14.00
1990-91	16.50	14.50	14.50	14.50	14.50
1991-92	16.50	19.00	19.00	19.00	19.00
1992-93	19.00	18.00	18.00	18.00	18.00
1993-94	19.00	16.00	16.00	16.00	16.00
1994-95	15.00	15.00	16.50	15.75	15.75
1995-96	16.50	17.50	18.00	14.00	16.50
1996-97	14.50	16.20	16.25	16.50	16.32
1997-98	14.00	13.30	16.25	14.25	14.60
1998-99	13.00	13.50	15.25	13.00	13.92

**Average PLR for IDBI, ICICI and IFCI*
Source: Handbook of Statistics on Indian Economy, 1999, RBI

As far as the liberalization of lending rates of the commercial banks, government took a more gradual approach. Table 6 shows the gradual rationalization of interest rates. Table 8 shows that though there has not been an across the board hike in the lending rates of the commercial banks, the minimum rate on loans over 2 lakh has remained very high. Sen and Vaidya (1997) calculated that during this period, the real lending rate has remained positive at 8-10%. This high real rate of interest resulted in a decline in the growth rate of non-food credit to industry. This is shown in Table 9.

Table 8: Structure of Bank Lending Rates

Category of Account	October 1991	April 1992	April 1993	September 1993	October 1994
Upto and inclusive of Rs.7,500	11.5	11.5	12.0[a]	12.0	12.0
Over Rs.7,500 and Rs.15,000	13.0	13.5[b]			
Over Rs. 15,000 and upto Rs.25,000	13.5				
Over Rs.25,000 and upto Rs.50,000	15.5	16.5[c]	16.5	15.0	13.5
Over Rs.50,000 and upto Rs.2 lakh	16.5				
Over Rs. 2 lakh (minimum rate)	20.0	19.0	17.0	15.0	Free

Note:
a upto and inclusive of Rs.25,000
b over Rs.7,500 and upto Rs.25,000
c over Rs.25,000 and upto Rs. 2 lakh.
Sources Sen and Vaidya (1997).

The rationalization of lending rates of the commercial banks culminated in October 1994 when banks were allowed total freedom to decide their own lending rates. Figure 6 shows the average PLR of five major public sector banks in India on a monthly basis.

Table 9: Growth Rate of Non Food Credit to Industry (Medium and Large)

(In per cent)

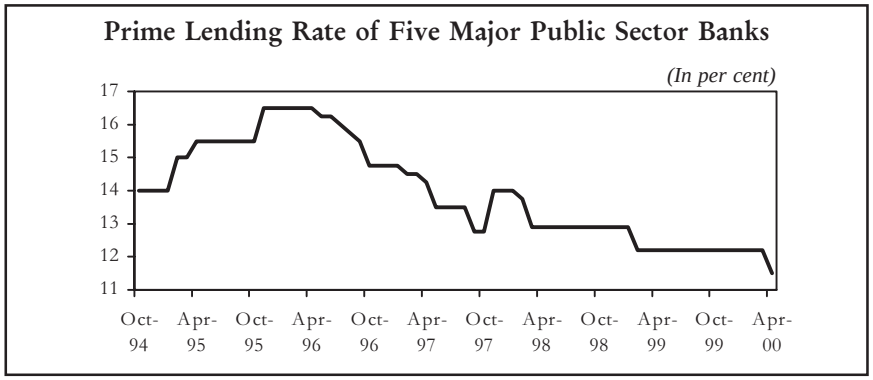
Period	Growth Rate
1979-80-1989-90	14.52
1990-91-1993-94	10.07
1994-95-1998-99	13.50

Source: *Handbook of Statistics on Indian Economy, RBI, 1999.*

It should be mentioned here that PLR is only an indicative rate. The actual rates charged by banks are often much higher. A study by EPW Research Foundation points out that "..almost all banks and FIs have their modal rates at about 20-22% – far higher than their PLRs. In fact, FIs have again breached their implicit agreement to limit the upper end of their lending rate structure to 4% points over their PLR and have begun lending, generally at around 22%" EPW Research Foundation 1996.

Along with this increase in the cost of bank finance, the availability of credit to the private sector was also under severe strain. Stock market scams and other official investigations into the lending by some Indian banks made them reluctant to lend to the corporate sector. Bank loans as a proportion of total domestic finance to the corporate sector declined from 60% in 1988-89 to 37%in 19993-94[8].

Figure 6



Source: RBI Annual Report 1998-99.

This period of high interest rate coincided with a very favourable situation in the stock market. High share prices and a booming secondary market induced investors to mobilize funds through the stock market. During this period there has been a shift in the financing pattern of the Indian corporate sector away from borrowing and towards equity oriented funds.

Commenting on this, Sen and Vaidya (1997) have said that:

"Financial Liberalization thus, had not led to a major disruption in investment activity of the private corporate sector. This ability to respond to shocks generated by interest rate deregulation was a consequence of far reaching changes in the primary issues market which opened up a new source of funds." Pg. 136.

This will become more evident from Table 10, which shows the debt-equity ratio for private sector firms in India. The table shows an uniform decline in the debt-equity ratios of the Indian firms during 1992-95.

[8] Khanna (1999)

Table 10: Debt-Equity Ratios of Indian Firms

Year	Private Sector Firms	Sensex Companies	CNX Mid-Cap Companies
1990-91	1.95	1.21	1.74
1991-92	1.99	1.43	1.73
1992-93	1.91	1.35	2.05
1993-94	1.53	1.13	1.78
1994-95	1.24	0.85	1.39
1995-96	1.21	0.73	1.16
1996-97	1.35	0.81	1.19
1997-98	1.45	0.75	1.27
1998-99	1.45	0.87	1.43

Source: CMIE Prowess Database for Sensex and CNX Mid-Cap data
CMIE 'Industry Financial Aggregates & Ratios" for Private Sector firms

However, this scenario changed quickly after 1994-95. The stock market scam of 1992 was followed by another major decline in share prices during the end of 1994 and early 1995. During the end of 1994 some irregularities also surfaced in working of the primary market (discussed below in more detail). This had a negative impact on investors' sentiment. The cumulative effect of all these led to a prolonged decline in share prices.

Along with the decline in share prices, major changes were introduced in the monetary policy of the RBI also. The RBI, in a bid to inject more liquidity into the economy, made significant reductions in CRR and SLR requirements. The Bank Rate was also reduced to give a signal to the commercial banks and lending institutions to reduce their lending rates. This was done to pull the economy out of the recession in industrial production. These measures resulted in a sustained decline in the lending rates of the banks. Table 7 and Fig 6 show the trend. The reduction of the lending rates by the commercial banks and other lending institutions could have induced the industry to finance more of their investments through borrowings.

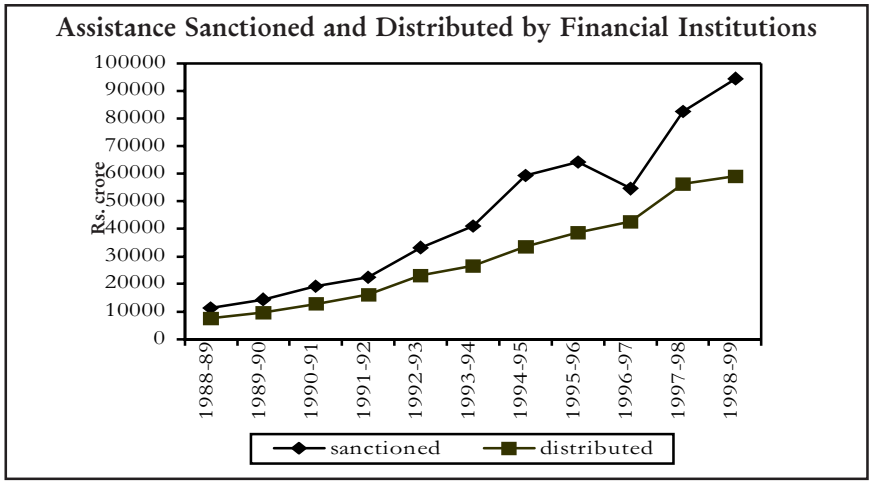
A noteworthy feature of the primary market in 1998-99, which corroborates the above hypothesis, was the issue of 10 bonds by the financial institutions like IDBI and ICICI. The Industrial Development Bank of India raised Rs 2250 crore and ICICI raised Rs 2200 crore through debentures and bonds in primary market. In contrast, the only large issue from the manufacturing sector was a Rs. 160.84 crore equity issue by India Cements. This huge amount of resource mobilization by the financial institutions indicates that the demand for credit from the term lending institutions has been growing[9]. The SEBI Annual Report 1998-99 commented:

[9] Table A.3 in the appendix shows the Large Issues during 1998-99; page 60.

"The share of large issues was 82.5% in the total amount mobilized during the year 1998-99. The Industrial Development Bank of India raised Rs 2250 crore and ICICI Rs 2200 crore, whereas India Cements Ltd. raised Rs 160.84 crore. Thus, the manufacturing sector did not enter the market with mega issues during 1998-99. Since these funds are advanced as loans to the corporates it is possible the investment in industrial sector is taking place through intermediation of financial institutions". SEBI Annual Report 1998-99.

Figure 7 shows the total assistance sanctioned and distributed by the financial institutions[10].

Figure 7



Source: *Handbook of Statistics on Indian Economy, 1999, RBI*

This figure shows that after 1996-97, there has been an increase in the credit flow from the financial institutions to the industrial sector. Table A.2 in the appendix shows the assistance distributed by some leading financial institutions in India.

3. Institutional Problems

As mentioned before, the CCI act was abolished in May 1992. The abolition of CCI and allowing free pricing of issues prompted many companies to raise funds from the equity market at a premium. The prices of many of these issues declined on listing and has been quoted substantially below the issue prices. Apart from poor performance on the price front, the stock market has suffered from a number of corruption charges and irregularities. The scam of 1992, where a number of

[10] Financial Institutions include IDBI, IFCI, ICICI, SIDBI, IIBI, SCICI, RCTC, TDICI, TFCI, LIC, UTI, GIC, SFCs and SIDCs.

foreign banks and some leading brokers were involved, had an adverse impact on the secondary market. Towards the end of the financial year 1994-95, the new issues market received a setback when it was found that some issuing companies were rigging prices of their shares with the help of market intermediaries before entering the market for raising capital. It was also found that many companies were not observing the disclosure norms set by SEBI.

A committee headed by Malegam appointed by SEBI looked into this matter. Based on the Malegam Committee recommendations relating to disclosure requirements and issue procedures, SEBI imposed a set of entry barriers on new issues, specifying minimum issue size requirement for companies seeking listing. In addition, special requirements were imposed on finance companies seeking public funds. Though these requirements are relaxed by SEBI from time to time, it has been pointed out that small firms are finding it increasingly difficult to access the equity market.

The strict entry and disclosure norms put into practice by SEBI has made it difficult for most companies without a track record to access the capital market. According to SEBI, this has increased the quality of the papers but it has also resulted in a decline in the number of issues and amount raised in the primary market.

A closer look at the trend in size and composition of the issues in primary market reveals some interesting facts. Table 11 summarizes the data.

Table 11: Trends and Composition of New Issues

Year	Number of Mega Issues	Amount Raised through Mega Issues (Rs. Cr.)	Share of Mega Issues in Total Capital Mobilized (%)	Premium charged as a proportion of total amount raised from equity issues (%)
1992-93	34		45.25	51.9
1993-94	na	7387	37.88	44.1
1994-95	39	10304	38.95	48.3
1995-96	19	4038	24.67	40.6
1996-97	13	4869	46.56	23.9
1997-98	8	2221	70.78	56.2
1998-99	10	4194	83.66	51.7

Source: RBI Annual Reports, various issues.

From table 11 it can be seen that the share of mega issues, i.e. issues bigger than 100 crore, in total capital raised has increasingly becoming larger. In 1998-99, 10 mega issues account for more than 83% of total capital mobilized from primary market. The average size of new issues floated by private sector companies in 1998-99 increased to Rs.104 crore as compared with Rs.31 crore during the previous year. It can also be seen from table 2 that premium charged on new

issues has increased to a very high level in the last two years. These facts indicate that only reputed and large companies were able to tap the capital market. This data seems to validate SEBI's point that though the number of issues has declined, there has been an increase in the quality of issues in the last few years.

Also it has been found that some of the companies, which raised money through public issues, are now not even traceable. According to an interview by P. L. Sanjeeva Reddy, Secretary, Company Affairs, around 140 companies have disappeared after raising money from the equity market[11]. The charging of inordinately high prices for the new issues in a large number of cases and the disappearance of some of these companies adversely affected investors in terms of liquidity and confidence. This resulted in a huge exodus of retail investors from the market. The apparent loss of investors' faith in the primary market is continuing. The primary market has virtually dried up and it has not yet responded to the series of policy measures that have been announced in subsequent budgets as well as the credit policies to revitalize it. The entry of FIIs has not been able to boost the primary market either.

Another important factor that could have affected the equity issues market is the cost of raising capital from the primary market. According to a SEBI Discussion Paper[12] under some general conditions it has been estimated that for an issue of Rs. 1500 million, the cost of raising capital from the domestic market is 9.6% of the issue size. The same amount of money when raised through the GDR route costs only 4% of the issue size.

From the point of view of issuers, the process of raising money through new equity issues in domestic markets is also time consuming. The public subscription process requires that price determination should be made at least 45 days before the date of issuance. After the subscription of the issue, due to post subscription procedures, about 60 days elapse before the security is listed. This delay sometimes makes a new issue expensive for the issuers.

These institutional problems and the enforcement of strict norms for entering the new issue market have discouraged many smaller firms from seeking funds through the equity market. Khanna (1999) has also pointed out that as the access to credit is now dependent upon the evaluation of the credit rating agencies, smaller and less profitable firms with low credit rating are finding it increasingly difficult to access the credit market and are often forced to borrow at a rate above the prime lending rates.

These factors, coupled with the fact that the retail investors have shied away from the primary issues market has prompted the corporate sector to look for alternate avenues of financing, namely external borrowing.

[11] Interview in BBC India Business Report, 14 May, 2000.
[12] '*Indian Securities Market: Agenda for development and Reform*'-SEBI Discussion Paper

4. Corporate Debt Market

Another important source of finance for the corporate sector is the corporate debt market. Recently debt has emerged as the most favoured instrument for mobilizing capital in the corporate sector. Table 12 shows the amount of resources raised by the corporate sector through debt related instruments in primary market. It can be seen from the table that the share of debt related instruments has grown steadily over the years. In 1998-99, debt accounted for about 99% of the total resources mobilized by the corporate sector through the primary market. Resources raised by the corporate sector through debt related instruments recorded an annual average growth rate of more than 40% during the period 1995-96 to 1998-1999.

Table 12: Resources Raised in the Corporate Debt Market*

Year	Public Issue	Private Placements	Total Debt	Share of Private Placement (%) (3/4)	Total Resource Mobilization in the Primary Market	Share of Debt (%) (4/6)
1	2	3	4	5	6	7
1995-96	2940	10035	12975	77.34	21857	59.36
1996-97	6977	18391	25368	72.50	30039	84.45
1997-98	1929	30983	32912	94.14	34045	96.67
1998-99	7407	38748	46155	83.95	46658	98.92

Source: Indian Securities Market: A Review[13] *, National Stock Exchange Website, http://www.nse-india.com/invfocus/publication.htm*
** This data do not match with the RBI data*

From the table it can be seen that the private placement market has emerged as the major route for raising resources by the industry. In a private placement, resources are raised through arrangers (merchant banking intermediaries) who place securities with a small number of financial institutions, corporates and high net-worth individuals.

Data also reveal that debt has become the most preferred instrument in the private placement market. According to the RBI data, it constituted 95.3% of the total amount raised by way of private placement in 1998-99. The interest rates on debt instruments floated in the private placement market remained in the range of 10 to 16.5%.

The popularity of the private placement method can be attributed to its three inherent benefits. They are

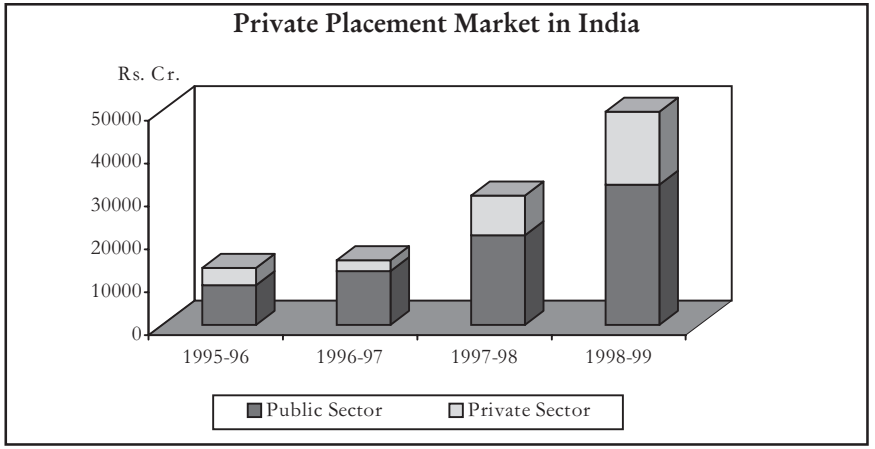
a. The private placement method is a cost- and time-effective method of raising funds.
b. It can be tailored to meet the specific needs of the entrepreneurs.

[13] In this report *Prime Database* is mentioned as the source for this data.

c. Private placement does not come under the strict regulatory provisions applicable to public issues.

It is interesting to note that public sector companies have used the private placement market in a big way to raise resources. Figure 8 shows the resources mobilized through the private placement market in India for the period 1995-96 to 1998-99.

Figure 8



Source: Handbook of Statistics on Indian Economy, RBI, 1999

The emergence of the private placement market as the major source of finance becomes evident when it is compared with other modes of financing available to the industrial sector. Table 13 shows the contribution of different modes of raising finance in primary market. From the table it can be seen that capital raised by the corporate sector through rights and public issues from the primary market has declined after 1994-95. As discussed above, the main reasons for this decline are the lack of investors' interest in the primary market and poor performance of the secondary market. However, it can also be seen from the table that this decline has been matched by a commensurate increase in the share of private placements in the primary market.

From the table it is clear that for mobilizing resources, the industrial sector is not using new equity issues to raise funds and firms are alternatively using the private placement route as their major source of funds. A strong negative correlation is observed between the share of private placements and that of resources mobilized by corporate sector through rights and public issues. The correlation coefficient between them is –0.89.

Table 13: Contribution of Some Selected Mode of Financing in Total Resource Mobilized by the Primary Market. *(In per cent)*

Year	Private Placement	Rights and Public Issues by Corporate Sector			PSU Bonds	Govt. Companies	Banks and FIs
		Shares	Debentures	Total			
1990-91	29.85	9.12	21.20	30.33	39.83	0.00	0.00
1991-92	27.27	11.72	26.12	37.84	34.89	0.00	0.00
1992-93	7.02	42.74	42.30	85.04	4.56	1.85	1.53
1993-94	20.15	26.89	25.30	52.18	15.08	2.21	10.37
1994-95	26.62	41.80	21.13	62.94	7.31	2.12	1.01
1995-96	36.92	33.44	10.97	44.41	6.33	2.76	9.57
1996-97	44.48	18.23	12.50	30.73	10.02	1.92	12.85
1997-98	79.76	3.09	5.22	8.32	7.90	0.11	3.91
1998-99	84.13	4.44	4.05	8.49	0.00	0.00	7.37

Source: RBI Annual Report, various issues

5. Retail Investors and the Stock Market

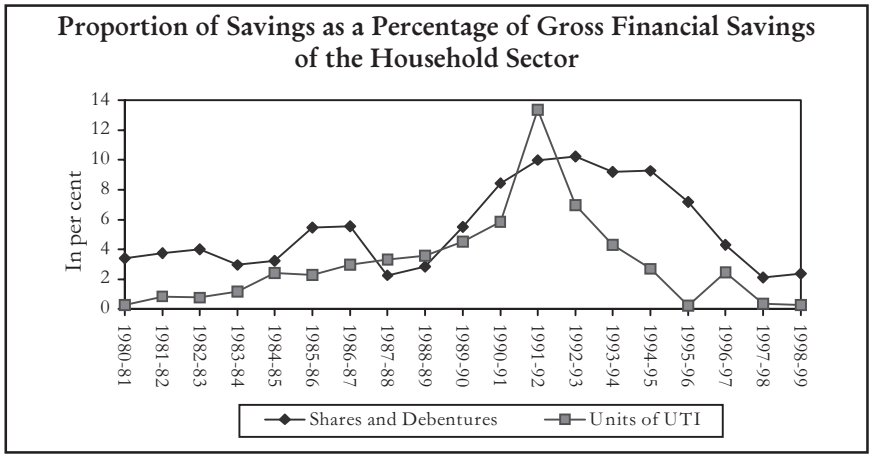
Liberalization of the stock market and the consequent opening up of the financial sector provided investors with an array of assets with varying degree of risk, return and liquidity. This increased choice of assets and the existence of a vibrant stock market encouraged retail investors to invest in equity related instruments. The volume of household savings in the form of shares and debentures rose from Rs 412 crore in 1980-81 to Rs. 13,474 crore in 1994-95. The volume of household savings going to the Unit Trust of India increased from Rs 31 crore in 1980-81 to Rs 9087 crore in 1991-92. Nagraj (1996) and Singh (1998) have pointed out that the higher than bank interest rate on debentures and the introduction of several fiscal incentives on investments in the mutual funds are the other possible reasons behind this sudden increase in the retail investors' interest in the capital market.

However, after 1994-95, there has been a massive exodus from equity related instruments. In 1998-99, the household sector's investment in shares and debentures was less than Rs 5,000 crore and in units of UTI the investment was Rs 565 crore. These figures reveal that during this period, household sector's investment in equity related instruments (shares and debentures + units of UTI) has declined at an average annual rate of more than 30%.

Data on the composition of household savings in financial assets show that in 1992-93, 10.22% of total household saving in financial assets went into shares and debentures. In 1998-99 the figure has come down to a mere 2.4%. This is even lower than the corresponding figure in 1980-81. The proportion of household savings that has gone into units of UTI has also suffered a decline in the recent years. This will be evident from Figure 9

Table A.4 in the appendix shows the complete data.

Figure 9



Source: Handbook of Statistics on Indian Economy, 1999, RBI

This negative sentiment of retail investors had its impact on the primary market. From Figure 9 and Table 14 it can be seen that retail investors' interest in the primary market has declined over the years. According to Singh's (1995) hypothesis, the growth of the primary stock market in India during the late 1980s and early 1990s was caused by household sectors' substitution of bank deposits by equity related savings instrument. Data tend to suggest that after 1994, there has been a reverse substitution in favour of deposits (both in bank and non bank deposits). From this data it can also be seen that the decline in the primary market activities has coincided with the exodus of the retail investors from the capital market. As the FII investment in primary market has remained marginal, it can be inferred that the lack of interest among retail investors in the capital market has contributed to the decline of the primary market.

Table 14: Subscription of Primary Issues

Number of times Oversubscribed	1995-96	1996-97	1997-8	1998-99
2 or less	971	617	19	51
Between 2 and 5	246	30	2	4
Between 5 and 10	79	4	0	1
Between 10 and 20	58	2	0	1
Between 20 and 50	43	1	0	0
Between 50 and 100	12	1	0	0
100 or more	8	0	0	1

Source: SEBI Annual Report, various issues.

Three reasons are given for this massive exodus of small investors from the primary market. They are

1. Overpricing of issues by many firms
2. Scams and irregularities that dogged the market since 1992
3. Poor secondary market conditions.

1. Overpricing of Issues

Abolition of CCI and allowing free pricing of issues prompted many companies to raise funds from the equity market at a premium. The price of many of these issues declined on listing and is being quoted substantially below the issue prices. According to Prithvi Haldea of Prime Database, 92% of the issues floated in the period 1992-95 (both premium and par offers) were quoting below the price in 1997 at which they were originally sold[14]. Retail investors lost huge amounts of money during this time. An estimate suggests that the money lost by those who backed issues floated between 1992 and 1995 is between Rs 20,000 crore and Rs 30,000 crore[15].

The situation has not changed in 1998 also. According to a database maintained by the website www.investresearchindia.com[16], for a sample of companies who raised capital through large public issues (issue size greater than Rs. 25 crore) between 1993 to 1998, share prices of more than 80% of these companies are currently quoting below their issue prices[17]. Table 15 shows the summary of the data.

Table 15: Distribution of Issues Selling at Less than Issue Price.

Year	Total Number of Issues	No. of issues where current adjusted price is less than issue price*	Share (%) (2/3)
(1)	(2)	(3)	(4)
1993	13	6	46.15
1994	34	27	79.41
1995	28	27	96.43
1996	9	7	77.78
1997	10	9	90.00
1998	4	3	75.00
Total	**98**	**79**	**80.61**

**Bonus, Stock split adjusted price*
Source: www.investresearchindia.com

[14] Quoted in India Today, November 3, 1997.
[15] 1997 estimate.
[16] This website maintains a database of 423 large companies from a wide cross section of industries. Data pertains to May 2000.
[17] These data seems to contradict SEBI's claim that the quality of new issues has improved in the recent years.

2. Scams and irregularities since 1992

During the period 1992-94 retail investors suffered huge losses due to the surfacing of numerous instances of corruption and irregularities in the Indian stock market. The first major scam was the Harshad Mehta scam which crippled the secondary market in 1992. Then there was the MS shoes affair, which had a negative influence on the primary market. Finally the CRB scam put a shadow of doubt on the NBFC market. The Harshad Mehta scam is estimated to be of the order of Rs 8,200 crore. The CRB scam is estimated to be of over Rs 1,032 crore[18].

Apart from these, there have been numerous allegations of about forged and duplicate shares, non-delivery of share certificates, problems with brokers and promoters etc. It is alleged that both the domestic investors and the NRIs, who are a big source of fund in the Indian stock market, suffered losses due to these irregularities and eventually moved out of the market[19]. These problems are still continuing. In 1999, two NBFCs, the Kuber Group and CU Marketing, which between them owe depositors over Rs 10 billion, have gone bust. In 1998 JVG Group closed down owing Rs 5.5 billion to its depositors[20].

Regarding the irregularities and scams in the Indian financial market, the publication India Abroad has commented:

"Since the beginning of reforms in 1991, there has been a spurt in financial crimes. The first major scandal that made newspaper headlines was the 1992 multi-billion dollar securities fraud that centered around Mumbai stock exchange broker Harshad Mehta...Other major white collar offences reported since 1991 are those concerning the Calcutta based blue chip company, ITC Ltd., the share switch charges against Reliance Industries, questionable transactions by the Shaw Wallace company, The MS shoes scandal masterminded by Pawan Sachdeva, the Indian Bank fraud and the CRB Capital Market case...White collar crimes have become so common that the CBI, which started an economic offenses wing after the securities scandal, recently strengthened the division by recruiting specialists with background in banking and finance". page. 28. India Abroad "How Liberalization Spawned a String of Scandals" June 27, 1997

Also towards the end of the financial year 1994-95, instances were found that some issuing companies colluded with the market intermediaries to rig their share prices before entering the market for raising capital. It was also found that disclosure standards were not followed properly in their offer documents[21]. This and other irregularities had a huge negative impact on the retail investors.

[18] *"Expose the ungodly"* by Joginder Singh, Indian Express, Saturday, July 4, 1998
[19] *For a comment on this see "Corruption is the Key" by Arun Jethmalani. http://www.dhan.com/impressions/980224-jetu.html*
[20] *"White collar criminals wreak havoc on money markets"* Business Commentary by Dilip Thakore Rediff on the Net, June 30, 1999
[21] Some critics have shown this example as a case of hasty de-regulation.

3. Poor Performance of the Secondary Market

In the previous sections it has been discussed how the secondary market has stagnated in the recent years. Poor performance of the secondary market has resulted in a decline in the rate of returns on equity related instruments in the recent years. Table 16 shows the rates of return on various assets. From the table it can be seen that in the recent years the equity market has given lower returns than most other forms of investment. In some years, the rate of return on equities has even remained negative. This has prompted retail investors to shift towards fixed income assets like government securities and bank deposits.

Table 16: Relative Rates of Return on Investment in Financial Markets

(% per annum)

Investment	1994	1995	1996	1997	1998	1999
Call Money Market	6.38	16.10	16.28	3.66	8.69	8.49
91 Day Treasury Bill	7.46	11.90	12.97	7.96	7.33	8.75
364 Day Treasury Bill	9.97	11.94	13.12	10.10	7.98	10.07
Certificate of Deposit	9.60	12.50	17.13	11.38	16.60	10.25
Commercial Paper	11.50	14.50	20.15	11.88	14.86	10.77
Prime Lending Rate	15.00	15.00	16.50	14.5-15.00	14.00-14.50	13.00
10- year GOI securities	12.50	12.35	14.00	13.65	12.15	12.25
Annual Inflation Rate	10.81	10.41	5.00	6.90	5.30	5.00
S&P CNX Nifty	78.20	-15.90	-0.50	-1.70	15.30	-3.50
Deposit Rates (1-3 years)	10.00	11.00	12.00	11.00-12.00	10.50-11.00	9.00-11.00
Deposit Rates (3-5 years)	10.00	11.00	13.00	12.00-13.00	11.50-12.00	10.50-11.50

Source: Indian Securities Market: A Review[22]*, National Stock Exchange Website and Handbook of Statistics on Indian Economy, RBI.*

There is a perception that in the recent years, increased volatility associated with the share prices has contributed to the exodus of retail investors from the stock market. However, data do not seem to support this view. Monthly volatility of BSE Sensex has been calculated using daily opening prices of Sensex for the period January 1991 to December 1999. Coefficient of variation is used to measure the volatility. Figure 10 shows the data. From the figure it can be seen that there has not been any perceptible increase in the level of volatility in the stock market till December 1999. Annual data on volatility also supports this view. Table 17 shows the annual volatility data.

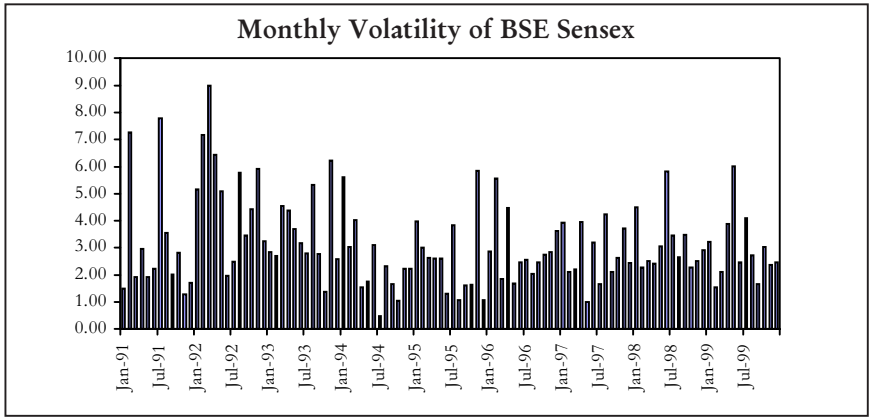
[22] In this report *Prime Database* is mentioned as the source for this data.

Table 17: Volatility in BSE Sensitive Index

Year	Range	Coefficient of variation
1991-92	3091	39.2
1992-93	2242	15.4
1993-93	2249	23.6
1994-95	1397	9.1
1995-96	772	5.5
1996-97	1324	8.6
1997-98	1338	7.9
1998-99	1517	11.8

Source: Calculated from Monthly Sensex data

Figure 10



Source: Calculated from Daily Sensex data

Conclusion

Financial liberalization and the active role of the government to develop and foster capital markets resulted in a vibrant stock market in India during the early 1990s. High equity prices, the abolition of CCI and free pricing of equity issues induced corporates to mobilize funds from the primary market. The availability of a wide portfolio of investment alternatives, with varying degree of risk and return also encouraged the retail investors to invest heavily in equity related instruments. Due to favourable demand and supply side factors, equity became the most important source of finance for corporates in the early 1990s.

However, the stock market was hit by a number of charges of corruption and irregularities during the period 1992-94. This had a negative impact on the secondary market. Retail investors suffered heavy losses and moved out of the market. Influx of FII investment failed to liven up the secondary market on a

sustained basis. Though lately there have been signs of revival in the secondary market but data suggest that activities in the secondary market are currently concentrated among the top companies or within a few specific sectors.

Poor performance of the secondary market, declining PE ratio, lack of faith of retail investors in the market and a reduction in the lending rates of the Indian banks and lending institutions led to the depressed condition of the new issues market. For the period 1995-98, the primary market for equities in India has virtually dried up. Corporates were avoiding using equity as their source of financing and increasingly using external borrowing as the preferred mode of financing.

It has also been found that public subscriptions in domestic markets are expensive as well as time consuming. To avoid strict norms of SEBI and to reduce the cost and time associated with public subscription of new issues, companies are taking resort to the informal source of financing through the private placements market. In the private placements market, debt has emerged as the favoured alternative.

Section 4: Concluding Observations

A stock market contributes to the real economy because a) it provides an additional channel for encouraging and mobilizing domestic savings b) it improves the efficiency of capital by providing market measures of returns on capital and c) it improves gearing and helps to reduce dependence on borrowing[23]. Using a number of samples for the period 1989-98 (1991-98 in some cases) this study has found out that the Indian corporate sector is increasingly using debt as its preferred mode of financing. If raising funds is one of the primary objectives of the equity markets then currently the stock market in India is not fulfilling this role satisfactorily.

The advance estimates of GDP growth for 1999-2000 have placed at 5.9%. According to an RBI report, given the trend value of ICOR, an investment rate of 22 to 24% would be necessary to support this level of growth. This will require substantial contribution from the domestic sources. If the primary market is not revived, this will be a strain on the domestic financial institutions. Though the lending rates are declining, due to low inflation, too much dependence on debt can cause a distortion in the capital structure of a firm. To revive the primary market it is important to restore the confidence of retail investors in the market. It has been pointed out that encouraging retail investors through the promotion of mutual funds can be useful to attain this goal[24]. Increasing fiscal incentives to retail investors can also be thought of. The FII

[23] WIDER (1990): "Foreign Portfolio Investment in Emerging Markets" Study Group. Series no. 5.
[24] *"Reforms in The Financial Sector and Capital Markets"* Prime Minister's Council on Trade and Industry.

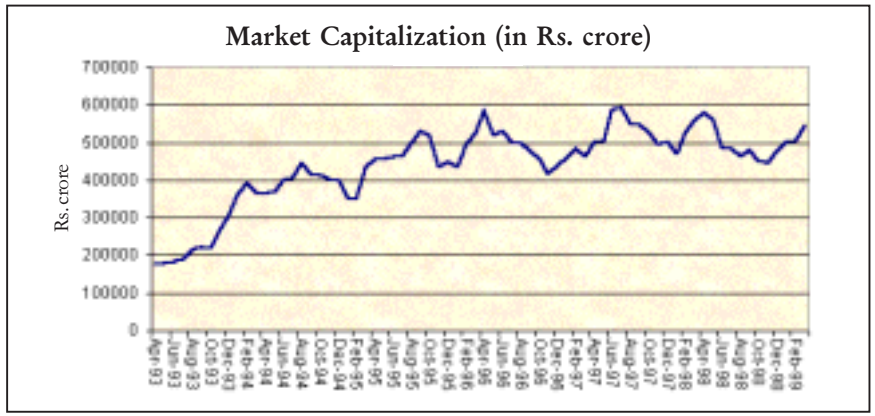
investment has essentially remained confined in the secondary market. To encourage the participation of FIIs in the primary market, the limit on primary issuances to FIIs can be removed.

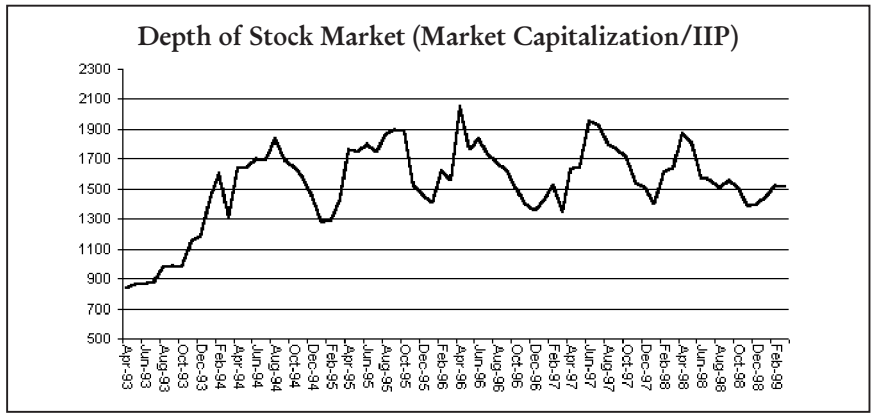
The RBI Annual Report 1999-2000 has pointed out that during 1999-2000, the primary market showed signs of revival with a significant increase in the number of new capital issues. This happened in spite of a substantial decline in money raised by banks and financial institutions. This revival of the primary market is mainly due to the increase in issues from the IT sector. During 1999-2000, the IT sector issued 32 new issues accounting for Rs.495 crore which is significantly higher than Rs.39 crore raised through 4 issues by this sector during 1998-99

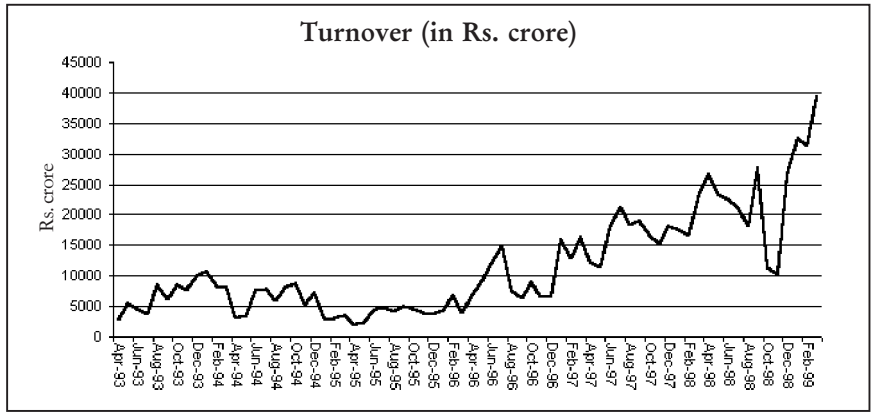
However, the recent meltdown of the Information Technology (IT) stocks is likely to have a negative impact on the market. The RBI Annual Report 1999-2000 points out that the CNX IT Index has declined by 47.0% between end-March 2000 and end-July 2000. Another feature that has come up lately is that the movement in stock prices in India (particularly IT stocks) seems to have become correlated with international stock price movements[25]. The interest rate hike by the Federal Bank of USA is likely to have a depressing impact on the international stock markets. Also the increased volatility of the Indian currency in the foreign exchange market is likely to affect the stock markets in India. The cumulative effect of these factors can put a brake on the revival of the primary market in India.

[25] See chart A2 in the Appendix.

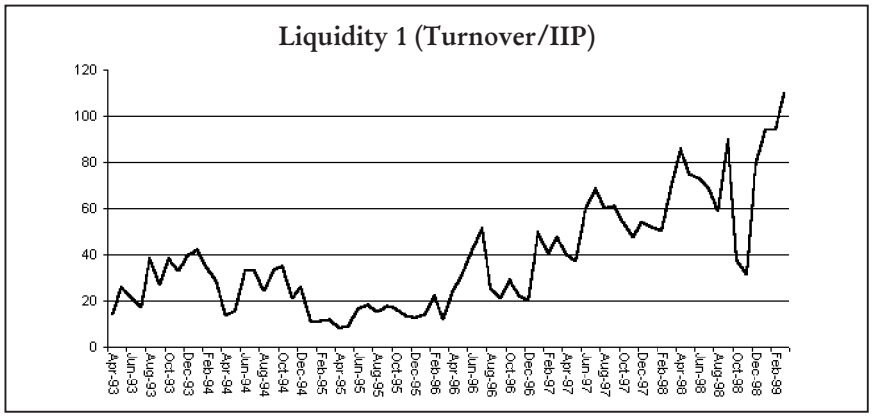
Figure A1: Figures Showing Monthly Secondary Market Data Based on BSE Sensex

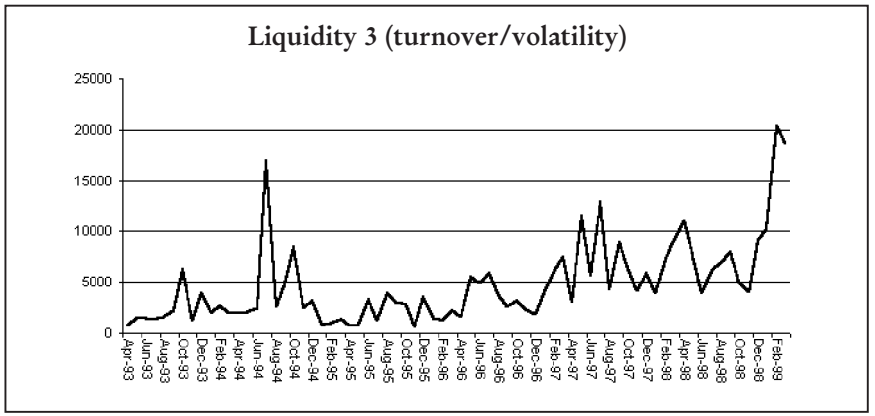


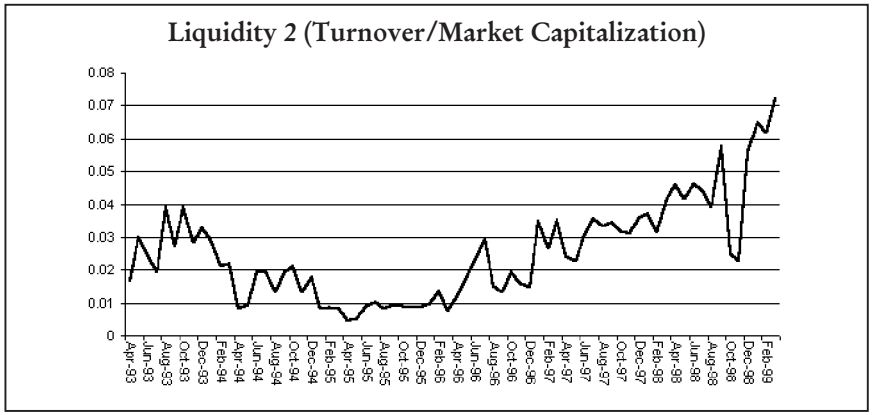




Source : RBI Handbook of Statistics on Indian Economy, 1999







Source : RBI Handbook of Statistics on Indian Economy, 1999

Appendix to Section 3

Table A1: Stock Market Trading Profile in India

(In per cent)

1995-96	Representation by Market Cap		Representation by Trading Value	
	Market Cap	Trading Value	Market Cap	Trading Value
Top 25 companies	40.35	44.71	19.1	54.56
Top 50 companies	51.44	49.33	30.85	61.36
Top 100 companies	62.51	53.97	39.51	68.48
Top 250 companies	76.37	65.26	52.91	78.41
Top 500 companies	85.35	70.77	66.58	85.84
Top1000 companies	92.42	77.24	76.66	92.44

(In per cent)

1997-98	Representation by Market Cap		Representation by Trading Value	
	Market Cap	Trading Value	Market Cap	Trading Value
Top 25 companies	52.8	60.55	30.85	84.5
Top 50 companies	66.65	74.8	44.42	91.4
Top 100 companies	77.78	89.28	55.57	96.64
Top 250 companies	87.98	98.32	83.35	99.38
Top 500 companies	93.22	99.5	88.27	99.81
Top1000 companies	96.6	99.82	91.54	99.96

Trading Pattern

Trading Frequency Range	Number of Companies
100% - 90%	444
90% - 80%	208
80% - 70%	194
70% - 60%	221
60% - 50%	225
50% - 40%	249
40% - 30%	256
< 30%	3569
	5366

Source: "REFORMS IN THE FINANCIAL SECTOR AND CAPITAL MARKETS" by Prime Minister's Council on Trade and Industry

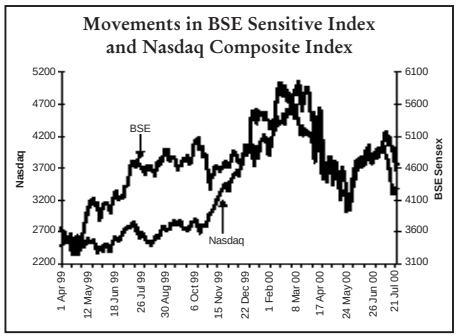
Table A2: Credit to The Industrial Sector

(In Rs. crore)

Year	Total Credit to Medium and Large firms	Assistance Distributed by Financial Institutions			
		All	IDBI	IFCI	ICICI
1990-91	44508	12810	3613	1574	1968
1991-92	47090	16260	4822	1604	2351
1992-93	58636	23150	6084	1733	3315
1993-94	57865	26624	7703	2163	4413
1994-95	74672	33568	10300	2839	6879
1995-96	93053	38650	10178	4563	7120
1996-97	102604	42657	10799	5157	11181
1997-98	117530	56258	14835	5650	15807
1998-99	130516	59072	14301	4750	19225

Source: Handbook of Statistics on Indian Economy, RBI, 1999

Chart A 2:



Source: RBI Annual Report 1999-2000.

Table A3: Large Issues During 1998-99

(In Rs. crore)

Name of the Company	Type of Issue	Type of Instrument	Issue date	Offer size
The Industrial Credit & Invt.Corp.of India Ltd.	Public	Bonds	27/04/98	300.00
The Industrial Credit & Invt.Corp.of India Ltd.	Public	Bonds	16/07/98	300.00
The Industrial Credit & Invt.Corp.of India Ltd.	Public	Bonds	27/08/98	300.00
Industrial Development Bank of India	Public	Bonds	21/09/98	750.00
The Industrial Credit & Invt.Corp.of India Ltd.	Public	Bonds	26/10/98	400.00
The Industrial Credit and Investment Corporation .of India Ltd.	Public	Bonds	09/12/98	300.00
Industrial Development Bank of India	Public	Bonds	21/12/98	750.00
The India Cements Ltd.	Rights	Equity	28/12/98	160.84
The Industrial Credit & Invt.Corp.of India Ltd.	Public	Bonds	21/01/99	300.00
Industrial Development Bank of India	Public	Bonds	22/02/99	750.00
The Industrial Credit & Invt.Corp.of India Ltd.	Public	Bonds	10/03/99	300.00

Source: SEBI Annual Report

Table A4:Breakup of Financial Savings by the Household Sector

(In Rs. crore)

	1980-81	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
1. Gross Financial savings	12118	48233	58908	68077	80386	109485	145382	123381	154200	178576	207841
1.1 Currency	1625	7655	6251	8157	6562	13367	15916	16525	13643	12780	22131
1.2 Bank Deposits	5550	13987	18777	17880	29550	36200	55834	39941	50902	79514	76590
1.3 Loans to Companies	378	1839	1286	2218	6035	11654	11547	13198	25980	7775	15376
1.4 Insurance Funds	915	4415	5599	7003	7114	9548	11370	13894	16121	19431	22766
1.5 Providend and Pension Funds	2122	9508	11155	12501	14814	18226	21295	22311	25617	32808	38742
1.6 Claims on Government	712	6758	7883	4845	3885	6908	13186	9588	11784	22164	27004
1.7 Shares and Debentures	412	2655	4972	6800	8212	10067	13474	8839	6645	3777	4935
1.8 Units of UTI	31	2179	3438	9087	5612	4705	3908	262	3776	595	565
1.9 Other Assets.	373	-763	-453	-414	-1398	-1190	-1148	-1177	-268	-268	-268

Share of Various Savings Instruments in Financial Savings by the Household Sector

(In per cent)

	1980-81	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
1.1 Currency	13.41	15.87	10.61	11.98	8.16	12.21	10.95	13.39	8.85	7.16	10.65
1.2 Bank Deposits	45.80	29.00	31.88	26.26	36.76	33.06	38.41	32.37	33.01	44.53	36.85
1.3 Loans to Companies	3.12	3.81	2.18	3.26	7.51	10.64	7.94	10.70	16.85	4.35	7.40
1.4 Insurance Funds	7.55	9.15	9.50	10.29	8.85	8.72	7.82	11.26	10.45	10.88	10.95
1.5 Providend and Pension Funds	17.51	19.71	18.94	18.36	18.43	16.65	14.65	18.08	16.61	18.37	18.64
1.6 Claims on Government	5.88	14.01	13.38	7.12	4.83	6.31	9.07	7.77	7.64	12.41	12.99
1.7 Shares and Debentures	3.40	5.50	8.44	9.99	10.22	9.19	9.27	7.16	4.31	2.12	2.37
1.8 Units of UTI	0.26	4.52	5.84	13.35	6.98	4.30	2.69	0.21	2.45	0.33	0.27
1.9 Other Assets.	3.08	-1.58	-0.77	-0.61	-1.74	-1.09	-0.79	-0.95	-0.17	-0.15	-0.13

Source: Report on Currency and Finance, various issues

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